



Town of Oak Island

Brunswick County, NC

The Town of Oak Island will preserve, protect, and enhance the quality of the natural and cultural environment of the community. In order to achieve this goal, the Town will improve the quality of its waterways, natural environment, beaches, dunes, water access and residential areas. The Town will maintain a unique scale and character that fosters a sense of community to make the Town a desirable place to live, work and call home, and a family vacation destination. The Town will also develop efficient sidewalks, bikeways, and roadway systems to protect its attractiveness in the future. The Town will also expand its recreational opportunities for residents of all ages and abilities. The Town will balance social and commercial needs and objectives for economic vitality.

Planning Board Meeting Agenda November 21, 2019 • 10:30 AM Town Hall • Council Chambers

I. START-UP

1. **Call to Order:**
2. **Additions or corrections to the agenda**
3. **Approval of the Minutes:** (10-17-2019)
4. **Public Comment:** Please state your name and address for the record.

II. OLD BUSINESS

III. NEW BUSINESS

1. **Text Amendment - Lighting**
2. **Text Amendment - Driveways**

1. REPORTS/UPDATES

1. **Board Member Reports**
2. **Staff Report**

2. OTHER

Future Meetings: 12/19/19
Adjournment



**TOWN OF OAK ISLAND
PLANNING BOARD
AGENDA ITEM MEMO**

Agenda Item: New Business No. 1

Date: 10/29/2019



Issue: Mainland Lighting – Text Amendment

Department: Planning & Zoning Administrator

Presented by: Jake Vares

Presentation: None

Estimated Time for Discussion: 30 Minutes

Subject Summary:

The proposed text amendment is citizen initiated. The applicant submitted a permit for the multi-family portion of the Pine Forest tract and part of the plans were not compliant with the lighting section of the Oak Island UDO; hence the text amendment application. The applicants proposed wording is the language the Brunswick County UDO uses. Many other municipalities in Brunswick County also mirror Brunswick County's lighting ordinance for continuity. The ordinance is also worded to apply only to the mainland side of Oak Island. The current lighting regulations carry over from past Zoning Ordinance and was written for island side only needs.

The below lighting ordinance explains when the lighting ordinance is applicable; for commercial projects, multi-family, major subdivisions, and expansion and alterations of existing lighting infrastructure. The lighting exemptions are also codified to exclude: lighting for temporary events, maintenance, repairs, and damaged lighting up to a specified benchmark. The proposed ordinance and mandates when a lighting plan requirement is triggered. Like the existing lighting ordinance the new wording regulates skycaps and shields on fixtures to prevent up-lighting and light trespass, and also sets a height limit on pole lighting. Continuity in lighting is included in the ordinance and requires that the same light source type must be used for the same or similar types of lighting on any one site throughout any development. The preferred and prohibited light source type is also outlined. The mounting of lighting fixtures must be done in a manner to contain the cone of light on-site and to ensure maximum illumination levels off-site are not excessive.

A foot-candle is a unit of illuminance or light intensity. One foot-candle represents the illuminance cast on a surface by a one-candela source one foot away. This unit is commonly used throughout the United States. The word "lumen" is the standard term used to describe light output. 1 Lumen per square foot is equivalent to 1 foot-candle inversely one foot-candle is equal to one lumen per square foot.

The first table below sets a minimum and maximum lumen levels measured on the pavement within the lighted area and average level (the overall generalized ambient light level). This is incorporated in ensure uniformity in lighting. The second table specifies the maximum illumination allowed and measured at the street and property line. If the adjacent property is commercial then the number of lumens can be greater. The ordinance is designed for safety, aesthetics, to reduce light pollution, and to contain the light on site. BEMC (i.e. Brunswick Electric) handles the power infrastructure within Oak Island's jurisdiction and will work with the town to ensure compliance as they are the entity that also reviews lighting plans before installing the infrastructure.

The applicants lighting plan would need to include many more light poles that are shorter if the existing ordinance were not amended. The greater height a light pole is allowed to be the greater the foot-candle and dispersion of light can be, restrictive height limitations of pole lights mandate a need for additional poles to be scattered across an area of land to obtain the needed light coverage. BEMC and a representative for this portion of the Pine Forest development will be present to answer questions. Attached is the proposed wording, the text amendment application, and the applicant's narrative. The Plan Consistency Statement should be adopted with the motion.

Attachments: Proposed Ordinance Amendment, Application, Applicant Narrative

Recommendation/Action Needed:

Suggested Motion: I make a motion to approve or deny the proposed text amendment and to adopt the associated plan consistency statement.

Planning Board Recommendation: TBD

Funds Needed: \$0.00

Follow Up Action Needed: Forward recommendation to Town Council

Attachments

ARTICLE 10. PERFORMANCE STANDARDS

PART V. LIGHTING

SECTION 10.36 PURPOSE.

This division sets forth criteria for the installation of exterior lighting and lighting visible from the exterior of buildings and structures, the purposes of which are as follows:

10.36.1. Preserve and enhance public safety;

10.36.2. Protect drivers from disabling glare and thereby enhance traffic safety;

10.36.3. Enhance the Town's nighttime character;

10.36.4. Shield neighboring properties from nuisance glare;

10.36.5. Reduce light pollution;

10.36.6. Protect sea turtle hatchlings from disorienting light; and

10.36.7. Promote energy conservation through efficient light design and operation.

SECTION 10.37 COMMERCIAL PARKING LOTS AND DRIVEWAYS.

Lighting for parking lots and driveways shall be designed to provide the minimum lighting necessary to ensure adequate public safety, to control excessive glare onto adjacent streets and properties, and to prevent light trespass onto adjoining properties. Light fixtures for parking lots may also illuminate structures served by the parking lot.

10.37.1. All lighting fixtures used for the purpose of illuminating parking lots and driveways shall be cutoff fixtures.

10.37.2. Directional or floodlighting fixtures must be shielded and properly aimed so that they control glare, do not produce uplighting, and contain light so that it does not encroach on neighboring properties and rights-of-way.

10.37.3. The maximum mounting height for pole-mounted fixtures intended to illuminate parking lots is twenty-five (25) feet measured from the base of the pole. **10.37.4.** Special design areas may require the use of lighting fixtures of a particular period or architectural style. In such areas, fixtures that are not cut off, as defined by IESNA, are permitted provided that the maximum initial lumens generated by each lamp shall not exceed 9,500 lumens; the fixtures meet the requirements for sea turtle protection in Section 10.41; and post top fixtures are fitted with a solid top and open-bottom and dusk-to-dawn lights are fitted with skycap aluminum reflectors to control uplighting and reduce glare.

10.37.5. Temporary lighting is permitted if it meets the requirements for sea turtle protection in Section 10.41.

SECTION 10.38 ILLUMINATION OF COMMERCIAL BUILDINGS.

Buildings may be lighted with lighting equipment mounted in front, at ground level, or with wall-mounted down lighting fixtures provided that:

10.38.1. Light fixtures are properly aimed and shielded to confine the light to the area of the building being lighted and to prevent light from encroaching on neighboring properties and adjoining public rights-of-way.

10.38.2. Building mounted light fixtures may not be mounted more than twenty (20) feet in height above grade. These fixtures must be shielded and aimed in a manner that controls uplighting.

10.38.3. Ground-mounted fixtures must control uplighting.

10.38.4. Bare light sources (including but not limited to incandescent, fluorescent, high intensity discharge, and neon) used to outline property lines, open sales areas, rooflines, doors, windows, the

edges of walls or any other area of the building or property visible from outside the building are prohibited, except for holiday lighting permitted from Thanksgiving through January 15 of the new year.

SECTION 10.39 RESIDENTIAL AREAS (INCLUDING PRIVATE DOCKS AND PIERS).

10.39.1. Fixtures using lamps (bulbs) of 100 watts or less (or equivalent), such as typical porch lights, may be installed at any location in residentially zoned areas except those located within sea turtle protection areas.

10.39.2. Unshielded floodlights installed for security and activated by motion sensors are permitted. All other floodlight fixtures must have top and side shields capable of containing light below the roofline of the house and reducing light trespass on adjoining properties.

10.39.3. Area lights, or dusk-to-dawn lights are permitted. These lights must be equipped with a skycap to control glare and to prevent uplighting.

10.39.3.1. If pole-mounted, the fixture mounting height may be no more than twenty (20) feet above grade at the base of the pole.

10.39.3.2. If wall-mounted, the fixture mounting height may be no more than sixteen (16) feet above grade, or sixteen (16) feet above any deck or porch of houses constructed on pilings.

SECTION 10.40 SIGNS.

10.40.1. Lighting fixtures used to illuminate on-premises or off-premises outdoor commercial signs must be mounted at the top of the sign structure.

10.40.2. The sign lighting fixture(s) must be shielded to control glare, to prevent encroachment on neighboring properties and rights-of-way and to contain light so that it is projected below a horizontal plane extending through the fixture.

10.40.3. The height of the sign lighting fixture shall be no greater than the maximum permitted height of the sign.

SECTION 10.41 SEA TURTLE PROTECTION.

The purpose of this section is to protect the threatened and endangered sea turtles that nest along the beaches of the Town by safeguarding egg-laying females and hatchlings from sources of artificial light that deter nesting and cause disorientation and subsequent death. To the maximum extent feasible and consistent with requirements for public safety, it is the policy of the Town that no artificial light shall directly or indirectly illuminate the Town's ocean beach and that the sources of lighting in the sea turtle protection area. To comply with this policy, outdoor lighting installed or upgraded within 300 feet of the frontal dune after the effective date of this division shall meet the following requirements:

10.41.1. Streetlights shall utilize cutoff fixtures and the fixtures shall be mounted no more than twenty-five (25) feet above grade.

10.41.2. Streetlight fixtures shall be shielded and/or utilize lenses to create a light pattern that contains light landward of the frontal dune.

10.41.3. Where it is impractical to contain light from streetlight fixtures on the landward side of the frontal dune, colored lenses that modify light so that it is not disruptive to sea turtle hatchlings shall be employed.

10.41.4. Pole-mounted light fixtures installed on private property shall be cutoff fixtures and shall be shielded in such a manner as to contain light on the landward side of the frontal dune. The fixture mounting height may be no more than twenty (20) feet above grade at the base of the pole.

10.41.5. Wall-mounted light fixtures shall be fitted with shields and hoods to contain light on the landward side of the frontal dune.

10.41.6. Floodlights installed for security purposes and operated by motion sensors are permitted. To the maximum extent feasible, these fixtures shall be mounted and aimed in a manner to contain light on the landward side of the frontal dune. **10.41.7.** Where possible, the source(s) of light within the 300-foot zone must not be visible from the seaward side of the frontal dune.

SECTION 10.42 OFF-SITE ILLUMINATION.

Increases in illumination on off-site property shall not result in lighting levels in excess of 0.3 foot-candles, measured at ground level. Where existing ambient off-site lighting levels are in excess of 0.3 foot-candles, no increase in measurable off-site lighting levels will be allowed as a result of outdoor lighting in the development.

SECTION 10.43 IMPLEMENTATION; COMPLIANCE.

Building, electrical, and/or sign permits will state that the applicant must comply with the requirements of this division, and the requirements of this division must be met prior to the final inspection on the permit.

SECTION 10.44 MAINLAND EXTERIOR LIGHTING.

10.44.1 Purpose and Intent Nonresidential and multifamily buildings and projects, including outparcels, shall be designed to provide safe, convenient, and efficient lighting for pedestrians and vehicles. Lighting shall be designed in a consistent and coordinated manner for the entire site. The lighting and lighting fixtures shall be integrated and designed so as to enhance the visual impact of the project on the community and/or should be designed to blend into the surrounding landscape. Lighting design and installation shall ensure that lighting accomplishes on-site lighting needs without intrusion on adjoining properties.

10.44.2 Applicability

The requirements of this Section shall apply to:

10.44.2.1 All nonresidential or multifamily development;

10.44.2.2 Lighting provided in conjunction with new subdivisions or planned developments;

10.44.2.3 Modification of an existing lighted area where the lamp color will change or where the number of light fixtures or foot-candles (fc) are increased; and

10.44.4 Expansion of areas that are increasing in size and in doing so will exceed the illumination levels in Section 10.45.1.

10.44.3 Exempt

10.44.3.1. The following activities are exempt from the requirements of this Section.

10.44.3.1.1 Outdoor lights used for a temporary event; permitted through a Temporary Use Permit.

10.44.3.1.2 Outdoor lights used exclusively for recreational activities, concerts, plays or other outdoor events that are open to the public, provided that the event or function meets all other applicable Ordinance requirements. Such lighting shall be located at least 50 feet from any adjoining residential district or use.

10.44.3.1.3 Fixtures may be replaced with like fixtures that meet requirements of Section 10.44.5.1. Maintenance and repairs (excluding replacement of fixtures, modifications or expansions as defined in Section 10.44.5.1 like parts such as lamps, photo controls, lens and ballast may be performed.

10.44.3.1.4. Nonconforming Outdoor Lighting damaged by fire or other causes consistent with the following requirements:

10.44.3.1.3.1 In the event of damage by fire or other causes to an extent exceeding 75% of its value, reconstruction of a nonconforming structure shall be permitted only in compliance with the dimensional provisions of this Ordinance.

10.44.3.1.3.2 In the event of damage by fire or other causes to an extent of between 25% and 75% of its value, reconstruction of a nonconforming structure shall be permitted with the issuance of a variance by the Board of Adjustment.

10.44.3.1.3.3 In the event of damage by fire or other causes to an extent of below 25% of its value, reconstruction of a nonconforming structure shall be permitted provided it is:

10.44.3.1.3.3.1 In the same location and up to the same dimensions as original existed; or

10.44.3.1.3.3.2 In compliance with the current dimensional requirements.

10.44.3.2. Outdoor lighting exempt from the Section shall only be illuminated while the activity takes place and during high traffic periods immediately before and after the event.

10.44.4 Lighting Plan

A site lighting plan shall be required as part of the application review for all areas proposed for illumination that exceed 40,000 square feet in area. Projects with multiple areas proposed to be illuminated (such as separate parking lots) shall submit a site lighting plan if the sum of the multiple areas exceeds 40,000 square feet.

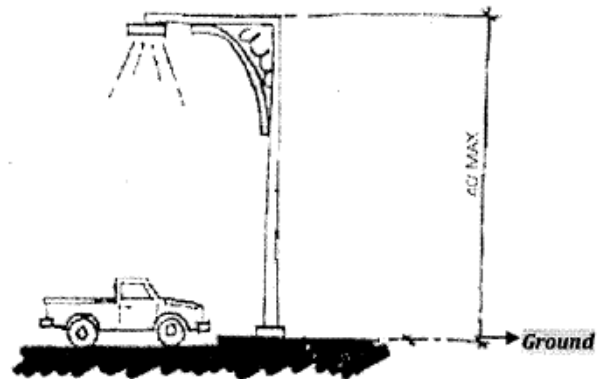
10.44.5. Site Lighting Design Requirements

Lighting shall be used to provide safety while accenting key architectural elements and to emphasize landscape features. Light fixtures shall be designed as an integral design element that complements the design of the project. This can be accomplished through style, material or color. All lighting fixtures designed or placed so as to illuminate any portion of a site shall meet the following requirements:

10.44.5.1 Fixture (Luminaire)

10.44.5.1 The light source shall be completely concealed behind an opaque surface and recessed within an opaque housing and shall not be visible from any street right-of-way or adjoining properties. Overhead lighting fixtures shall be designed to prevent light from emitting upwards towards the sky.

10.44.5.2 Under canopy lighting fixtures should be completely recessed within the canopy.



10.44.6. Fixture Height

10.44.6.1. Lighting fixtures may not exceed 40 feet in height (as measured from the ground to the top of the pole) and illumination levels shall comply with Section 10.45.1.

10.44.7. The Planning Director may allow fixtures above this height to provide internal lighting for stadiums, arenas, and similar facilities.

10.44.8 Light Source (Lamp)

10.44.8.1 The light emitted by Light Emitting Diodes (LEDs) and fiber optics is preferred. Light emitted by incandescent, metal halide, or color corrected high-pressure sodium is acceptable. Non color corrected high-pressure sodium lamps are prohibited.

10.44.8.2 The same light source type must be used for the same or similar types of lighting on any one site throughout any development.

10.44.9 Mounting

Fixtures shall be mounted in such a manner that the cone of light is contained on-site and maximum illumination levels off-site does not exceed those found in Section 10.45.1 and not conflict with excessive illumination requirements found in Section 10.44.5.1.

10.44.9 Limit Lighting to Periods of Activity

The use of sensor technologies, timers or other means to activate lighting during times when it will be needed may be required by the Planning Director to conserve energy, provide safety, and promote compatibility between different land uses.

SECTION 10.45 Illumination Levels

10.45.1. To ensure uniform light distribution, all site lighting shall be designed so that the level of illumination as measured in foot-candles (fc) at any one point meets the standards in the table below with minimum and maximum levels measured on the pavement within the lighted area and average level (the overall generalized ambient light level), measured as a not-to-exceed value calculated using only the area of the site intended to receive illumination. The Planning Director may make reasonable adjustments to accommodate the specific lighting needs of the interior areas of projects; however, the measurements for the Maximum Illumination Levels pertaining to the project boundaries as outlined in the table below under item B, shall not be exceeded.

| LIGHT LEVEL (foot-candles) | | | |
|--|---------|-------------|---------|
| Type of Lighting | Minimum | Average | Maximum |
| Architectural Lighting | 0.0 | 1.0 – 1.5 | 5.0 |
| Canopy Area Lighting | 2.0 | 10.0 – 20.0 | 20.0 |
| Multifamily Parking Lot | 0.2 | 1.0 – 1.5 | 8.0 |
| Nonresidential and Multifamily Entrances | 1.0 | 2.5 - 5.0 | 15.0 |
| Nonresidential Parking Lot | 0.2 | 1.5 – 2.0 | 10.0 |
| Storage Area (security lighting) | 0.2 | 1.0 – 1.5 | 10.0 |
| Vehicle Sales and Display | 0.2 | 3.0 | 15.0 |
| Walkways, Landscape or Decorative Lighting | 0.2 | 1 – 1.5 | 5.0 |

10.45.2. All outdoor lighting shall be designed and located such that maximum illumination measured in foot-candles comply with those in the following table:

| |
|---|
| MAXIMUM ILLUMINATION LEVELS (foot-candles) |
|---|

| Lighting Measured at: | Maximum Illumination (foot-candles) |
|---|-------------------------------------|
| Street | 5.0 |
| Property Line Next to Residential Use or Residential District | 0.2 |
| Property Line Next to Commercial Use or Commercial District | 0.5 |

SECTION 10.46 Excessive Illumination

10.46.1 Lighting within any lot that unnecessarily illuminates and substantially interferes with the use or enjoyment of any other property is prohibited. Lighting unnecessarily illuminates another lot if it exceeds the requirements of this Section.

10.46.2 Lighting shall not be oriented so as to direct glare or excessive illumination onto streets in a manner that may distract or interfere with the vision of drivers on such streets.

10.46.3 Fixtures used to accent architectural features, landscaping or art shall be located, aimed or shielded to minimize light spill into the night sky.

10.46.4 Blinking or flashing lights shall be prohibited unless the lights are required as a safety feature (e.g. beacons on towers) or shall be permitted as part of a sign in accordance with Article 10, Sign Regulations.

TEXT AMENDMENT APPLICATION

TOWN OF OAK ISLAND
Planning Department
4601 E. Oak Island Drive
Oak Island, NC 28465



Date: 10-30-19

Fee: _____

Project Name (if applicable): Hawthorne @ Pine Forest

Any application for an amendment shall be filed with the department of development services at least 45 days prior to the date on which it is to be introduced to the planning board. Each application shall be signed by the property owner or the property owner's agent and be in triplicate. (Sec. 18-335).

PROCESS

This is a legislative decision, anyone can appeal since a text amendment applies to the whole town. A council member cannot vote on a text amendment if there is a conflict of interest. A public hearing is required, notice of hearing and Planning Board review is mandatory, governing board cannot act on an amendment without written recommendation from Planning Board or on a text amendment. Can appeal for up to 6 months to a year afterward. The application first goes to the Planning Board for recommendation and then to Council for final approval. A written statement by Council or the Board of Commissioners is required for adoption or rejection of all zoning text amendments.

The Planning Board and Town Council may consider consistency with the Land Use Plan as well as any unintended consequences while deciding.

SECTION 1: APPLICANT INFORMATION

Petitioner Name: Hawthorne @ Pine Forest Apartment LLC

Mailing Address: 806 Green Valley Rd Suite 311
Greensboro NC 27406

Phone: 336-291-1527 Email: BDLoniak@hrpliving.com

SECTION 2: PROPERTY OWNER INFORMATION (IF DIFFERENT THAN ABOVE)

Owner Name(s): Same

Mailing Address:

Phone: _____

Email: _____

SECTION 3: STATEMENT OF JUSTIFICATION (APPROX. 1 PAGE)

Is the proposed zoning consistent with the Land Use Plan? (Please Check One): Yes ☒ No ☐

Please describe why the Board should vote in your favor. As well as why this change would be advantageous for the Town of Oak Island.

(Attach separate sheet if necessary). *Note: The Oak Island Land Use Plan and all maps can be found online at <http://www.oakislandnc.com/General-Info.aspx>

See attached

SECTION 4: APPLICANT/OWNER SIGNATURE

In filing this text amendment application, I hereby certify that I am authorized to submit this application and that all of the information presented in this application is accurate to the best of my knowledge, information, and belief.

Signature: 

Date: 10-30-19

11/7/19

Hawthorne Construction

For: Hawthorne at Pine Forest
Highway 211
Oak Island, NC

Regarding: Text Addendum Change for Site Lighting

We are asking for the Town of Oak Island to adopt the same lighting standards that Brunswick County, Leland, St. James, Ocean Isle and most surrounding areas have already adopted.

This would include:

1. 30' street light poles in lieu of the 20' poles now in the Town of Oak Island standard.

The benefits of 30' tall street light poles would be:

1. The amount of poles on our site alone would be reduced by 1/3.
2. The taller poles increase the coverage of the light.
3. By reducing the amount of poles it is aesthetically more appealing.
4. By adopting Brunswick County standards, it would give the Town of Oak Island a lighting standard to follow.

Brunswick Electric Engineer, Clayton Rivenbark, Jr., has designed the site lighting for Hawthorne at Pine Forest with both 20' street light poles and 30' street light poles for your review. Jake Vares, Planning & Zoning Administrator, has the engineered drawings.

**TOWN OF OAK ISLAND
PLANNING BOARD
AGENDA ITEM MEMO**

Agenda Item: New Business No. 2

Date: 11/14/2019



Issue: Driveways – Text Amendment

Department: Planning & Zoning Administrator

Presented by: Jake Vares

Presentation: None

Estimated Time for Discussion: 30 Minutes

Subject Summary:

The proposed text amendment is staff initiated and is an addition to the Oak Island driveway regulations in Article 10, Section 10.21. The recommended revision specifies that the edge of a driveway where it meets the road or gravel road must be flush with the edge of the road. The reason is to ensure a smooth transition when traveling over that point so there is no noticeable bump.

This is something staff looks for when doing driveway inspections. In the case where a driveway is installed in a road right-of-way that does not have a paved road, such as a street end, then the private driveway must be even with the grade of that site. Attached is the proposed wording; the Plan Consistency Statement should be adopted with the motion.

Attachments: Proposed Ordinance Amendment

Recommendation/Action Needed: Approval

Suggested Motion: I make a motion to approve or deny the proposed text amendment and to adopt the associated plan consistency statement.

Planning Board Recommendation: TBD

Funds Needed: \$0.00

Follow Up Action Needed: Forward recommendation to Town Council

Attachments

SECTION 10.21 DRIVEWAY CONSTRUCTION.

10.21.1. General Requirements.

10.21.1.1. A permit is required through the Development Services Department prior to construction or reconstruction of a driveway approach.

10.21.1.2. The fee for the permit is specified in the town's fee schedule.

10.21.1.3. All driveway work done on state highway rights-of-way is subject to approval by the North Carolina Department of Transportation. No work shall be commenced until a valid copy of a NCDOT driveway permit, if applicable, is provided to the town.

10.21.1.4. All driveways shall meet state or town specifications. Driveway construction in the right-of-way of the town shall be inspected by appropriate town personnel.

10.21.1.5. Number of driveways permitted:

10.21.1.5.1. No more than two combined entrances and exits shall be allowed on any parcel of property, the frontage of which is less than 200 feet on each street. Additional entrance and exits on parcels with frontage of greater than 200 feet shall be allowed only after showing of actual requirements for convenience and necessity and upon approval by the Planning Board. Where safely feasible, driveway access shall be restricted to streets other than E. Oak Island Drive.

10.21.1.5.2. For corner lots, and lots abutting more than one street, one combined entrance-exit shall be permitted per street frontage provided that an additional point of entrance-exit may be permitted on parcels with greater than 250 feet in width. The additional point of entrance-exit may be applied on one street frontage only; the street frontage selected for the additional point must exceed the minimum 250 feet width standard.

10.21.1.5.3. Where frontage is less than 50 feet, only one combined entrance-exit shall be permitted.

10.21.1.6. No driveway may be installed in a manner that adversely affects adjoining property owners or conflicts with any public facilities or uses such as traffic signals, utility poles, loading zones, and sewer cleanouts. Any adjustments of public facilities to accommodate driveways shall be at the expense of the permit applicant.

10.21.1.7. No driveway material shall be installed in a manner that the finished surface shall wash or collect on town or state maintained roads or streets or upon adjacent or abutting property.

10.21.1.8. Driveways shall be designed and installed so that the lot and driveway do not drain to the public right-of-way or upon adjacent or abutting property.

10.21.1.9. On sections of arterial or collector streets which are not constructed with curb and gutter or drainage channelization, island areas shall be introduced which shall serve as physical barriers to direct the flow of traffic and to separate street traffic from activity on private property. Island shape shall be defined by raised curbing constructed to the North Carolina Department of Transportation specifications, the interior surface of which shall be landscaped with grass or low growing shrubbery.

10.21.2. Design Requirements.

10.21.2.1. Residential Uses.

10.21.2.1.1. For a single drive, on an interior lot the maximum width shall be 24 feet at right-of-way. Tire runner driveways are permitted and encouraged.

10.21.2.1.2. For two drives, the maximum driveway width of any single drive is 24 feet in a dedicated right-of-way, with a combined maximum total for two drives of 32 feet where lot frontage is 60 feet or less and 40 feet where lot frontage is greater than 60 feet but less than 200 feet. Drives must have a minimum distance of five feet between each point of access as measured at the edge of pavement to the property line, plan is approved by the town stormwater director or designee, and is in compliance with all other sections of this Ordinance.

10.21.2.1.3. For a single drive on a corner lot, the maximum driveway width on a front lot line is 24 feet in a dedicated right-of-way.

10.21.2.1.4. For a single drive on a corner lot without water frontage, the maximum driveway width on a side lot line is 32 feet in a dedicated right-of-way where side lot frontage is greater than 60 feet but less than 200 feet. A second driveway is not permitted on the front lot line, the plan must be approved by the town stormwater administrator or designee, and it must be compliance with all other sections of this chapter.

10.21.2.2. Commercial Uses. The minimum driveway width at the property line shall be 16 feet and the maximum width shall be 36 feet at the edge of the street pavement. Where access by tractor trailers or other large vehicles is anticipated, one combined entrance-exit of 36 feet in width may be permitted, where this is allowed, there shall be no other entrance-exit allowed for single frontage lots and no other entrance-exit shall be permitted on the same street frontage on a corner lot. Any applicant desiring to construct a driveway or driveways connecting with any state highway located within the corporate limits of the town shall make application for a driveway access permit to the office of the District Engineer, North Carolina Department of

Transportation for the district in which Oak Island is located. No permit shall be issued by the town Development Services Department until the application therefor has been approved by the N. C. State Highway Commission. The minimum standards for entrances to highways from commercial establishments, as set forth in the regulations of the North Carolina Department of Transportation designated as NCDOT Policy on Street and Driveway Access to North Carolina Highways must be met. If the commercial driveway dimensions meet the North Carolina Department of Transportation Policy on Street and Driveway Access to North Carolina Highways, then it shall be approved regardless of the dimensions referenced in this section. The North Carolina Department of Transportation standards for entrances also apply to town Powell Bill roads. In addition to the foregoing, the following design standards and principles shall be adhered to:

10.21.2.2.1. At street intersections, driveways shall be located as far from the intersection as practicable but in no case shall the closest point of a driveway be nearer than 25 feet from the intersecting right-of-way lines to the beginning of the outside driveway radius as measured at the right-of-way line.

10.21.2.2.2. The distance between two driveways on the same property on the same side of the street shall not be less than 20 feet, said distance shall be measured along the right-of-way line between the tangent projection of the inside edges of the two driveways.

10.21.2.2.3. Driveways shall be constructed to be no less than five feet from any property line.

10.21.2.2.4. No loading and/or unloading of vehicles shall take place on the right-of-way adjacent to service stations, convenience stores, or filling stations.

10.21.2.2.5. The use of joint or shared driveways shall be encouraged, where practicable. Usage should be made via access easement or agreement.

10.21.2.2.6. Proposed driveways shall be designed in consideration of existing driveway on adjacent properties and shall be designed to achieve the spacing objectives of this section to the degree practicable.

10.21.2.2.7. The location of proposed driveways shall be considered in relation to existing driveways on the opposite side of the street and may be required to align with such existing driveways to reduce the potential for turning movement conflicts on the fronting roadway.

10.21.2.3. The grade of entrance shall slope away from the street surface for a distance of at least six feet unless otherwise directed by the Development Services and/or Public Works department. Slope and drainage on all driveways governed by this section shall conform to the existing curb line conditions and shall be inspected by the town staff.

10.21.2.4. Expansion joints shall be required a minimum of 3 . feet from each side of the center line of the public water and sewer line when a driveway of impervious surface is placed over

these lines. These joints must be placed in, not cut. The Public Utilities department will locate the water and sewer lines. All paved driveways must have an expansion joint parallel to the property line.

10.21.2.5. If driveways are paved, the pavement shall meet the following standards: Driveways shall have a minimum base equal to four inches (nominal) of ABC stone (crusher run), and one inch of asphalt, or four inches (nominal) of concrete. Alternative paving materials intended to reduce the amount of stormwater runoff from the site may be approved by the Development Services and/or Public Works departments.

10.21.2.6. The end of a driveway where the driveway meets the edge of the road pavement must be flush with the road so as not to create a noticeable bump when traversing over that point. If the right-of-way does not have a paved road the driveway must be even with the grade of the right-of-way.

