



Midway

PLANNING COMMISSION MEETING STAFF REPORT

DATE OF MEETING: January 11, 2022

NAME OF APPLICANT: Midway City

AGENDA ITEM: Code Text Amendment to Section 5.02.080 – Outdoor Lighting and Glare

Midway City is proposing an amendment to Chapter 5.02.080: Outdoor Lighting and Glare. The proposed amendment would modify regulations for outdoor lighting.

BACKGROUND:

The purpose of this item is to update the Outdoor Lighting and Glare ordinance in title 5 with an ordinance that is modern and addresses issues relating to lighting that the city is encountering. Instead of re-working our existing code, we are proposing that it is replaced with new code language that staff feels will meet the needs of the city.

Within Midway City there is an increasing desire to keep our skies dark by minimizing the light pollution generated by the ongoing development in the community. The increasing light pollution generated by unnecessary and excess outdoor lighting reduces the ability of residents and visitors to view the night skies, something that many appreciate about our community.

Various communities in the state have adopted “dark sky” ordinances to help address the ever-increasing light pollution that is impacting both urban and rural areas of the state. The International Dark-sky Association defines light pollution as “any adverse or unintended effect of the use of artificial light at night, including sky glow, glare, light trespass, light clutter, decreased visibility at night, and energy waste.” While our current ordinance has provisions in place that address some of these issues, we as staff believe that a complete re-vamp of the current ordinance, as opposed to just modifying, will help create clearer, more modern criteria for governing outdoor lighting in Midway. Among other things, the proposed ordinance would accomplish the following:

- Modernizes references to lighting requirements, including current technologies like the use of LEDs
- Provides a number of visual examples to help illustrate examples
- Create clear lighting output limits for both partially shielded and fully shielded lighting
- Prohibits unshielded lighting fixtures
- Require property owners to demonstrate compliance with lighting regulations during development and building permit processes through the submission of lighting plans
- Regulations for lighting color and commercial lighting hours
- Creates a limitation on the use of permanent outdoor holiday lighting
- Pathways for legally non-conforming properties to come into compliance with the proposed regulations

Proposed code language to replace existing language in section 5.02.080:

5.02.080 Outdoor Lighting

A. Outdoor lighting – Scope and applicability.

1. All lighting should be purpose driven.
2. All outdoor lighting installed after XXXXXX X, 2022 in all zoning districts within the City shall conform to the requirements established by Sections 5.02.080.A through 5.02.080.I as well as requirements for signage found elsewhere in the Midway Municipal Code. These sections do not apply to indoor lighting.
3. All existing outdoor lighting that does not meet the requirements of this chapter and is not otherwise exempted shall be considered a nonconforming use or part of a nonconforming structure subject to an amortization schedule outlined in Section 5.02.080.I.
4. In the event of any conflict between the provisions of Sections 5.02.080.A through 5.02.080.I and any other provision of the Midway Municipal Code, these sections shall control.

B. Outdoor lighting – Definitions.

1. For the purpose of Sections 5.02.080.A through 5.02.080.I, the following definitions apply:

“Accent or architectural lighting” means lighting of building surfaces, landscape features, statues, and similar items for the purpose of decoration, ornamentation, creation of visual hierarchy, sense of liveliness, or other purpose unrelated to safety, business operation, or essential lighting function.

“Backlight” means all the light emanating behind a luminaire.

“BUG rating” means backlight, uplight, and glare rating, which exists on a scale of zero to five and describes

the light output of a luminaire.



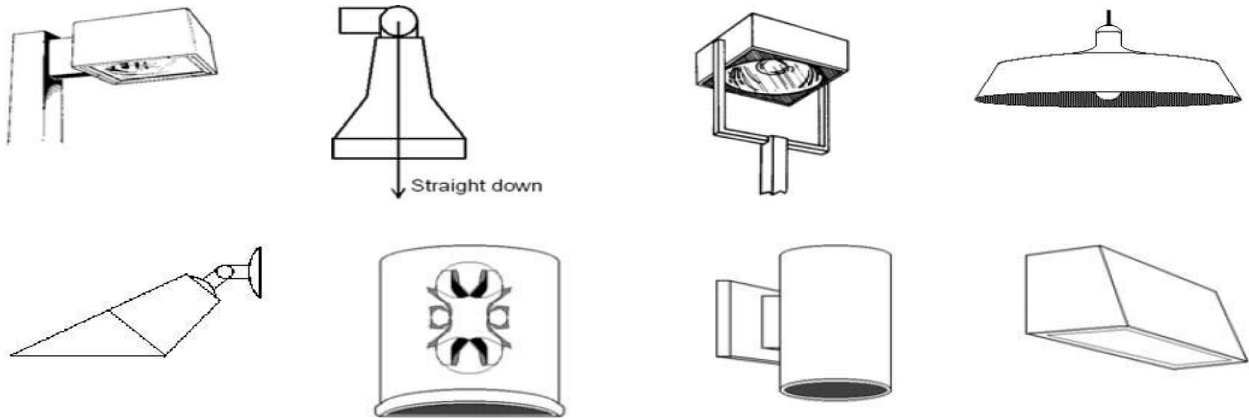
Image by City of Ft. Collins, Colorado.

“Correlated color temperature” (CCT) is a specification of the color appearance of the light emitted by a lamp, relating its color to the color of light from a reference source when heated to a particular temperature, measured in degrees Kelvin (K). The CCT rating for a lamp is a general “warmth” or “coolness” measure of its appearance. Lamps with a CCT rating below three thousand K are usually considered “warm” sources, while those with a CCT above three thousand K are usually considered “cool” in appearance.

“Direct illumination” means illumination resulting from light emitted directly from a bulb, luminaire, or reflector. This does not include light reflected from other surfaces such as the ground or building faces.

“Floodlight” means a fixture or bulb designed to “flood” an area with light. A specific form of bulb or fixture designed to direct its output in a specific direction. Such bulbs are often designated by the manufacturer and are commonly used in residential outdoor lighting.

“Fully shielded fixture” means an outdoor light fixture constructed and mounted so that the installed fixture emits no light above the horizontal plane. Where a light manufacturer provides a BUG rating, the upright rating (U) must equal zero. Fully shielded light fixtures must be shielded in and of themselves. Surrounding structures, like canopies, are not to be considered when determining if the fixture is fully shielded. Fully shielded fixtures must be appropriately mounted so that the shielding prevents light from escaping above the horizontal plane and all light is directed downward.



Examples of fully shielded light fixtures.

“Glare” means the visual sensation caused by excessive brightness and which causes annoyance, discomfort, or a disability loss in visual performance or visibility.

“Internally illuminated, backlit,” as it relates to signs, means any sign which has a light source entirely enclosed within the sign and not directly visible to the eye.

“Light pollution” means any adverse effect of manmade light. Often used to denote “skyglow” from developed areas, but also includes glare, light trespass, visual clutter and other adverse effects of lighting.

“Light source” means the part of a lighting fixture that produces light, e.g., the bulb, lamp, or chips on board.

“Light trespass” means any light that falls beyond the legal boundaries of the property it is intended to illuminate.

“Lumen” means a unit of luminous flux equal to the light emitted by a uniform point source of one candle intensity. Lumens refers to the amount of light emitted by a bulb (more lumens equates to brighter light).

Common Relationships between Bulb Types, Wattages and Lumen Levels

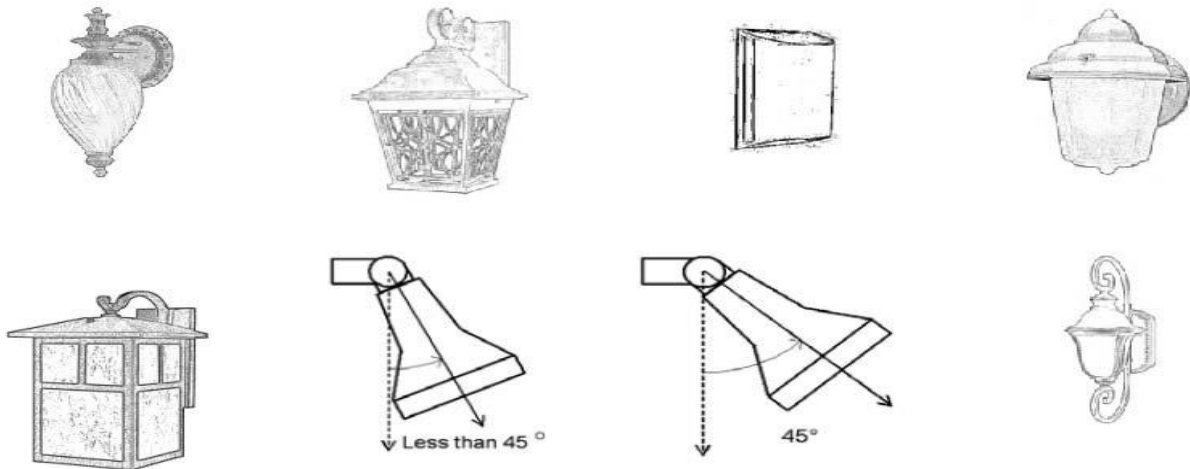
Brightness in Lumens	220+	400+	700+	900+	1300+
Standard	25W	40W	60W	75W	100W
Halogen	18W	28W	42W	53W	70W
CFL	6W	9W	12W	15W	20W
LED	4W	6W	10W	13W	18W

“Manufacturer’s catalog cuts” means a publication or other printed material of a bulb or lighting manufacturer offering visual and technical information about a lighting fixture or bulb.

“Outdoor light fixture” means a complete lighting unit consisting of a lamp(s) and ballast(s) (when applicable), together with the parts designed to distribute the light, to position and protect the lamps, and to connect the

lamps to the power supply. Also known as a luminaire, or simply as a fixture.

“Partially shielded light fixture” means an outdoor light fixture constructed and mounted so that the installed fixture emits most of its light above the horizontal plane. Where a light manufacturer provides a BUG rating, the upright (U) and backlight (B) ratings are greater than zero. Light emitted at or above the horizontal plane (sideways or upwards) shall arise solely from incidental decorative elements or strongly colored or diffusing materials such as colored glass or plastic. Fixtures using spot or flood lamps are considered partially shielded if the lamps are aimed no higher than forty-five degrees above the vertical plane beneath the fixture.



Examples of partially shielded lighting fixtures.

“Recreational lighting” means lighting used to illuminate sports fields, ball courts, playgrounds, or similar outdoor recreational facilities.

“Skyglow” means the brightening of the nighttime sky resulting from the scattering and reflection of artificial light by moisture and dust particles in the atmosphere. Skyglow is caused by light directed or reflected upwards or sideways and reduces one’s ability to view the nighttime sky.

“Spotlight” means a fixture or bulb designed to light a small area very brightly. See definition of “Floodlight.”

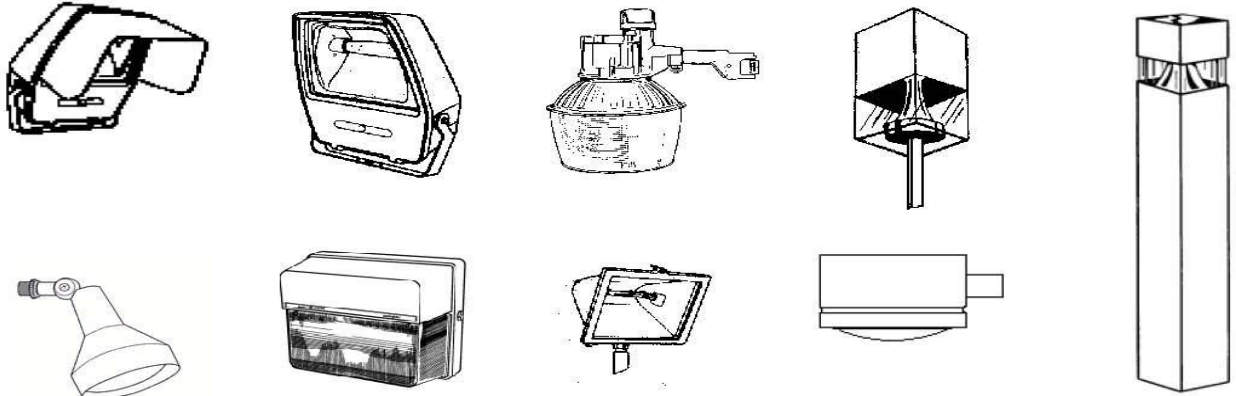
“Total” means the sum of shielded, partially shielded and unshielded light.

“Total outdoor light output” means the total amount of light measured in lumens from all bulbs installed in outdoor lighting fixtures. For bulb types that vary in light output as they age (such as fluorescent and high intensity discharge (HID) bulbs), the initial lumen output as defined by the manufacturer shall be the lumen value used.

“Tower” means any monopole, antenna, or the like that exceeds eighteen feet in height.

“Unshielded fixture” means a fixture that has no shielding at all that would otherwise specifically prevent light

emission above the horizontal.



Examples of unshielded light fixtures.

“Uplight” means all the light emanating above the horizontal plane of a luminaire.

C. Outdoor lighting – Fully shielded fixture requirements.

1. Unless specifically exempted by this section, all outdoor lighting shall use fully shielded fixtures and shall be installed so light is directed downward with no light emitted above the horizontal plane of the fixture. Where a light manufacturer provides a BUG rating, the uplight rating (U) must equal zero.
2. In order to qualify as a “fully shielded” fixture, a light fixture must have the top and sides made of completely opaque material such that light only escapes through the bottom of the fixture. Fixtures with translucent or transparent sides, or sides with perforations or slits, do not qualify as fully shielded. Any glass or diffuser on the bottom of the fixture must be flush with the fixture (no drop lenses). Merely placing a light fixture under an eave, canopy, patio cover, or other similar cover does not qualify as fully shielded.
3. Fixtures must not be placed at a location, angle, or height that directs illumination outside the property boundaries where the light fixtures are located.
4. Notwithstanding the exemptions in subsection (5) of this section, all residential and commercial luminaires shall be fully shielded when installed within twenty-five feet of adjacent residential property lines.
5. Exemptions to fully shielded fixture requirements:
 - a. All lights exempted by this section shall be included in the calculation of total light output.
 - b. Fixtures having a total light output less than one thousand lumens are exempted from the fully shielded requirement provided the following criteria are met:

1. The fixture has a top that is completely opaque such that no light is directed upwards.
 2. The fixture has sides that completely cover the light source and are made of opaque or semi-opaque material. Fixtures with opaque sides may have incidental decorative perforations that emit small amounts of light. Semi-opaque material such as dark tinted glass or translucent plastic may be used if the light source is not discernable behind the material. Completely transparent materials, such as clear or lightly tinted colored glass, are not allowed.
 3. The light source must not be visible from any point outside the property on which the fixture is located.
- c. Spotlights controlled by motion sensors having a light output less than one thousand lumens per lamp are exempted from the fully shielded requirement provided:
1. The fixture is a spotlight or other type of directed light that shall be directed straight down;
 2. The fixture must not be placed in such a manner that results in illumination being directed outside the property boundaries where the light fixtures are located; and
 3. Lights controlled by motion sensors shall not be triggered by movement or activity located off the property on which the light is located. The fixture shall have a timer that turns the floodlight fixture off after a period of time not to exceed ten minutes.
- d. Pathway lights less than eighteen inches in height are exempted from the fully shielded fixture requirement, if the total light output from each pathway light is less than three hundred lumens.
- e. Temporary exterior lighting intended as holiday or seasonal decorations displayed between November 15th and the following January 15th. Lights that strobe (blinking more than once per second) are prohibited.
- f. Permanent exterior holiday lighting may be displayed between November 15th and the following January 20th. Lights shall not strobe (blinking more than once per second). Lighting may also be turned on for the following holiday dates (actual dates and observed dates).
1. Washington's Birthday
 2. Memorial Day
 3. Juneteenth National Independence Day
 4. Independence Day
 5. Pioneer Day
 6. Labor Day

7. Columbus Day
8. Halloween
9. Veterans Day

f. Traffic control signals and traffic safety devices.

g. Temporary emergency lighting in use by law enforcement or government agencies or at their direction.

h. The lighting of Federal or State flags; provided, that the light is a top-down and narrow beam aimed and shielded to illuminate only the flag. Lighting of flag poles on Memorial Hill shall be exempt from this requirement and may be lit from below.

i. Partially shielded floodlight fixtures. The fixture must not be placed in such a manner that results in illumination being directed outside the property boundaries where the light fixture is located. The fixture shall be activated only by a sensor, activated only by movement or activity located on the property in which it is located. The fixture shall have a timer that turns the floodlight fixture off after a period of time not to exceed ten minutes. Unshielded floodlight fixtures are prohibited.

D. Outdoor lighting – Total light output.

1. *Commercial and Resort Commercial.* Total outdoor light output shall not exceed fifty thousand lumens per developed acre. Streetlights used for illumination of public rights-of-way are excluded from this calculation. Commercial developments shall be permitted a minimum of five thousand lumens of lighting regardless of parcel size.

a. In nonresidential zoning districts, partially shielded lighting on a property shall not exceed five thousand lumens per developed acre, and shall be included in the total outdoor light output calculation.

b. In nonresidential zoning districts, unshielded lighting is prohibited.

2. *Residential and Resort Residential.* Total outdoor light output shall not exceed ten thousand lumens of lighting for parcels one-half acre, or larger, in size. Parcels smaller than one-half acre shall be permitted five thousand lumens of lighting regardless of parcel size. Detached single family dwellings in planned unit, mixed-use, and resort developments shall be permitted five thousand lumens of lighting. Attached single family dwellings in planned unit, mixed-use, and resort developments with no more than two units are allowed five thousand lumens of lighting per unit. Attached single family dwellings in planned unit, mixed-use, and resort developments with three or more units are allowed three thousand lumens of lighting per unit. Total outdoor light output of any apartment development shall not exceed twenty thousand lumens of lighting per

acre.

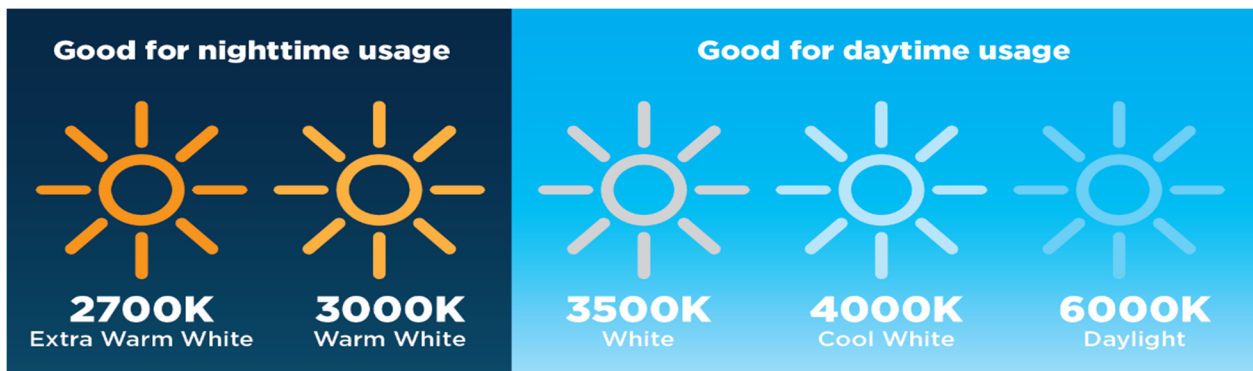
- a. In residential zones, partially shielded lighting on a property shall not exceed one thousand lumens per lot, and shall be included in the total outdoor light output calculation.
- b. Residential units used for short-term rentals and other approved commercial uses in a residential zone shall comply with the residential standards for total light output.
- c. In residential zoning districts, unshielded lighting is prohibited.

E. Outdoor lighting – Lighting hours.

1. Commercial establishments shall turn off all outdoor lighting, except that listed below, by ten p.m.:
 - a. Businesses open to the public after ten p.m. may leave all outdoor lighting on until one hour after the close of business.
 - b. Businesses who close to the public before nine p.m., shall turn off all outdoor lighting one hour after the close of business.
 - c. Lighting to illuminate the entrance to the commercial establishment.
 - d. Parking lot and pathway lighting required for the safety of guests or customers.
2. Recreational lighting (residential and commercial) shall be turned off by ten p.m. except to conclude a specific sporting event/activity that is underway.

F. Outdoor lighting – Lighting color.

All exterior lighting shall utilize light sources with correlated color temperature not to exceed three thousand Kelvin (K).



G. Outdoor lighting – Specialized outdoor lighting conditions and standards.

1. Gas station canopies may be illuminated; provided, that all light fixtures are mounted on the undersurface of the canopy and all light fixtures are fully shielded. Merely placing the fixtures on the underside of the canopy does not qualify as fully shielding the light fixture.
2. Roadway and streetlights are prohibited unless recommended by the City Engineer or required by UDOT to provide for the safety of the public. When deemed necessary, streetlights shall utilize lamp types that are fully shielded luminaires that minimize skyglow, light trespass, and other unintended impacts of artificial lighting. All streetlights shall utilize the lowest illuminance levels acceptable to the City Engineer and/or UDOT. The City maintains the ability to dim or turnoff streetlights if necessary.
3. Parking lots may not utilize spot or flood lighting whether mounted on a post or exterior building wall. The overall height of any light post or tower used to illuminate parking lots in commercial zones shall not exceed twenty-five feet. All post mounted parking lot lights shall be set back from property lines a distance equal to one and one-half times the height of the pole unless an internal or external shield prevents the fixture being visible from outside the property boundaries. The overall height of any light post used to illuminate parking lots in residential zones shall not exceed twenty-five feet. All parking lot lighting shall use fully shielded downward directed fixtures. Internal or external shields shall prevent the fixture being visible from outside the parking lots.
4. Outdoor recreation areas or athletic fields at publicly owned facilities may use illumination to light the surface of play and viewing stands and for the safety of the public. The following standards shall apply to outdoor recreation area or athletic field lighting:
 - a. The recreational lighting shall not exceed illuminance levels for Class IV sports lighting set by the Illuminating Engineering Society of North America.
 - b. The recreational lighting provides illuminance for the surface of play and viewing stands, and not for any other areas or applications.
 - c. Off-site impacts of the lighting will be limited to the greatest practical extent possible.
 - d. The lighting for areas or applications outside the surface of play and viewing stands shall conform to all provisions in this chapter.
 - e. The recreational or athletic facility shall extinguish lighting exempted by this chapter no later than ten p.m. or one-half hour after the end of play.
 - f. The recreational lighting shall have timers that automatically extinguish lighting to ensure lights are not left on when the facilities are not in use.

5. Outdoor amphitheatres and outdoor stages may use illumination to light the performance area of the amphitheater and for the safety of the public. The following standards apply to all amphitheater lighting:
 - a. Lighting used to illuminate the performance area must be either directed spotlighting or fully shielded lighting. If directed spotlighting, the light source must be located and designed such that it is not visible beyond the property boundaries.
 - b. Lighting used to illuminate the performance area may only be turned on during performances or rehearsals.
 - c. Lighting used to illuminate the seating areas, pathways, and other areas of the amphitheater must meet all standards of this chapter.
6. All illuminated signs shall comply with the standards of Section 16.21.

H. Outdoor lighting – Application and review procedures.

1. *Lighting Plan.* All sign permit applications, subdivision applications, site plan applications, building permit applications (residential, commercial and resort), and other development review applications within any zoning district shall include a lighting plan that shows evidence that the proposed lighting fixtures and light sources comply with this chapter. Lighting plans shall include the following:
 - a. Plans or drawings indicating the proposed location of lighting fixtures, height of lighting fixtures on the premises, and type of illumination devices, lamps, supports, shielding and reflectors used and installation and electrical details.
 - b. Illustrations, such as contained in a manufacturer's catalog cuts, of all proposed lighting fixtures. For commercial uses, photometric diagrams of proposed lighting fixtures are also required. In the event photometric diagrams are not available, the applicant must provide sufficient information regarding the light fixture, bulb wattage, and shielding mechanisms to be able to determine compliance with the provisions of this chapter.
 - c. A table showing the total amount of proposed exterior lights, by fixture type, wattage, lumens, and lamp type.
2. *Approval Procedure.*
 - a. The lighting plan for all new development shall be submitted for approval concurrent with the associated application process.
 - b. A certificate of occupancy for commercial and resort structures shall not be issued until such time as the property is subject to a post-installation inspection by Midway City staff.

I. Outdoor lighting – Amortization of nonconforming outdoor lighting.

1. The City shall require the termination of use of all nonconforming outdoor lighting fixtures, structures, lamps, bulbs or other devices that emit or generate light which are not otherwise exempted by this chapter, pursuant to the amortization schedule contained in this section.
2. All outdoor lighting legally existing and installed prior to the effective date of this chapter and which is not exempted shall be considered nonconforming and shall be brought into compliance by the property owner as follows:
 - a. Immediate compliance is required as a condition for approval when applying for a building permit, sign permit, new (nonrenewal) business license, site plan review or similar City permit or approval if site improvements, construction, reconstruction, expansion, alteration or modification of existing sites, structures, or uses individually or cumulatively equal or exceed one thousand five hundred square feet, or fifty percent of the existing site or structure, whichever is less. Projects of less than one thousand five hundred square feet in size, or fifty percent of an existing site or structure, will not be subject to immediate compliance. However, the square footage of the improved structure or site will count towards a cumulative total of projects on the same property. When the cumulative total equals or exceeds one thousand five hundred square feet, or fifty percent of the existing site or structure, compliance shall be required for approvals as cited above.
 - b. All damaged or inoperative nonconforming lighting shall be replaced or repaired only with lighting equipment and fixtures compliant with this chapter.
 - c. All outdoor lighting not previously scheduled for amortization or otherwise exempted shall be brought into conformance with this chapter within ten years from the effective date of this chapter.
3. The City shall perform two audits of all outdoor lighting in the City. The first shall be five years and the other eight years after the effective date hereof. These audits will identify all lighting that does not conform to the standards of this chapter. The results of these audits will be made available to the public.



POSSIBLE FINDINGS:

- The proposed adjustment will help curb the ever-increasing issue of light pollution as the city continues to grow and properties are developed
- The proposed adjustment will update the outdoor lighting ordinance to reflect current technologies and practices
- The proposed adjustment will create many non-conforming properties
- The proposed adjustment will create separate output allowances for residential properties less than one-half acre and those one-half acres and larger. It will also prohibit the use of un-shielded fixtures and limit the use of partially shielded fixtures

- The proposed adjustment will create various paths for legally non-conforming properties to come into compliance

ALTERNATIVE ACTIONS:

1. Recommendation of Approval. This action can be taken if the Planning Commission finds that the proposed language is an acceptable amendment to the City's Municipal Code.
 - a. Accept staff report
 - b. List accepted findings
2. Continuance. This action can be taken if the Planning Commission would like to continue exploring potential options for the amendment.
 - a. Accept staff report
 - b. List accepted findings
 - c. Reasons for continuance
 - i. Unresolved issues that must be addressed
 - d. Date when the item will be heard again
3. Recommendation of Denial. This action can be taken if the Planning Commission finds that the proposed amendment is not an acceptable revision to the City's Municipal Code.
 - a. Accept staff report
 - b. List accepted findings
 - c. Reasons for denial