

## ARTICLE VII. - OUTDOOR LIGHTING<sup>[6]</sup>

### Footnotes:

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**Editor's note**— Ord. No. 2010-06-01, adopted Sept. 7, 2010, deleted the former Art. VII, §§ 18-231—18-237, and enacted a new Art. VII as set out herein. The former Art. VII pertained to outdoor lighting and derived from Ord. No. 2000-4-2, §§ 1—7, adopted 5-23-00.

### Sec. 18-231. - Title, purpose and scope.

- (a) This article shall be known and cited as the "Outdoor Lighting Ordinance."
- (b) The purpose of this article is:
  - (1) To reduce glare and improve nighttime visibility which contributes to safer, more secure, and attractive outdoor living spaces;
  - (2) To encourage efficient, controlled lighting that conserves energy;
  - (3) To make our community a better place to live and work and a more inviting place for tourist to visit;
  - (4) To protect properties from light trespass;
  - (5) To preserve our heritage of a clear, dark night sky;
  - (6) To be mindful of the needs of McDonald Observatory for minimal artificial light at night to conduct ongoing astronomical research; and
  - (7) To position the City to apply for a designation as an International Dark Sky Community.
- (c) Scope
  - (1) This article shall apply within the City limits, hereinafter referred to as "City".
  - (2) Nothing herein shall be construed as preventing or limiting the City from applying this article within the surrounding areas where the City asserts powers of extraterritorial jurisdiction through agreements with property owners, or as a term affixed to a conditional approval (such as a variance).

(Ord. No. 2010-06-01, (exh. A), 9-7-10)

Sec. 18-232. - Definitions.

(a) The following definitions are hereby adopted for the purposes of this article:

**Adaptive controls** mean mechanical or electronic devices, when used in the context of outdoor lighting systems, intended to actively regulate the switching, duration, and/or intensity of light emitted by the outdoor lighting system. Examples of adaptive controls include timers, dimmers and motion-sensing switches.

**Beam of a light fixture** means the spatial distribution of the emitted light.

**Correlated Color Temperature (CCT)** means a measure of the color properties of light emitted by lamps, being equal to the temperature, expressed in Kelvins (K). CCT values are typically provided on lighting manufacturer packaging or data sheets.

**Decorative holiday lighting** means low-intensity string lights, whose luminous output does not exceed fifty (50) lumens per linear foot, and fully-shielded floodlights, whose luminous output does not exceed one thousand (1,000) lumens and which are aimed and oriented in such a way as to not create light trespass onto another property nor into the night sky, operated only during prescribed periods of time during the calendar year.

**Electronic Message Display** means any illuminated sign of an informative or advertising nature, whether on-or off-premise, and operable at night, whose content is made visible to the viewer by means of luminous elements under active electronic control and therefore subject to alteration in order to vary the content of the message. Electronic displays may be either static or dynamic in terms of light color and intensity.

**Existing light fixtures** means those outdoor light fixtures already installed at the time this article is adopted.

**Floodlight** means a light fixture having a wide beam.

**Fully Shielded** means an outdoor luminaire constructed so that in its installed position, all of the light emitted from the light fixture is projected below the horizontal plane passing through the lowest light-emitting part of the fixture.

**Glare** means visual discomfort or impairment caused by a bright source of light in a direction near one's line of sight.

**Greenhouse** means any building that is constructed of glass, plastic, or other transparent material in which plants are grown under climate-controlled conditions and includes hoop houses and other similar structures.

**Illuminance** means the intensity of light in a specified direction measured at a specific point.

**Light source** means a light emitting portion of the luminaire and any diffusing elements and surfaces intended to reflect or refract light emitted from the lamp individually or collectively, for example, a lamp, bulb, lens, highly reflective surface, or frosted glass.

**Light pollution** means the unintended, adverse and /or obtrusive effect of the use of outdoor light at night.

**Light trespass** means light emitted from fixtures designed or installed in a manner that unreasonably causes light to fall on a property other than the one where the light is installed, in a motor vehicle drivers' eyes, or upwards toward the sky. If the light appears star-like from another property or the public roadway, the light is creating light trespass. It is expected that the illumination produced by a light source may be viewed from other properties but the light source itself should not be visible from other properties. Exhibit 3 of Section 18-240 is a sample educational illustration about light trespass.

**Lumen** means the unit of measurement used to quantify the amount of light produced by a bulb or emitted from a light source. Lumen values are typically provided on lighting manufacturer packaging or data sheets. For the purposes of this article, unless otherwise stated, the lumen output values shall be the initial lumen output ratings as defined by the manufacturer, multiplied by the lamp efficiency. Lamp efficiency of 95% shall be used for all solid-state lamps and 80% for all other lamps, unless an alternate efficiency rating is supplied by the manufacturer.

**Lumens per Net Acre** means the total outdoor light output, as defined in this article, divided by the number of acres, or part of an acre with outdoor illumination. Undeveloped, non-illuminated portions of the property may not be included in the net acreage calculation.

**Luminaire** means a complete lighting assembly or lighting fixture, consisting of a lamp, housing, optic(s), and other structural elements, but not including any mounting pole or surface.

**Luminance** is a measure of light emitted by or from a surface.

**Nit** is the standard unit of measure of luminance used for internally illuminated signs, digital signs, or electronic message displays.

**Outdoor Lighting** means temporary or permanent lighting that is installed, located, or used in such a manner to cause light rays to shine outdoors. Nonresidential fixtures that are installed indoors that cause light rays to shine outside are considered outdoor lighting for the intent of this article. See Exhibit 1 of Section 18-240 for an illustration of this type of situation. Residential fixtures installed indoors generating more than 3,800 lumens (approximately equal

to a 300-watt incandescent bulb) that cause light to shine outside are also considered outdoor lighting for the intent of this article. All of the lighting that illuminates the translucent portion of a greenhouse or solarium, including roofing material, is considered outdoor lighting for the intent of this article.

**Private lighting** means outdoor light fixtures that are owned or leased or operated or maintained or controlled by individual persons, including but not limited to families, partnerships, corporations, and other entities engaged in the conduct of business or other non-governmental activities.

**Public lighting** means outdoor light fixtures that are owned or leased or operated or maintained or controlled by the City or other governmental entity or entities completely or partly funded by grants obtained by the City or its agents from federal, state or private sources. The light fixtures are normally located on, but are not limited to, streets, highways, alleys, easements, parking lots, parks, playing fields, schools, institutions of higher learning, and meeting places.

**Sag-lens or drop-lens fixture** means a fixture, typically seen on older streetlights or parking lot lights, where the lens extends below the lowest opaque part of the fixture such that light is scattered above the horizontal plane.

**Searchlight** means a light fixture having a narrow beam intended to be seen in the sky.

**Spotlight** means a light fixture having a narrow beam.

**Temporary lighting** means non-permanent lighting installations installed and operated for a duration not to exceed thirty (30) days.

**Total outdoor light output** means the total amount of light, measured in lumens, from all outdoor light fixtures within the illuminated area of a property. The lumen value to be used in the calculation is the lumen value as defined in this article. To compute the total, add the lumen outputs attributed to each light fixture together.

(Ord. No. 2010-06-01, (exh. A), 9-7-10)

Sec. 18-233. – Nonconforming existing outdoor light fixtures.

- (a) All existing outdoor lighting that was legally installed before the enactment of this article, that does not conform with the standards specified by this article shall be considered nonconforming. Nonconforming outdoor lighting is allowed to remain until required to be replaced pursuant to the terms of this article.
- (b) If more than fifty percent (50%) of the total appraised value of a structure (as determined from the records of the county's appraisal district), has been destroyed, the nonconforming

status expires and the structure's previously nonconforming outdoor lighting must be removed and may only be replaced in conformity with the standards of this article.

- (c) Nonconforming outdoor lighting shall be brought into conformance with this article as follows:
  - (1) Nonresidential Application. All existing outdoor lighting located on a subject property that is part of an application for a rezoning application, conditional use permit, subdivision approval, or a building permit for a major addition is required to be brought into conformance with this article before final inspection, issuance of a certificate of occupancy, or final plat recordation, when applicable. For the following permits issued by the City, the applicant shall have a maximum of 90 days from date of permit issuance to bring the lighting into conformance: site development permit, sign permit for an externally or internally illuminated outdoor sign, initial alcoholic beverage permit, initial food establishment permit, and on-site sewage facility permit.
  - (2) Residential addition or remodel. Nothing herein shall be construed to terminate a residential property's nonconforming status as a result of an addition or remodel. However, all outdoor residential lighting that is affixed to a construction project requiring a building permit is required to conform the standards established by this ordinance.
  - (3) Abandonment of nonconforming. A nonconforming structure shall be deemed abandoned if the structure remains vacant for a continuous period of six (6) months. In that instance, the nonconforming status expires and the structure's previously nonconforming outdoor lighting must be removed and may only be replaced in conformity with the standards of this article.
- (d) It is unlawful to expand, repair or replace outdoor lighting that was previously nonconforming, but for which the prior nonconforming status has expired, been forfeited, or otherwise abandoned.
- (e) Outdoor lighting on any property that is not in conformance with this article shall be brought into conformance with this article within five (5) years from the date of adoption of this article. All new construction and/or new luminaires installed (including replacements for existing fixtures) shall comply after the adoption of this article.
- (f) Amortization Extension. Residential property owners may request from the City an amortization extension of up to a maximum of ten (10) years from the date a nonconforming fixture was installed provided that the fixture was compliant with existing City ordinances at the time it was installed, and that date of installation can be substantiated via documents, date stamped photographs, etc. or, at the prerogative of the City Administrator, corroborative written statements.

- (1) Amortization extensions to the date at which outdoor lighting shall conform with this article shall be on a per fixture basis with the following requirements:
  - (i) The light fixture must be documented to cost at least \$100 when originally purchased;
  - (ii) The fixture cannot be brought into compliance by changing the bulb or lighting element or installing shielding;
  - (iii) If the bulbs or other lighting elements of the fixture require replacement during the amortization period, the replacement bulbs or lighting elements shall not be rated in excess of 2700 Kelvin.

(Ord. No. 2010-06-01, (exh. A), 9-7-10)

#### Sec. 18-234. - General Provisions

##### (a) Shielding.

- (1) Unless exempted elsewhere in this article, all outdoor lighting shall be fully shielded.
- (2) New streetlights shall be fully shielded fixtures of approved historical design, utilizing a minimum output consistent with the safety of drivers and pedestrians.
- (3) Mounting height or topography or proximity to other properties may cause public or private outdoor light fixtures to require additional shielding to prevent glare or an unsafe condition on properties other than the one on which it is installed.
- (4) All of the lighting that illuminates the translucent portion of a greenhouse or solarium must be shielded so that no direct light shines outside of the structure and no more than 4% of the reflected or refracted illumination is allowed to escape outside the structure.
- (5) Outdoor light fixtures with a maximum output of 200 lumens per fixture, regardless of the number of bulbs, may be left unshielded provided the source of the light is not visible from any other property and the fixture conforms to all other stipulations of this article. The output from these fixtures shall not exceed 10% of the lumens per net acre allowed by this article.

##### (b) Light Trespass.

- (1) Light trespass is prohibited. No luminaire installed within the City limits, except governmental owned streetlights, shall create conditions of light trespass.

Governmental owned street lights may only create light trespass below it within one hundred (100) feet of its installed location.

- (2) All outdoor lighting, except governmental owned streetlights, shall be shielded so that the light source shall not be visible from any other property.

(c) Outdoor Sports Facilities.

- (1) Lighting at public and private outdoor sports facilities, including but not limited to playing fields, arenas, tracks, and swimming pools, will be shielded to the greatest practical extent to reduce glare, safety hazards, light trespass, and light pollution;
- (2) Will provide levels of illuminance that are adjustable according to task, allowing for illuminating levels not to exceed nationally recognized Illuminating Engineering Society of North America (IESNA) standards according to the appropriate class of play, as well as for lower output during other times, such as when field maintenance is being actively performed; and
- (3) Shall be provided exclusively for illumination of the surface of play and adjacent viewing stands, and not for any other application, such as lighting a parking lot; and
- (4) Must be extinguished by 11:00 p.m. or within one (1) hour of the end of active play. The outdoor sports facility lighting shall be fitted with mechanical or electronic timers to prevent lights from being left on accidentally overnight.
- (5) Outdoor sports facility lighting will be exempted from the other regulations of this article if its design and installation, as certified by a professional engineer (PE) licensed in the state of Texas, adheres to the version of the International Dark-Sky Association's Criteria for Community-Friendly Outdoor Sports Lighting operative at the time when the construction permit is submitted to the City for review.

(d) Towers. No lighting of towers and associated facilities is allowed, except by permit, and except as required by the Federal Aviation Administration or other federal or state agency. In coordination with the applicable federal or state agency, the applicant shall determine the maximum height of the tower that would not require lighting. If a proposed tower would require lighting, the applicant shall demonstrate that a tower height that requires lighting is necessary. Such justification shall include documentation showing:

- (1) Coverage limitations;
- (2) Type of system (e.g. cellular, radio, television);
- (3) Technical and engineering details of the lighting to be installed; and

(4) Requirements of federal, state, and local agencies.

If a tower height that requires lighting is justified, slowly blinking red lights must be used at night. White strobe lights at night are prohibited.

(e) Color Temperature.

(1) The correlated color temperature (CCT) of luminaries shall not exceed 2700 Kelvins.

(2) Luminaries rated below 2500 Kelvin are encouraged for better nighttime visibility.

(f) Service Station Canopies and other building overhangs. All luminaires mounted on or recessed into the lower surface of service station canopies or other overhangs shall be fully shielded and utilize only flat lenses or windows. Shielding must be provided by the luminaire itself, and not by surrounding structures such as canopy edges. Light directed on service station pumps may be angled to illuminate the pump to the level of federal standards and to shield the light from normal view.

(g) General curfew.

(1) In all nonresidential zones,

(i) All privately owned exterior lighting not adaptively controlled shall be extinguished by 11:00 p.m. or within one (1) hour of the end of normal business hours, whichever occurs later.

(ii) Exterior lighting with adaptive controls shall reduce lighting to 25% or less of the total outdoor light output allowed by 11:00 p.m. or within one (1) hour of the end of normal business hours, whichever occurs later. Adaptive controls may be used to activate lights and resume normal light output when motion is detected and be reduced back to 25% or less of total outdoor light output allowed within 5 minutes after activation has ceased, and the light shall not be triggered by activity off property.

(iii) Businesses whose normal operating hours are (24) twenty-four hours per day are exempt from this provision.

(2) All publicly owned lighting not adaptively controlled must be fully extinguished by 11:00 p.m., or within one (1) hour of the end of occupancy of the structure or area to be lit, whichever is later.

(3) All outdoor lighting is encouraged to be turned off when no one is present to use the light.



- (h) Lumen Caps. The lumen per net acre values are an upper limit and not a design goal; design goals should be the lowest levels that meet the requirement of the task. Lumen per net acre values exclude governmental owned street lights used for illumination of public rights-of-way and outdoor recreation facilities.
  - (1) Nonresidential Property. Total outdoor light output installed on any nonresidential property shall not exceed 100,000 lumens per net acre in any contiguous illuminated area;
  - (2) Residential Property. Total outdoor light output installed on any residential property shall not exceed 25,000 lumens per net acre in any contiguous illuminated area.
- (i) Adaptive Controls. All new publicly owned lights, including streetlights, will incorporate adaptive controls (*e.g.*, timers, motion-sensors, and light-sensitive switches) to actively regulate the emission of light from light fixtures such that the lighting of areas is restricted to times, places and amounts required for safe occupancy.
- (j) Flagpoles. Property owners are encouraged to not illuminate flagpoles at night, but rather to hoist flags after dawn and lower flags before sunset. If flags are illuminated at night, lighting of up to a total of two (2) flags per property is permitted with the following conditions:
  - (1) Flagpoles with a height greater than 20 feet above ground level shall be illuminated only from above. This may be achieved by utilizing a luminaire attached to the top of the flagpole or a luminaire mounted above the top of the flagpole on a structure within fifteen (15) feet of the flagpole and must comply with all sections of this article. The total light output from any luminaire mounted on top of or above a flagpole shall not exceed 800 lumens.
  - (2) Flagpoles with a height equal to or less than twenty (20) feet above ground level may be illuminated from below. If ground-level illumination is used, flagpoles may be illuminated with up to two (2) spotlight type luminaires, utilizing shields or diffusers to reduce glare, whose maximum combined lumen output is 75 lumens per linear foot of pole height, measured from the level of the luminaire above grade to the top of the flagpole. Luminaires are to be mounted so that their lenses are perpendicular to the flagpole and the light output points directly toward the flag(s).
- (k) Prohibitions. The use of the follow types of outdoor lighting are prohibited, except as specifically exempted here or elsewhere in this article.
  - (1) Sag-lens or drop lens fixtures.
  - (2) Any luminaire that uses mercury vapor lamps.

- (3) Searchlights, skybeams, and similar lighting, except as required by response personnel during emergency conditions.
- (4) Any light that dynamically varies its output by intermittently fading, flashing, blinking, or rotating. This type of lighting includes strobe lighting.
- (l) Warranting. New installations of outdoor lighting will only be installed on public properties and right-of-way upon determination by the City Administrator that a public safety hazard exists in the area to be lit, and that the hazard can only be effectively mitigated through the use of outdoor lighting and not through some other passive means, such as reflectorized roadway paint or markers.

(Ord. No. 2010-06-01, (exh. A), 9-7-10)

Sec. 18-236. - Plan Submission and Compliance Review.

- (a) Any individual applying for a compliance review or building permit under this article intending to install new outdoor lighting or update existing outdoor lighting shall file a lighting plan with the City. A lighting plan shall be filed at the same time as any other plans required by the City. The individual may obtain from City staff a document that lists all of the items that comprise a proper and complete outdoor lighting submittal. The submittal shall contain, but shall not necessarily be limited to the following:
  - (1) Plans indicating the number and location on the premises of proposed and existing light fixtures, the type of light fixture (the manufacturer's order number), the lamp type, Kelvin rating, initial lumens produced, the mounting height for each fixture, adaptive controls, building elevations for any structure whose interior lighting is defined as outdoor lighting per this article and the manufacturer's specification sheet for each light fixture.
  - (2) The number of acres or part of an acre that is to be illuminated contiguously, the square footage of the footprint for each structure within the area to be illuminated; and
  - (3) Any other evidence that the proposed installation will comply with this ordinance.
- (b) The lighting plan shall be reviewed by the City building official to determine compliance with this article, taking into account all factors, including but not limited to, levels of illuminance, luminance, glare, safety hazards, light trespass, and light pollution. The building official may seek input from community members knowledgeable about outdoor lighting during the review process. The building official shall approve or reject the plan within 30 days of submission, returning it to the applicant with an explanation. The applicant shall not move forward with the outdoor lighting project until the lighting plan is approved. After the lighting plan is approved, no substitutions may be made for approved light fixtures without re-submitting the plan for review with the substitutions.

(Ord. No. 2010-06-01, (exh. A), 9-7-10)

Sec. 18-237. - Exemptions, temporary permitting, amendments, enforcement, civil remedies and public nuisance.

(a) This article shall not apply to the following:

- (1) Decorative holiday lighting from November 15 through the next January 15 during the hours of 6:00 a.m. to 11:00 p.m. each day, except that flashing holiday lights are prohibited on nonresidential properties. Holiday lights may be illuminated one additional seven (7) day period per calendar year.
- (2) String, festoon, bistro, and similar lighting, provided that the emission of no individual lamp exceeds fifty (50) lumens, and no installation of such lighting exceeds, in the aggregate, six thousand (6,000) lumens. These lights must be rated at or below 2700 Kelvin.
- (3) Underwater lighting of swimming pools and similar water features.
- (4) Lighting required by law to be installed on surface vehicles and aircraft;
- (5) Airport lighting required by law;
- (6) Lighting required by federal or state laws or regulations;
- (7) Temporary emergency lighting needed by law enforcement, fire and other emergency services as well as building egress lighting whose electric power is provided by either battery or generator;
- (8) Lighting employed during emergency repairs of roads and utilities provided such lighting is deployed, positioned and aimed such that the resulting glare is not directed toward any roadway or highway or residence;
- (9) Temporary lighting, other than security lighting, at construction projects provided such lighting is deployed, positioned and aimed such that the resulting glare is not directed toward any roadway or highway or residence;
- (10) Governmental facilities where compelling needs are demonstrated; and
- (11) Temporary lighting, permitted in this article, for theatrical, television, performance areas, or events provided the lights are positioned safely and do not create issues of light trespass.

(b) Temporary Permitting

- (1) Lighting such as that needed for theatrical, television, performance areas, or events may be allowed by temporary exemption. Temporary lighting that does not conform to the provisions of this article may be approved at the discretion City Council or the City Administrator subject to submission of an acceptable Temporary Outdoor Lighting Permit.
- (2) Permit term and renewal. Permits issued shall be valid for no more than seven (7) calendar days and subject to no more than one renewal, at the discretion of City Council or the City Administrator, for an additional seven (7) calendar days.
- (3) Conversion to a permanent status. Any lighting allowed by Temporary Outdoor Lighting Permit that remains installed after fourteen (14) calendar days from the issue date of the permit is declared permanent and is immediately subject to all of the provisions of this article.
- (4) Permit contents. A request for a Temporary Outdoor Lighting Permit for a temporary exemption to any provision of this article must list the specific exemption requested and the start and end date of the exemption. Search lights, skybeams and similar lighting will not be allowed. The City may ask for any additional information which would enable a reasonable evaluation of the request for temporary exemption.

(c) Amendment. This article may be amended from time to time as local conditions change, and as changes occur in the recommendations of nationally recognized organizations such as the Illuminating Engineering Society of North America and the International Dark-Sky Association, if the council wishes to do so.

(d) Enforcement.

- (1) It will be the responsibility of the City to publish this article in the newspaper of record and to disseminate the ordinance [this article] by other appropriate means; to publish information about the ordinance on the City website; and, as time permits, to inform owners of noncompliant lighting of these provisions.
- (2) The City Administrator is authorized to promulgate one or more interpretive documents to aid in the administration of, and compliance with, this article. Such interpretive documents, with examples such as Exhibits 2, 3 and 4 of Section 18-240, shall be educational only and shall not constitute regulations, amendments, or exceptions.
- (3) Violations. It shall be unlawful to install or operate any outdoor lighting luminaire in violation of any provision of this article. Any person violating any provision of this article shall be guilty of a class A misdemeanor and may also be subject to suit for injunctive relief. Each and every day during which the illegal erection, maintenance and use of

such nonconforming lighting continues shall be considered to constitute a separate offense.

- (4) Any owner who fails to comply with these provisions may be issued a warning notice. The owner of the noncompliant lighting must, within 30 days from the issuance of such warning notice, submit a lighting plan as defined in Sec. 18-236 to come into compliance with this article. Any owner who further fails to comply after 60 days from the issuance of such warning notice may be subject to criminal and civil penalties including a fine of \$50.00 for each day of noncompliance, unless the City council grants a waiver of the fine.
- (e) Civil remedies. Nothing in this article shall be construed as limiting the right of any person or entity to pursue legal action against any other person or entity under any applicable law, including the doctrine of light trespass.
- (f) Public nuisance. Any violation of this article that results in light trespass or an unreasonable interference with the common and usual use of neighboring property is hereby declared to be a public nuisance, which is prohibited by this article.

(Ord. No. 2010-06-01, (exh. A), 9-7-10)

**Cross reference—** Streets, sidewalks, and other public places, ch. 86.

Sec. 18-238. - Notification. All building permit applicants will be notified of the City outdoor lighting ordinance [this article].

(Ord. No. 2010-06-01, (exh. A), 9-7-10)

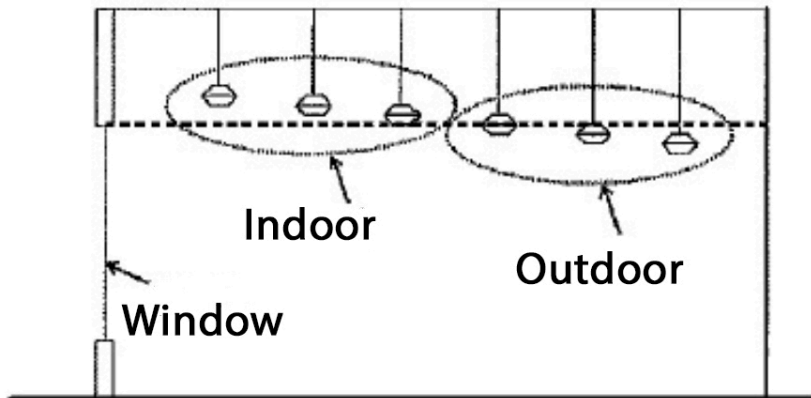
Sec. 18-239. - Sign illumination.

- (a) All permanent signs may be non-illuminated, illuminated by internal, internal indirect (halo), or lit by external indirect illumination, unless otherwise specified. All illuminated signs shall be extinguished at 11:00 p.m. or within one (1) hour of the end of normal business hours, whichever occurs later. All sign illumination must comply with the correlated color temperature (CCT) requirements of this article.
- (b) Top-down lighting. Externally illuminated signs shall be lit only from the top of the sign, with fully shielded luminaires designed and installed to prevent light from spilling beyond the physical edges of the sign.
- (c) Outdoor internally illuminated signs (whether free standing or building mounted) shall be subject to all the following requirements:

- (1) The sign must be constructed with an opaque background and translucent letters and symbols or with a colored background and lighter letters and symbols. (See Exhibit 5 of Section 18-240 for examples).
- (2) The internally illuminated portion of the sign cannot be white, cream, off-white, light tan, yellow or any light color unless it is part of a registered logo that does not have an alternate version with dark tones. Light tone colors such as white, cream, off-white, light tan, yellow or any light color are permitted in the logo only, provided that such colors in the logo shall represent not more than 33% of the total sign area permitted.
- (3) The internal illumination, between sunset and sunrise, is to be the lowest intensity needed to allow the sign to be visible for up to 1/2 mile from its installation and shall not exceed 100 nits.
- (4) Size limit. The luminous surface area of an individual sign shall not exceed 200 square feet.
- (5) Electronic message displays are discouraged and shall comply with outdoor lighting curfews stipulated in this ordinance. Messages appearing on electronic displays shall not be displayed for less than (30) seconds and shall require no longer than 0.25 seconds to transition from one message to another. Moving and/or flashing text or images are prohibited.
- (6) Permitted location. Off-premise signs shall not be placed within one thousand (1,000) feet of another off-premise sign on the same side of an arterial street or highway, regardless of face orientation, or within one thousand (1,000) feet of a residential area.

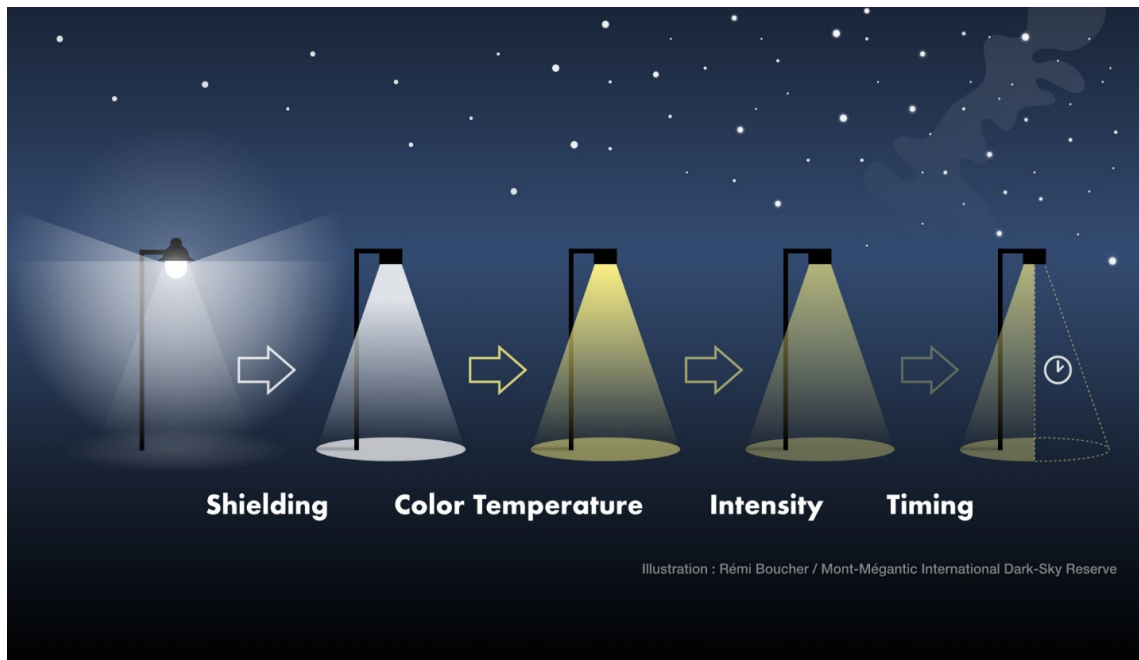
(Ord. No. 2010-06-01, (exh. A), 9-7-10)  
Sec. 18-240. - Exhibits.

Exhibit 1. Indoor/outdoor lighting.



Elevation view showing an example of a nonresidential application of indoor lighting, labeled "Outdoor", which is will be subject to this article. The example presumes the structure in question is not elevated such that any of the luminaires labeled "Indoor" may be seen from any other property. If the structure is elevated such that the luminaires labeled "Indoor" are visible from another property then, they are actually "outdoor lighting" and subject to this article. All luminaires under skylights or other translucent roofing materials are subject to this article just as the fixtures behind the window are in this example.

Exhibit 2. An illustration of best outdoor lighting practices.



- (1) Use shielding to reclaim wasted light and direct it to the area to be lit.
- (2) Lower the correlated color temperature (CCT) from “cool” white light to “warm” white.
- (3) Lower the intensity to provide as much light as needed for the application, but no more.
- (4) Use adaptive controls, e.g., timers, half-night photocells, motion sensors, etc., to limit the hours the light is in use.



Exhibit 3. Light Trespass

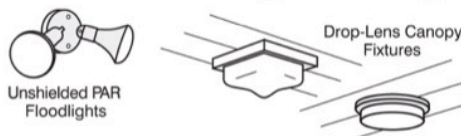
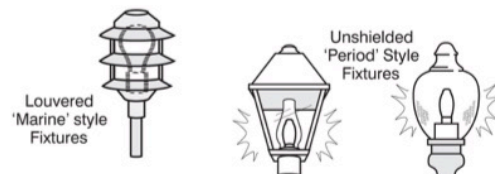
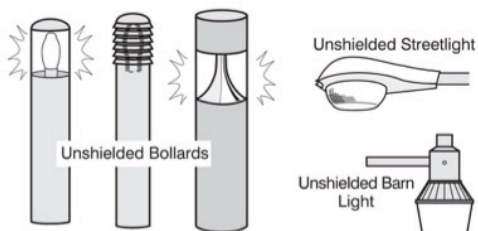
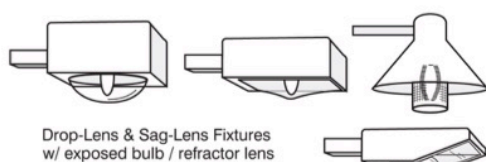
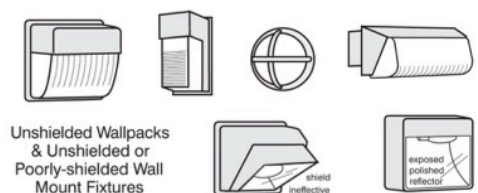


## Exhibit 4. Unacceptable Fixtures and Acceptable Fixtures.

### Examples of Acceptable / Unacceptable Lighting Fixtures

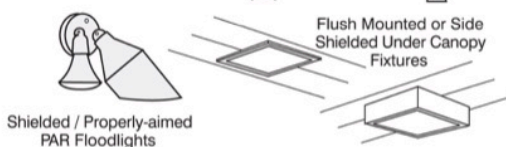
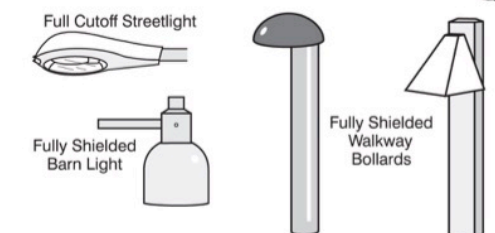
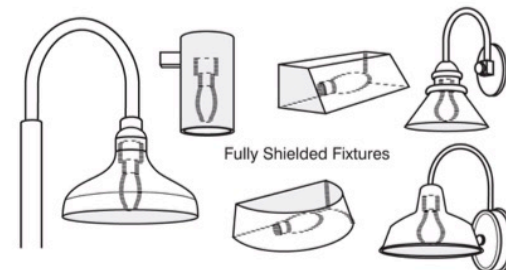
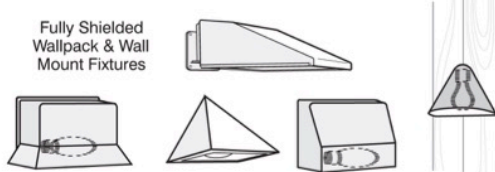
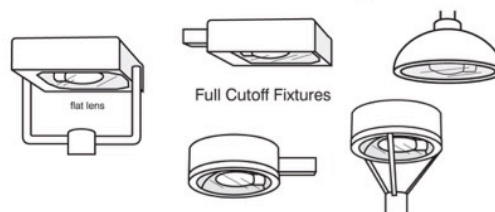
#### Unacceptable / Discouraged

Fixtures that produce glare and light trespass









#### Acceptable

Fixtures that shield the light source to minimize glare and light trespass and to facilitate better vision at night



Illustrations by Bob Crelin© 2005. Rendered for the Town of Southampton, NY. Used with permission.

Exhibit 5. Internally Illuminated Signs.

Light Background <input checked="" type="checkbox"/>	Colored Background <input checked="" type="checkbox"/>	Opaque Background <input checked="" type="checkbox"/>
		
		

(Ord. No. 2010-06-01, (exh. A), 9-7-10)

Secs. 18-241—18-250. - Reserved.

#### AN ORDINANCE TO IMPROVE OUTDOOR LIGHTING

City of Alpine, Texas

Proposed changes to the City of Alpine lighting ordinance adopted in 2000 are designed to benefit residents and businesses in Alpine by constituting better nighttime visibility, public safety, energy efficiency, and preservation of the natural night environment to promote tourism. Please refer to [this article] for the complete Outdoor Lighting Ordinance. To reduce the economic impact to the community a Dark Sky Fund that is funded by private and public donations has been created.

The goal is not to turn off lights at night but direct it to where it is wanted and prevent it from being wasted offsite, off property, or into the night sky.