

City of Bellaire

PROPOSED LIGHTING REGULATIONS

OPTION B

Alternate Proposal Provided by

Council Member Ross Gordon

Alternate Light Ordinance for Discussion and Consideration

Submitted by Council Member Ross Gordon

Purpose.

The making, creation, and maintenance of undesirable light and glare onto adjoining properties affects and is a detriment to the public health, comfort, convenience, safety, welfare, and prosperity of the residents of the city. The purpose of this ~~article~~ ^{Section} is to provide regulations for outdoor lighting that will minimize undesirable light and glare onto adjoining properties, curtail light pollution, reduce skyglow, permit the use of outdoor lighting ~~specified~~ for nighttime safety, utility, security, productivity, enjoyment, and commerce. The provisions and prohibitions contained in this article are intended to ensure appropriate lighting levels that support wayfinding and crime prevention and allow flexibility in architectural design while conserving energy and resources.

Definitions.

The following definitions shall apply in the interpretation and enforcement of this Article.

- (1) *Color rendering index* means the measurement of how colors of illuminated surfaces appear under a light source when compared with sunlight.
- (2) *Correlated color temperature* means the gauge of how yellow to white to blue the color of light emitted from a light source appears.
- (3) *Existing lighting* means any lighting existing and installed on or before the effective date of the ordinance from which this article is derived.
- (4) *Exterior new construction* means...**(need to insert a definition)**
- (5) *Footcandle* means the unit measure expressing the quality of light received on a surface. One footcandle is the illuminance produced by a candle on a surface equal to one square foot, from a distance of one foot.
- (6) *Fully Shielded Light Fixture* means a lighting fixture constructed in such a manner that all light emitted by the fixture, either directly from the lamp or a diffusing element or indirectly by reflection or refraction from any part of the luminaire, is projected below the horizontal plane as determined by photometric test or certified by the manufacturer. Any structural part of the light fixture providing this shielding must be permanently affixed. A fixture that conforms to the Illuminating Engineering Society of North American (IESNA) definition of "full cutoff" is also considered "fully shielded".
- (7) *Glare* means light ray emanating directly from a lamp, reflector or lens such that it falls directly on the eye of the observer.
- (8) *High intensity lighting* means....**(need to insert a definition)**
- (9) *Horizontal plane* means a line horizontal to the lowest point on the fixture from which light is emitted.
- (10) *Landscape lighting* means lighting of trees, shrubs, or other plant material as well as pools, ponds and other landscape features.
- (11) *Light trespass* means the light produced by a luminaire encroaching onto abutting properties beyond the property line and above the horizontal plane on which it is located and desired, as measured at the property boundary. **Completely changed definition - permits light trespass as commonly defined**
- (12) *Lumen* means the unit of measure used to quantify the amount of light produced by a lamp or emitted from a luminaire. The term is not synonymous with the term "watt," which is a measure of power consumption.
- (13) *Luminaire* means the complete lighting assembly, less the support assembly. For purposes of determining total light output, lighting assemblies which include multiple lamps or light sources in a single housing shall be considered as a single luminaire.
- (14) *Outdoor lighting fixture* means an outdoor artificial illumination device, whether permanent or portable, used for illumination outdoors, and game courts, and shall include but is not limited to devices used for search, spot, floor and area lighting for building and structures, recreational facilities, parking areas, landscape lighting, signs, public and private street lighting and walkway lighting.
- (15) *Photometric* means quantitative measurements of light levels and distribution.
- (16) *Seasonal Lighting* means temporary lighting installed and operated in connection with holidays or traditions.
- (17) *Shield* means a component of an outdoor lighting fixture that blocks the transmission or emission of light as a means of controlling or directing the light emitted from the fixture. A permanently attached shield may be part of the fixture which contributes to the full cutoff lighting performance of the fixture.

(18) *Sign* means a structure or any part thereof which is used or intended to be used to attract attention to a subject matter for advertising purposes, and which is properly permitted under the provisions of this code.

General prohibition.

What if it's pointed upward and shines in 2nd /3rd floor windows?

It shall be unlawful for any person to make, permit, or cause any outdoor lighting which results in light trespass beyond the property line of more than 0.5 footcandles, measured at grade on the property line. This prohibition applies to all existing lighting and includes, but is not limited to, lighting on residential, commercial, and institutional properties. The use of laser source light, searchlights, flashing and/or rotating lights or any similar high intensity light for outdoor advertising or entertainment, when projected above the horizontal plane, is prohibited.

General provisions.

All exterior lighting in the city consisting of, but not limited to, spotlights, floodlights, landscape lighting or similar illuminating devices shall be installed, regulated, and maintained by the owner or person in control thereof in such a manner to prevent light trespass beyond the property line of no more than 0.5 footcandles, measured at grade on the property line. High intensity lighting shall utilize fully shielded light fixtures, or other means determined by the city building official to meet the intent of this requirement, and be cast downward in a manner so as to minimize glare upon adjacent tracts.

pool
Exterior lighting mounted on a building, of any kind, shall not extend above the building roof line ...ditionally, as measured on the Kelvin color temperature scale, warm colored lighting 3000k or below shall be used where possible.

Applicability.

Except as provided by the subsection below, all outdoor lighting, including existing lighting within the city limits, must comply with the requirements of this article; however, the following are not regulated by this article:

- (1) Lighting within the public right-of-way for the principal purpose of illuminating streets or roads;
- (2) Lighting operated for emergency lighting used by police, fire, emergency, or utility work personnel;
- (3) Lighting required by law to be installed on motor vehicles; and
- (4) Lighting located on City property or for illuminating City facilities.

Hours of lighting at residential recreational facilities.

The use of outdoor lighting designed or used for the purpose of illuminating residential recreational facilities such as, but not limited to pools, tennis courts, paddle ball courts, or other types of game courts, game field or site shall not be allowed after 10:00 p.m.

Sign illumination.

All provisions relating to sign illumination are located in Chapter 24, Planning and Zoning, Article X, Signs, of this code, and shall be deemed controlling as to the interpretation and enforcement of this article.

Seasonal lighting.

Notwithstanding the provisions of this article, seasonal lighting and light of seasonal decorations using typical, unshielded, low-wattage, incandescent lamps, LED or twinkle bulbs, or holiday light projectors shall be permitted for 60 days from date of installation provided that such light is not directed onto property other than the property upon which the seasonal lighting and decorations are located.

Enforcement.

Upon receipt of a complaint from any person, or upon the initiative of any employee of the City of Bellaire, Texas, a compliance inspection shall be conducted by the city building official, code enforcement officers, peace officer, or other representatives designated by the city manager. Identity of complainant should be protected

Requirements for exterior new construction, excluding single-family residential.

For any exterior new construction, excluding single-family residential, a person must apply for and obtain a permit from the city and pay any applicable fee therefor as may be set by the city manager in a schedule of fees, and submit a photometric plan for review by the city. The photometric plan must include a layout of the property which indicates:

- (1) The location and square footage of hardscape area;
- (2) The location and mounting height of each proposed new lighting luminaire and of each existing lighting luminaire, including all internal parking garage luminaires;

- (3) The make, model, lumen output, and Kelvin color temperature stated by the manufacturer for each lamp within each proposed new lighting luminaire and each existing luminaire; and
- (4) The total luminaire lumens for each proposed new lighting luminaire and each existing lighting luminaire.

Photometric calculations detailing all exterior lighting, and interior parking garage luminaires, shall be submitted and drawn on twenty-four (24) inches by thirty-six (36) inch format prepared to scale. Point to point photometric calculations shall be calculated at intervals of not more than ten (10) feet at ground level and may also be required at six (6) feet above finish grade. A copy of all cut sheets for light fixtures shall be submitted and marked as to which information and data applies to the specific luminaire, including the lamp manufacturer.

Exterior new construction, excluding single family residential, must comply with the following requirements related to off-street parking. **Nothing on existing parking lot poles or parking garage poles**

- (1) *Parking Lot Lighting.* Parking lot lighting shall be arranged to prevent light trespass beyond the property line of no more than 0.2 footcandles, measured at grade on the property line, and to minimize glare on adjacent properties. Parking lot lights shall have a maximum height of 20 feet and utilize fully shielded light fixtures, or other means determined by the city building official to meet the intent of this requirement. Height shall be measured from the finish grade, inclusive of the pedestal, to the top of the fixture. Lights mounted on a building shall not extend above the building roof line,
- (2) *Parking Garage Lighting.* Parking garage lights within the parking structure and located at the top floor of the structure shall be arranged to prevent light trespass beyond the property line of no more than 0.2 footcandles, measured at grade on the property line, and to minimize glare on adjacent properties. Parking garage lighting at the top floor shall have a maximum height of 15 feet and utilize fully shielded light fixtures, or other means determined by the city building official to meet the intent of this requirement. Height shall be measured from the finish concrete, inclusive of the pedestal, to the top of fixture. Lights mounted on the side of the parking garage shall not extend above the top parking garage wall.
- (3) *Parking Garage Screening.* When directly abutting a residential zoning district, the exterior cover of the parking garage structure, on the side facing the residential zoning district, shall be made of an opaque surface or be constructed of other material in a manner that blocks or redirects the light from headlights on vehicles located within the garage. The exterior cover shall be at least 42^{48"} inches in height measured vertically from each finished floor where parking occurs. For ramps or other sloped surfaces, the exterior cover shall be positioned to block or redirect light from headlights of vehicles travelling within the garage. Additional screening may be required if it is otherwise not possible to prevent light trespass beyond the property line that exceeds 0.2 footcandles, measured at grade on the property line.

Exterior new construction, excluding single family residential, must comply with the following requirements related to color temperature and exterior lighting after closing.

- (1) *Color of lighting.* All outdoor luminaires are required to have a maximum Correlated Color Temperature of 3000~~3,500~~ Kelvins and a minimum Color Rendering Index of 70.
- (2) *Lighting Reduction Requirements.* The total luminaire lumens of all outdoor lighting intended to be left on more than 30 minutes after closing, or the completion of activities, is required to be reduced to 75% or less of its normal lumen output. Motion sensor activation may be allowed to cause the light to resume normal lumen output only when activated and to be reduced back to 75 percent or less or normal lumen output within 5 minutes after activation has ceased. The light shall not be triggered by activity off the property. The following are exempt from the application of this subsection:
 - a. Code required lighting for steps, stairs, walkways, and building entrances.
 - b. Lighting required by an order, resolution, or ordinance of the city for be maintained at a particular level; and
 - c. Lighting for businesses that operate on a 24-hour basis.

For outdoor lighting for which a permit has been issued in accordance with these regulations and the building code of the city, should any light fixture or the type of light source be changed therein after the permit has been issued, a change request must be submitted to the city building official for their approval.

Inspection.

Upon completion of any outdoor lighting installation for which a permit has been issued in accordance with these regulations and the building code of the city, the electrician shall be subject to a compliance inspection to be made during nighttime hours, with an accurate light meter. The inspection shall be made with the city manager or his or her designee and the electrician responsible for the installation present. An accurate light meter, used for the inspection, shall be furnished by the electrician. The outdoor lighting permit fee, which shall include the cost of one inspection, and fees for additional inspections or re-inspections, shall be in such amounts as may be established from time to time by city council.

Penalty.

Any person who shall violate any of the provisions of this Article, or who shall fail to comply therewith, shall be guilty of a misdemeanor and shall be punished as provided in Section 1-10 of this Code; provided, however that any fine shall not be less than \$150.00 for the first offense of a violation of or failure to comply with this Article, and not less than \$500.00 for any subsequent offense of violation of or failure to comply with this Article.

Eliminated all provisions for parking lot lighting and parking garage lighting for existing structures (or plans for Bellaire Place submitted to Dev Svc). See (k) Requirements for off-street parking.