

ARTICLE 19. LIGHTING ORDINANCE

PART I. OUTDOOR LIGHTING

Section 19-1: Intent and Purpose

Outdoor lighting shall be designed to provide the minimum lighting necessary to ensure adequate safety, night vision, and comfort, and not create or cause excessive glare onto adjacent properties and public street rights-of-way.

Section 19-2: Light Measurement Technique

Light level measurements shall be made at the property line of the property upon which the light to be measured is being generated. If measurement on private property is not possible or practical, light level measurements may be made at the boundary of the public street right-of-way that adjoins the property of the complainant or at any other location on the property of the complainant. Measurements shall be made at finished grade (ground level), with the light-registering portion of the meter held parallel to the ground pointing up. The meter shall have cosine and color correction and have an accuracy tolerance of no greater than plus or minus five percent (5%). Measurements shall be taken with a light meter that has been calibrated within the year. Light levels are specified, calculated, and measured in footcandles (FC). All FC values below are maintained footcandles.

Section 19-3: General Standards for Outdoor Lighting

- (A) Unless otherwise specified in Sections 19-4 through 19-9 below, the maximum light level shall be 0.5 maintained footcandle at any property line in a residential district, or on a lot occupied by a dwelling, congregate care, or congregate living structure, and 2.0 maintained footcandle at any public street right-of-way, unless otherwise approved by the Planning Board and Town Council.
- (B) All flood lights shall be installed such that the fixture shall be aimed down at least forty-five (45) degrees from vertical, or the front of the fixture is shielded such that no portion of the light bulb extends below the bottom edge of an external shield. Flood lights and display lights shall be positioned such that any such fixture located within fifty (50) feet of a public street right-of-way is mounted and aimed perpendicular to the right-of-way, with a side-to-side horizontal aiming tolerance not to exceed fifteen (15) degrees from perpendicular to the right-of-way.
- (C) All flood lamps emitting 1,000 or more lumens shall be aimed at least sixty (60) degrees down from horizontal, or shielded such that the main beam from the light source is not visible from adjacent properties or the public right-of-way.
- (D) All wall pack fixtures shall be cutoff fixtures.

- (E) Service connections for all freestanding fixtures installed after application of this Ordinance shall be installed underground.
- (F) Within the HB district, all outdoor lighting fixtures shall be at minimum semi-cutoff fixtures.
- (G) All light fixtures installed by public agencies, their agents, or contractors for the purpose of illuminating public streets are otherwise exempt from this regulation. For regulations regarding Street Lighting, see Part II of this Article.
- (H) The use of laser light source, searchlights, or any similar high intensity light for outdoor advertisement or entertainment is prohibited. *(Amended 11/2/2020)*

Section 19-4: Lighting in Parking Lots and Outdoor Areas

- (A) Other than flood lights and flood lamps, all outdoor area and parking lot lighting fixtures of more than 2,000 lumens shall be cutoff fixtures, or comply with subsection (C) below.
- (B) The mounting height of all outdoor lighting, except outdoor sports field lighting and outdoor performance area lighting, shall not exceed forty-one (41) feet above finished grade, unless approved by the Planning Board and Town Council as having no adverse effect.
- (C) Exceptions:
 - (1) Non-cutoff fixtures may be used when the maximum initial lumens generated by each fixture shall not exceed 9,500 initial lamp lumens per fixture.
 - (2) All metal halide, mercury vapor, fluorescent, induction, white high pressure sodium, and color improved high pressure sodium lamps used in non-cutoff fixtures shall be coated with an internal white frosting inside the outer lamp envelope.
 - (3) All metal halide fixtures equipped with a medium base socket must utilize either an internal refractive lens or a wide-body refractive globe.
 - (4) All non-cutoff fixture open-bottom lights shall be equipped with full cutoff fixture shields that reduce glare and limit uplight.

Section 19-5: Lighting for Vehicular Canopies

Areas under a vehicular canopy shall have a maximum point of horizontal illuminance of twenty-four (24) maintained footcandles (FC). Areas outside the vehicular canopy shall be regulated by the standards of Section 19-4 above. Lighting under vehicular canopies shall be designed so as not to create glare off-site. Acceptable methods include one or more of the following:

- (A) Recessed fixture incorporating a lens cover that is either recessed or flush with the bottom surface (ceiling) of the vehicular canopy.

- (B) Light fixture incorporating shields, or shielded by the edge of the vehicular canopy itself, so that light is restrained to five degrees or more below the horizontal plane.
- (C) Surface mounted fixture incorporating a flat glass that provides a cutoff fixture or shielded light distribution.
- (D) Surface mounted fixture, typically measuring two feet by two feet, with a lens cover that contains at least two percent (2%) white fill diffusion material.
- (E) Indirect lighting where light is beamed upward and then reflected down from the underside of the vehicular canopy. Such fixtures shall be shielded such that direct illumination is focused exclusively on the underside of the vehicular canopy.
- (F) Other methods approved by the Planning Board.

Section 19-6: Outdoor Sports Field/Outdoor Performance Area Lighting

- (A) The mounting height of outdoor sports field and outdoor performance area lighting fixtures shall not exceed eighty (80) feet from finished grade unless approved by the Planning Board and Town Council as having no adverse effect.
- (B) All outdoor sports field and outdoor performance area lighting fixtures shall be equipped with a glare control package (louvers, shields, or similar devices). The fixtures must be aimed so that their beams are directed and fall within the primary playing or performance area.
- (C) The hours of operation for the lighting system for any game or event shall not exceed one hour after the end of the event.

Section 19-7: Lighting of Outdoor Display Areas

- (A) Parking lot outdoor areas shall be illuminated in accordance with the requirements for Section 19-4 above. Outdoor display areas shall have a maximum point of illuminance of twenty-four (24) maintained footcandles (FC).
- (B) All light fixtures shall meet the IESNA definition of cutoff fixtures. Forward throw fixtures (type IV light distribution, as defined by the IESNA) are required within twenty-five (25) feet of any public street right-of-way. Alternatively, directional fixtures (such as flood lights) may be used provided they shall be aimed and shielded in accordance with Section 19-3(A) and (B) of this Ordinance.
- (C) The mounting height of outdoor display area fixtures shall not exceed forty-one (41) feet above finished grade, unless approved by the Planning Board and Town Council as having no adverse effect.

Section 19-8: Sign Lighting

Lighting fixtures illuminating signs shall be aimed and shielded so that direct illumination is focused exclusively on the sign.

Section 19-9: Lighting of Buildings and Landscaping

Lighting fixtures shall be selected, located, aimed, and shielded so that direct illumination is focused exclusively on the building facade, plantings, and other intended site feature and away from adjoining properties and the public street right-of-way.

Section 19-10: Permits

The applicant for any permit required for work involving outdoor lighting shall submit documentation at time of site plan or plot plan approval that the proposed lighting plan complies with the provisions of this Ordinance. The submission shall contain, but not be limited to the following, all or part of which may be part of or in addition to the information required elsewhere in this Ordinance:

- (A) A point-by-point footcandle array in a printout format indicating the location and aiming of illuminating devices. The printout shall indicate compliance with the maximum maintained footcandles required by this Ordinance.
- (B) Description of the illuminating devices, fixtures, lamps, supports, reflectors, poles, raised foundations and other devices (including but not limited to manufacturers or electric utility catalog specification sheets and/or drawings, and photometric report indicating fixture classification [cutoff fixture, wall pack, flood light, etc.]).

The Administrator or his/her designee(s) may waive any or all of the above permit requirements, provided the applicant can otherwise demonstrate compliance with this Ordinance.

Section 19-11: Nonconformities

- (A) Following application of this regulation, the installation of outdoor lighting, replacement of outdoor lighting, and changes to existing light fixture wattage, type of fixture, mounting, or fixture location shall be made in strict compliance with this Ordinance. Routine maintenance, including changing the lamp, ballast, starter, photo control, fixture housing, lens and other required components, is permitted for all existing fixtures not subject to subsection (B) below.
- (B) All outdoor lighting that fails to conform with Section 19-3 above which is either located in a residential zoning district or which affects a lot occupied by a dwelling, congregate care, or congregate living structure located in a residential zoning district shall be discontinued,

removed, or made to conform with Section 19-3 within five and one-half (5-1/2) years from the effective date of this provision.

PART II. STREET LIGHTING

Section 19-12: Policy Purpose

The purpose of this section is to establish an official policy for the Town of Pembroke pertaining to the installation of streetlights for the purposes of traffic safety and crime control.

Section 19-13: Coverage

This Article, upon adoption, shall apply to all public rights-of-way within the municipal limits and the ETJ of the Town of Pembroke and any public rights-of-way annexed in the future until such time that this section is altered, modified, or rescinded by the Town Council.

Section 19-14: Policy

The Town Council of the Town of Pembroke hereby establishes the following:

- (A) The owner, developer, or subdivider of a site plan or subdivision shall be required to install street lighting via underground distribution unless specifically approved otherwise by the Town Council, along all proposed streets and along all adjoining existing streets and thoroughfares in accordance with this section.
- (B) Through the site plan and subdivision plan approval process, the Town Council may approve street lighting which exceeds the standard Town requirements for residential streets so as to reduce the length of sag vertical curves provided the streetlights are operational prior to the issuance of any Certificates of Occupancy on such street. In any case, the minimum allowable length of sag vertical curves shall be as follows: residential streets - 20A; cul-de-sacs and loop roads - 15A.
- (C) All underground electrical distribution systems for street lighting within the corporate limits of the Town of Pembroke and its extraterritorial planning jurisdiction shall be installed according to the following standards:
 - (1) Underground service for light fixtures shall be installed by the developer in conformance with Progress Energy and Town of Pembroke standards at the developer's expense.
 - (2) The placement of street lighting fixtures in residential areas shall be at 400 to 600 foot intervals unless:

- (a) The roadway length is less than four hundred (400) feet but more than two hundred (200) feet in which case a streetlight will be provided at the end of the street; or
 - (b) Where the roadway length is less than two hundred (200) feet and a streetlight is placed at the intersection and no natural features create a problem, no streetlight will be placed at the end of the roadway; or
 - (c) The vertical and horizontal street alignment or natural features necessitate shorter spacing intervals.
 - (3) The placement of street lighting along thoroughfares, marginal access streets, and collector streets and in nonresidential areas shall be in accordance with the latest revision of the Illuminating Engineering Society's "American National Standards for Roadway Lighting."
 - (4) A streetlight shall be provided at all street intersections.
- (D) Street light fixtures shall conform to the following:
- (1) All fixtures in residential areas shall be either 5,800 or 9,500 lumen enclosed high pressure sodium lamps on standard Progress Energy poles twenty-five (25) feet in height. The 5,800 lumen fixture shall be placed only at the "neck" of cul-de-sacs.
 - (2) All fixtures along thoroughfares shall be 28,500 lumen enclosed high pressure sodium lamps on Progress Energy standard fiberglass poles thirty (30) feet in height or 50,000 lumen enclosed high pressure sodium lamps on Progress Energy standard fiberglass poles thirty-five (35) feet in height. The 28,500 lumen fixtures shall be placed in residential areas when spillover from the 50,000 lumen fixtures would be excessive.
- (E) Authorization for street light installations shall occur at such time as:
- (1) A developer, through the Town of Pembroke, requests the installation of streetlights prior to the issuance of any Certificates of Occupancy. The developer shall incur a monthly electrical expense billed from Progress Energy equal to the monthly electrical expense incurred by the Town of Pembroke, for each streetlight installed. The developer will be billed by Progress Energy for the period beginning with installation of the streetlight and ending with notification to the Town of Pembroke, by the developer, of issuance of a Certificate of Occupancy in the immediate area of each street light location, or
 - (2) A Certificate of Occupancy is issued in the immediate area of the proposed street light location, or

- (3) A thoroughfare, marginal access street, or collector street is constructed or widened as a part of development. Thoroughfares, marginal access streets, and collector streets that are constructed or widened by the Town of Pembroke shall be lighted immediately after construction, dependent on the availability of funds.
- (F) Street lighting facilities and streetlights shall be installed by the developer on any roadway, portion of roadway, or widening prior to the Town of Pembroke's acceptance of that roadway for routine maintenance unless otherwise approved by the Public Works Director.
- (G) Residents along a street may request the relocation of a streetlight provided that the proposed street light location meets Town standards and the relocation is approved by the Public Works Director. Residents living at the cul-de-sac end of a street may request the replacement of an existing 9,500 lumen semi-enclosed light fixture with a 5,800 lumen semi-enclosed light fixture. A petition, signed by all persons owning property fronting on the street within the boundaries of the next closest installed or proposed streetlights, shall be required. Also, the relocation or replacement cost and all facilities abandonment costs must be paid in full to Progress Energy in advance by the resident(s) requesting the relocation or replacement.
- (H) A developer may request to use decorative or "private" street lighting within a development provided:
- (1) Street light fixture types and locations must meet the minimum criteria set forth in this Article and must be approved by the Town of Pembroke.
 - (2) The developer and/or Homeowner's Association shall be responsible for all installation costs and monthly operating costs above what is accepted by policy of the Pembroke Town Council associated with the streetlights.
 - (3) The developer and/or Homeowner's Association shall be responsible for any costs associated with deletion of the streetlights and any costs associated with installing the Town's standard street lights.
 - (4) The developer shall include all responsibilities of the Homeowner's Association pertaining to the street lighting in the development covenants. The developer shall inform all purchasers of property in the development of these same responsibilities.