Draft: January 18, 2019 (Revised)



Town of Kill Devil Hills
CAMA Land Use Plan Update

KILL DEVIL HILLS
Birthplace of Aviation
NORTH CAROLINA

hcp
HOLLAND CONSULTING PLANNERS

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PLAN PURPOSE

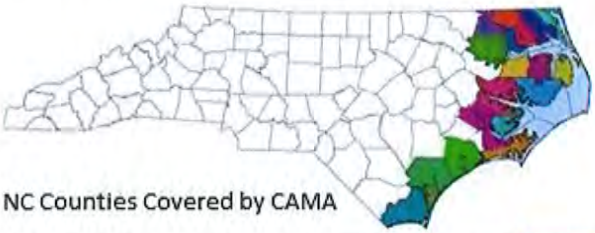
The Land Use Plan is intended to provide a framework that will guide Kill Devil Hills government officials, respective Town Boards, and private citizens as they make day-to-day and long-term decisions affecting land use and development. The Land Use Plan contains information about the physical appearance of the Town of Kill Devil Hills as it exists today, what directions the Town should take in the future, and the steps that need to be taken to get there.

By serving as the overall "blueprint" for development of the Town of Kill Devil Hills, the implementation of the Land Use Plan will result in the most suitable and appropriate use of land and provision of public services. Use of the Plan will lead to the protection of natural resources, as well as public health, safety, and welfare.

The Land Use Plan focuses on the physical development of the Town of Kill Devil Hills. It contains policy statements established through the identification of community goals (broad statements describing the value of the community) and implementing actions (i.e., actions to be taken to fulfill community goals and to implement policies). The Plan is general, or "broad brush," in that its recommendations are area-wide, rather than site specific. The Land Use Plan is also comprehensive in that it includes all areas of the Town, as well as all elements that affect its physical development (such as population trends, environmental features, utilities, transportation, and housing).

PLANNING PROCESS

The land use planning process will result in the adoption of an official CAMA Land Use Plan for Kill Devil Hills. This planning process will be considered an update to the Town's existing CAMA Land Use Plan, initially adopted in 1997. A Land Use Plan is a long-range policy document with a particular time horizon – fifteen years in the case of Kill Devil Hills. The plan will include an assessment of existing conditions, a summary of public input, projection of future needs for topics relating to land use and development, and a comprehensive listing of goals, policies, and strategies. Because the Town of Kill Devil Hills is located in one of North Carolina's twenty Coastal Area Management Act (CAMA) counties, the plan will also address issues relating specifically to coastal growth and development.



NC Counties Covered by CAMA

What is CAMA?

CAMA is the North Carolina Coastal Area Management Act (NCGS 113A-100, *et seq.*), which establishes a cooperative program of coastal area management between local and state governments. The Act, originally passed in 1974 and since amended, states that local governments shall have the initiative for planning, while the state government establishes areas of environmental concern. With regard to planning, the state government is directed to act primarily in a supportive, standard-setting, and review capacity, except in situations where local governments do not elect to exercise their initiative.

In addition, CAMA establishes the Coastal Resources Commission within the Department of Environmental Quality, whose duties include approval of Coastal Habitat Protection Plans and designation of Areas of Environmental Concern (AEC). After designation of these areas, the Commission is responsible for issuing all permits. *Source: National Oceanic and Atmospheric Administration, Coastal Services Center.*

In North Carolina, a Land Use, or Comprehensive, Plan is the legal foundation for development regulations. While the CAMA Land Use Plan is not a regulatory document, it does provide guidance relating to future land use and development changes. Additionally, regulatory permits must be issued by the NC Department of Environmental Quality regarding all development within Areas of Environmental Concern (AECs), which must be consistent with the policies in this plan. Specifically, the plan should be used whenever zoning decisions are made by the Planning Board and/or Board of Commissioners. More detail relating to these specifics is contained in the concluding section of the plan.

The following is included as part of the CAMA land use planning process:

- Community and Demographic Profile
- Assessment of Existing Conditions
- Projection of Future Population and Supporting Infrastructure Needs
- Future Land Use and Transportation Needs
- Goals and Implementing Strategies

DEVELOPMENT OF THE CAMA LAND USE PLAN

The Kill Devil Hills Board of Commissioners adopted a citizen participation plan (CPP) at the outset of the project (see Appendix A). The Town's Planning Board was tasked with providing oversight during the development of the CAMA Land Use Plan. The Planning Board members are listed below.

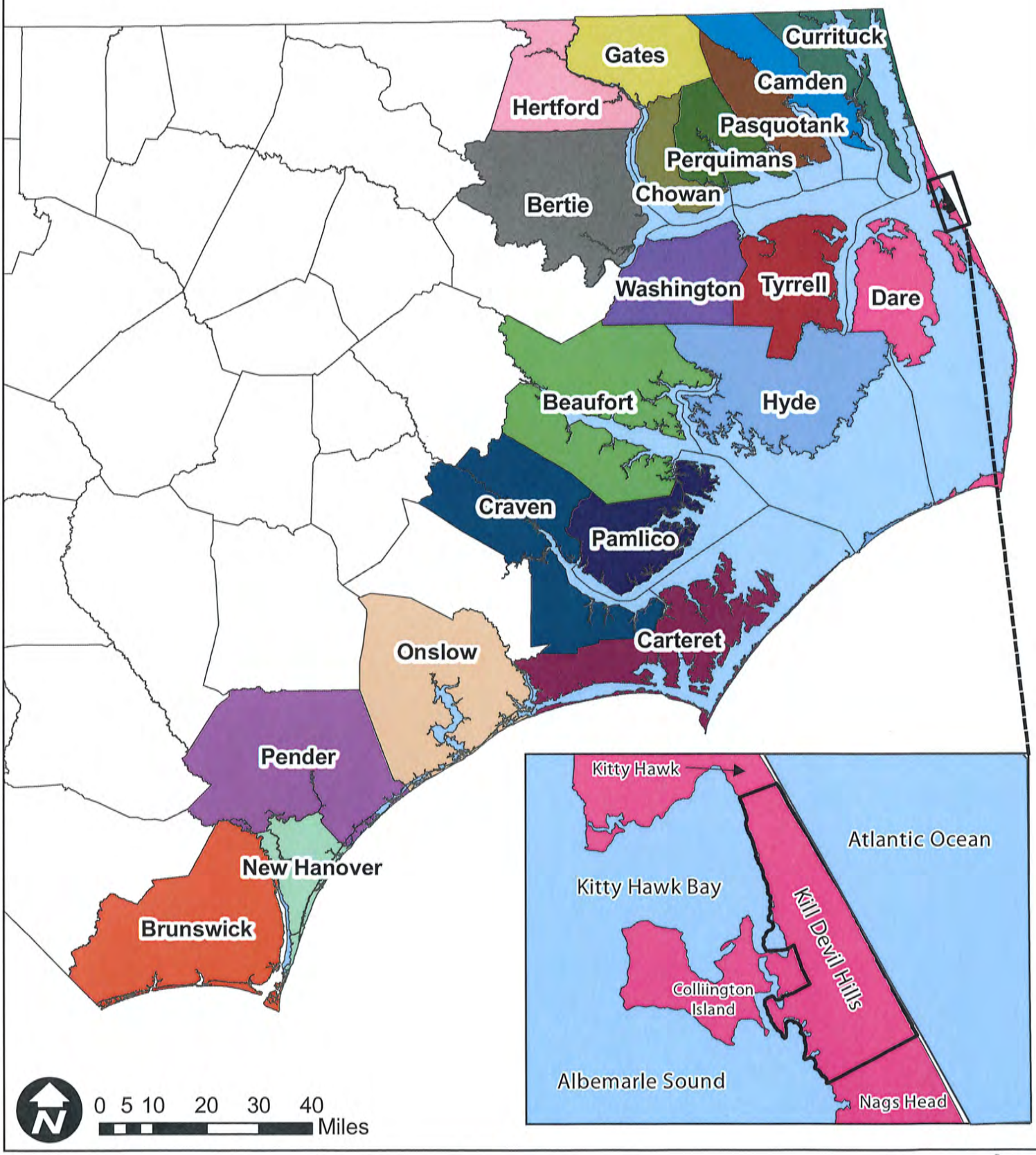
- Howard Buchanan, Chair
- James C. "Chip" Almoney, Vice Chair
- Nelson "Skip" Jones, Jr.
- Michael Lowack
- Ron Seidman
- Mary Simpson
- Eddie Valdivieso

REGIONAL SETTING AND CONTEXT

The Town of Kill Devil Hills is located along a stretch of barrier islands known as the Outer Banks. The Outer Banks is a 200-mile-long (320 km) string of barrier islands and splits off the coast of North Carolina and southeastern Virginia, on the east coast of the United States. It covers most of the North Carolina coastline, separating the Currituck Sound, Albemarle Sound, and Pamlico Sound from the Atlantic Ocean.

Kill Devil Hills is located along the stretch between the Town of Nags Head and the Town of Kitty Hawk. The Town can be accessed from both the north and south via US 158 and NC Highway 12, which travels the full extent of the Outer Banks. The Town's corporate limits include approximately 4.7 miles of oceanfront shoreline. Aside from US 158 and NC Highway 12, the majority of the Town is served by town-owned public rights-of-way. Map 1 provides the regional location for Kill Devil Hills.

Map 1. Regional Location



HISTORY



Image Source: Town of Kill Devil Hills.

1700s and 1800s

The area known as Kill Devil Hills was originally inhabited by Native Americans and later by a small group of local farmers and fishermen.

1808 - 1814

The town's name first appeared on an 1808 map, where it was shown as "Killdevil Hills." A map printed in 1814 displayed the name as "Kill Devil Hills" for the first time. The name originates from a series of sand dunes in the area, the largest of which was referred to as Kill Devil Hill.

1878

The US Life Saving Station, one of 11 lifesaving stations along the Outer Banks coastline, is established in Kill Devil Hills across from the present day site of the Wright Brothers National Memorial.



Image Source: NPS Historical Handbook.



Image Source: www.amazingtoptens.com

1900

The Ohio-based Wright brothers, Orville and Wilbur, choose the area as the location to test their new flying machines. First attempts at flying their manned glider from the tall soundside dunes proved unsuccessful.

1901 - 1902

The Wright brothers returned in the summer of 1901 with a second glider making several dozen test flights, with mixed results. By September of 1902, they were back at Kill Devil Hills with a new glider, not much larger than the last one, but redesigned based on their growing knowledge of aerodynamics.

December 17, 1903

Wilbur and Orville Wright make four brief flights at Kill Devil Hills with their first powered aircraft. The final flight traveled 852 feet in 59 seconds.



Image Source: http://www.learnnc.org/lp/multimedia/11331.

1911

Orville Wright returns to Kill Devil Hills and sets a new world glider record, with a total airtime of 9 minutes and 45 seconds.



Image Source: https://www.nationalparks.org/explore-parks/wright-brothers-national-memorial.

1927

Calvin Coolidge signs a bill which grants $50,000 for the construction of the Wright Brothers Memorial. Construction starts on the memorial in 1928.

1932

The Wright Brothers Memorial opens to the public and is dedicated with Orville Wright in attendance.

1933

The Kill Devil Hills Life Saving Station is closed. It is later purchased in 1986 and moved to Corolla to serve as an office.

1953

The Town of Kill Devil Hills is officially incorporated.



Image Source: https://www.twiddy.com/outer-banks/kill-devil-hills/#/WXWkk2_fT+iHf9XiUPlVcgL/.



Image Source: Town of Kill Devil Hills.

1953

The Wright Brothers Memorial is transitioned into a National Park. Two replica gliders are constructed at a new Visitors' Center to commemorate the 50th anniversary of the Wright Brothers' flight.

1958

The Avalon Fishing Pier is constructed, becoming one of the first piers along the Outer Banks.



Image Source: https://www.outerbanks.com/kill-devil-hills.html.

1960s

Numerous motels and restaurants are built to accommodate the new "beach traffic" of fishermen and families.

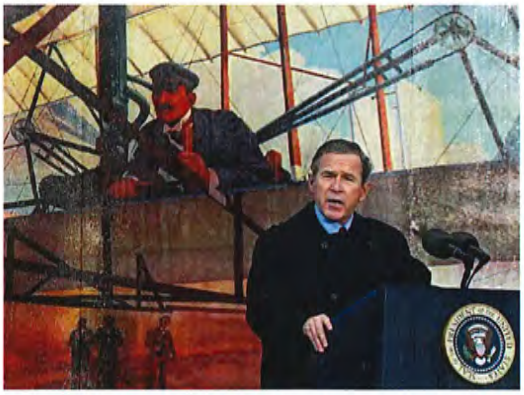


Image Source: https://www.gettyimages.com/event/kill-devil-hills-continues-celebrating-first-flight-centennial-2815961.

2003

Kill Devil Hills celebrates the Centennial of Flight – a week-long celebration with many noted visitors in attendance including Neil Armstrong, Buzz Aldrin, Chuck Yeager, John Glenn, and President George W. Bush.

PAST PLANNING EFFORTS

As part of the planning process, past policy documents, capital improvements plans, and CAMA Land Use Plans were analyzed for significant findings related to Kill Devil Hills' future. These past planning efforts help to provide a broader sense of understanding for the issues facing Kill Devil Hills today. The following planning projects were utilized to gather information, research past public input priorities, and understand growth and development that has occurred over the past two decades.

- 2015 Albemarle Regional Hazard Mitigation Plan
- Kill Devil Hills Zoning Ordinance (Chapter 153)
- Kill Devil Hills Subdivision Ordinance (Chapter 152)
- 2010 Kill Devil Hills Stormwater Management Ordinance
- Kill Devil Hills Flood Damage Prevention Ordinance (Chapter 151)
- 1998 Kill Devil Hills Shoreline Access Plan
- 2004 Kill Devil Hills Recreational Facilities Plan
- 2012 Kill Devil Hills Pedestrian Plan
- 2003 Kill Devil Hills Street Improvement Master Plan
- 1997 Kill Devil Hills CAMA Land Use Plan
- 2017 CAMA Land Use Plan Survey

PLAN OVERVIEW

The Kill Devil Hills CAMA Land Use Plan Update is divided into six independent components that focus on various aspects of the community. The following provides a brief synopsis of what will be addressed within each plan element:

Section 1. Introduction
This plan element provides a general overview of the plan, planning process, and enabling legislation regarding the establishment and use of comprehensive/land use plans in local government decision-making.

Section 2. Community Profile
This section provides a general overview of existing conditions in the Town of Kill Devil Hills with regard to population, housing age and condition, and economic indicators. This section serves as a basic overview of the Town's current state of affairs and as a baseline for discussion regarding growth, development, and public policy.

Section 3. Existing Conditions
This plan element focuses on existing environmental and land use conditions throughout Kill Devil Hills' planning jurisdiction, including environmental factors, facilities and services, transportation, land use/suitability, and neighborhoods. This information provides the data and analysis necessary to make sound decisions regarding development of the Town's Future Land Use Map.

Section 4. Future Demand/Projections
This section of the plan focuses on future growth and demand which may have an impact on land use and transportation. Citizen input garnered as a result of the plan is also summarized in this section.

Additionally, the Future Land Use discussion defines the framework for future growth and development throughout the Town of Kill Devil Hills.

Section 5. Goals and Implementing Actions
The discussion of goals, policies, and strategies will serve as a guide for the integration of the CAMA Land Use Plan into the Town's day-to-day decision-making process. The goals and policies defined within this plan element will establish an organized and thorough listing of implementation strategies intended to provide for sound principles relating to future growth, economic development, environmental factors, modifications of service delivery, and infrastructure expansion.

Section 6. Tools for Managing Development
This section of the plan provides narrative and tools for implementing the strategies outlined in Section 5 of the plan. It is intended that this document be an integral part of the Kill Devil Hills decision-making process concerning future land use.

VISION STATEMENT

Kill Devil Hills is, and will continue to be, a community:

- **rich in history and tradition;**
- **environmentally conscious;**
- **mixing attributes of a vacation beach destination while maintaining attributes of a year-round community;**
- **characterized by a variety of residential development types (including vacation homes, traditional homes, and multi-family) and a variety of commercial establishments to serve year-round residents and seasonal visitors;**
- **possessing undisturbed natural areas such as Fresh Pond and the Maritime Forest, as well as the nationally significant Wright Brothers National Memorial; and,**
- **with major tourist attractions including the Wright Brothers National Memorial, the Atlantic Ocean, and the waters of Kitty Hawk Bay, Albemarle Sound, and Roanoke Sound.**

INTRODUCTION

The Community Profile section outlines various demographic information, including population, housing, and economic indicators. Throughout this section, data for the North Carolina beach towns of Nags Head and Emerald Isle are utilized for comparison purposes. The Town of Nags Head was chosen because of the community's close proximity to Kill Devil Hills. Growth trends within surrounding communities often have an impact on municipal service delivery in Kill Devil Hills due to the close proximity of the towns along the Outer Banks and the frequency of seasonal and transient visitors. The Town of Emerald Isle was selected due to the community's comparable location along a stretch of barrier islands in southeastern North Carolina with similar demographic characteristics to Kill Devil Hills. In spite of the fact that these two communities are significantly separated geographically, the towns face many of the same challenges with regard to a range of issues, including economic development, shoreline protection, and Areas of Environmental Concern (AECs) protection.

For the purposes of this plan and for the sake of consistency, demographic data are sourced primarily from the US Census Bureau. Census data may also be supplemented with figures from the NC Office of State Budget and Management (NCOSBM). It should be noted that unless otherwise expressly mentioned, all data and figures reference permanent residents. Detailed demographic information is not available for seasonal residents through the US Census Bureau or the NCOSBM.

POPULATION

Regional Permanent Population

Population growth throughout the central Outer Banks has been substantial since the early 1980s; however, a majority of this population influx occurred between 1980 and 2000. Kill Devil Hills' permanent population in 2016 is significantly higher than other Outer Banks communities, and it should be noted that Kill Devil Hills experienced the second highest rate of growth in relation to other Outer Banks communities since 1980 (315.8%). Between the years 1980 and 2000, the Town's permanent population increased significantly at a rate of 252.9%, and by another 17.8% between the years of 2000 and 2016.

Table 1 provides the population of several Outer Banks communities, as well as other regional municipalities that provide services and workforce housing for the thriving commercial economy present during summer months.

Table 1. Regional Population Growth, 1980-2016

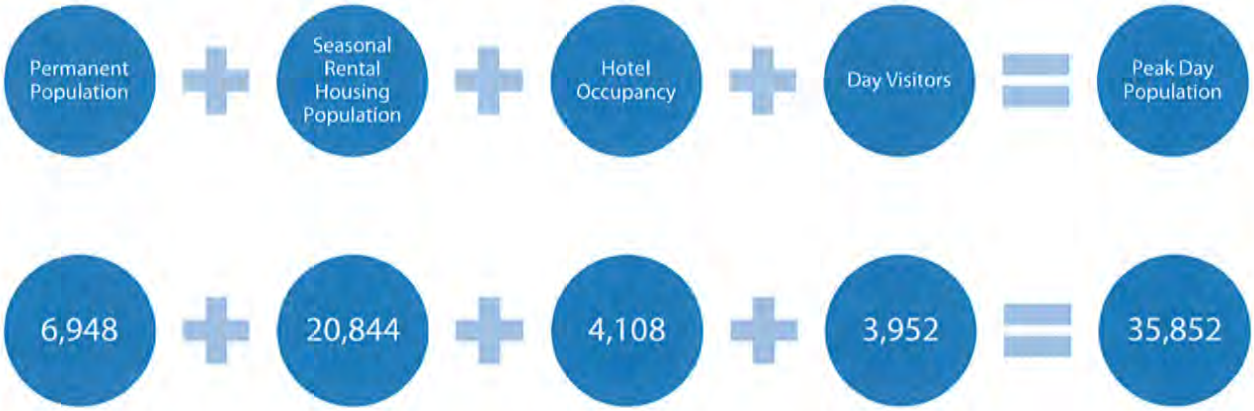
Municipality	1980 Population	1990 Population	2000 Population	2010 Population	2016 Estimate	% Growth/Decline 1980-2016
Atlantic Beach	941	1,938	1,781	1,495	1,671	77.6%
Elizabeth City	14,007	14,292	17,188	18,683	18,025	28.7%
Emerald Isle	865	2,434	3,488	3,655	3,709	328.8%
Kill Devil Hills	**1,671**	**4,238**	**5,897**	**6,683**	**6,948**	**315.8%**
Kitty Hawk	849	1,937	2,991	3,272	3,403	300.8%
Manteo	902	991	1,052	1,434	1,638	81.6%
Nags Head	1,020	1,838	2,700	2,757	2,858	180.2%
Southern Shores	520	1,447	2,201	2,714	2,827	443.7%

Source: US Census Bureau.

As noted in Table 1, the permanent population in Kill Devil Hills rapidly increased beginning in the mid- to late 1970s into the 1980s and early 1990s. This growth can be mainly attributed to the proliferation of municipal infrastructure that was constructed over this same period of time. Prior to 1980, transportation to many portions of Kill Devil Hills, as well as the Outer Banks at large, was limited. Development of this key infrastructure provided the opportunity for expanded housing stock and commercial growth focused on serving the transient tourist population.

Seasonal Population

Because demographic data is collected only for permanent residents, it can be difficult to determine the precise number of seasonal residents that are located in a given jurisdiction at any given time. Peak day population was calculated by adding the Town's total 2016 permanent population to the total seasonal rental housing population plus day visitors and hotel occupancy figures.



Sources:

- *Permanent Population: Total 2016 population as reported by the US Census Bureau = 6,948.*
- *Seasonal Rental Housing Population: Estimated number of seasonal rental units 3,474 (91.2% of total 2016 vacant housing units [3,809] as reported by the US Census Bureau) X 6 persons per unit = 20,844.*
- *Hotel Occupancy: Total number of available rooms in Kill Devil Hills (1,027) X an average of 4 persons per room = 4,108.*
- *Day Visitors: Total number of public access parking spaces (494) X an average of 4 persons per car X a daily usage of 2 cars per space per day = 3,952.*

Population by Age

Typically, beach communities have a higher median age than mainland communities. This occurrence is due to the large retirement age population that typically resides in coastal municipalities. However, in Kill Devil Hills, this is not the case. The Town's median age of 38.7 is directly in line with the state's overall median age (37.0). The Town's lower median age can be attributed to several factors, including its longstanding history as a regional commercial center along the Outer Banks and the various types of housing stock which provide more economically priced housing options for many portions of the Outer Banks. Kill Devil Hills compares favorably with other beach communities mentioned in the plan with regard to median age, including Nags Head (43), Atlantic Beach (50.7), and Emerald Isle (52.5).

According to the US Census Bureau, the "Baby Boomer" age cohort accounts for the largest percentage of Kill Devil Hills' population (26.8%); however, roughly 65% of the Town's population is currently 49 years old or younger. This factor differs slightly from North Carolina's age distribution as a whole, whose "Baby Boomer" age cohort accounts for only 20% of the population. Again, this demographic reiterates the fact that Kill Devil Hills serves as a "bedroom community" serving the economy of the Outer Banks.

Table 2. Kill Devil Hills Age Distribution, 2016

Defined Generation	2016	% of Population
Silent Generation (Older than 70)	522	7.5%
Baby Boomers (50-69)	1,864	26.8%
Generation X (35-49)	1,493	21.5%
Millennial (20-34)	1,404	20.2%
Generation Z (Younger than 20)	1,665	24.0%
Source: US Census Bureau.		

Educational Attainment

The overall educational attainment of a given community can be a significant indicator in economic mobility and socioeconomic status. Most coastal barrier island communities are comprised of a population base with higher educational attainment. This factor can be attributed to the significant number of residents moving into town with varied professional backgrounds. As of 2016, approximately 27.1% of Kill Devil Hills residents had either an Associate's or Bachelor's Degree, which compares similarly to North Carolina overall (27.9%). As with several other demographic categories, Kill Devil Hills educational attainment indicates a population base focused on supporting the local economy. The percentage of high school graduates in Kill Devil Hills is slightly higher than the comparison communities, while it is slightly lower in higher education (Associate's and Bachelor's degrees).

Table 3. Educational Attainment, 2016

	Kill Devil Hills		Nags Head		Emerald Isle	
	Number	% of Total	Number	% of Total	Number	% of Total
Population 25 years and over	4,871	100.0%	2,248	100%	3,019	100%
Less than 9th grade	177	3.6%	32	1.4%	16	0.5%
9th to 12th grade, no diploma	158	3.2%	46	2.1%	97	3.2%
High school graduate (includes equivalency)	1,274	26.2%	412	18.3%	642	21.3%
Some college, no degree	1,601	32.9%	601	26.7%	488	16.2%
Associate's degree	446	9.2%	326	14.5%	385	12.8%
Bachelor's degree	874	17.9%	580	25.8%	723	23.9%
Graduate or professional degree	341	7.0%	251	11.2%	667	22.1%
Source: US Census Bureau.						

HOUSING

The discussion of housing includes a description of units by type, occupancy status, and year structure built. In Kill Devil Hills, as in other coastal municipalities, it is important to include discussion of vacant housing units that may be seasonally occupied, giving a greater understanding of the conditions facing the community during the peak summer months.

Housing Unit by Type

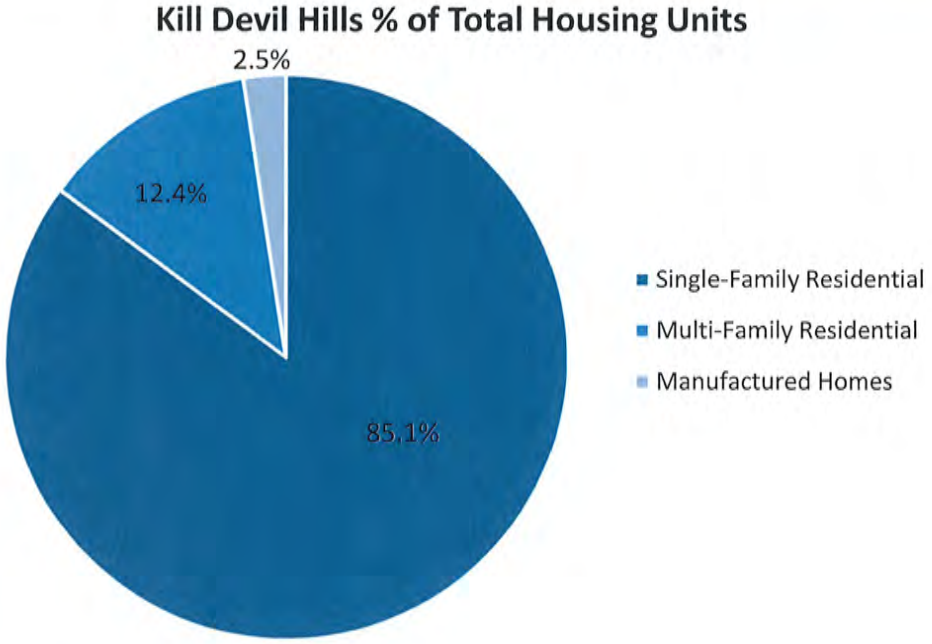
A majority of the Town's housing stock is comprised of single-family residential (SFR) housing. As of 2016, approximately 85.1% of all units throughout the Town were classified as single-family. The number of single-family homes in Kill Devil Hills has increased at a rate of 24.7%, resulting in 1,135 new units since the 2000 Census.

The percentage of single-family homes in the Town compares similarly to the other jurisdictions being utilized for comparison purposes. Kill Devil Hills, as well as Nags Head, maintains a healthy percentage of single-family housing units, while also supporting multi-family complexes which provide temporary housing for the area's transient population base. It should also be noted that Kill Devil Hills maintains a small percentage of its housing stock in manufactured housing. Manufactured housing can be beneficial in coastal beach communities by providing an additional affordable housing choice. However, it should be noted that the proliferation of manufactured housing in such a dynamic weather environment such as the Outer Banks can prove problematic in the event of hurricanes/tropical storms.

Table 4. Housing Units by Type, 2016

Units	Kill Devil Hills	Nags Head	Emerald Isle
Total Units	6,743	4,833	6,721
Single-Family Residential Units (includes duplexes)	5,735	4,144	4,718
% of Single-Family Residential	85.1%	85.8%	70.2%
Multi-Family Residential Units	839	640	982
% of Multi-Family Residential	12.4%	13.2%	14.6%
Manufactured Home Units*	169	49	1,021
% of Manufactured Homes	2.5%	1.0%	15.2%

**Manufactured home means a preassembled dwelling unit built on a chassis designed to be used as a dwelling, with or without a permanent foundation, when connected to the required utilities which meets HUD model standards for manufactured homes. Previously referred to as "mobile home."*
Source: US Census Bureau.



Housing Unit by Age

The housing stock situated throughout Kill Devil Hills' jurisdiction is fairly new. Approximately 68.2% of homes located in Town have been built since 1980, while nearly 86% have been developed since 1970. This housing growth is comparable to other growth indicators showing that rapid development expansion followed the Town's expansion of infrastructure and other central municipal services. The growth since 1980 is also in line with the other towns being utilized for comparison. Since 1980, 73.5% of homes have been built in Nags Head and 74.7% in Emerald Isle.

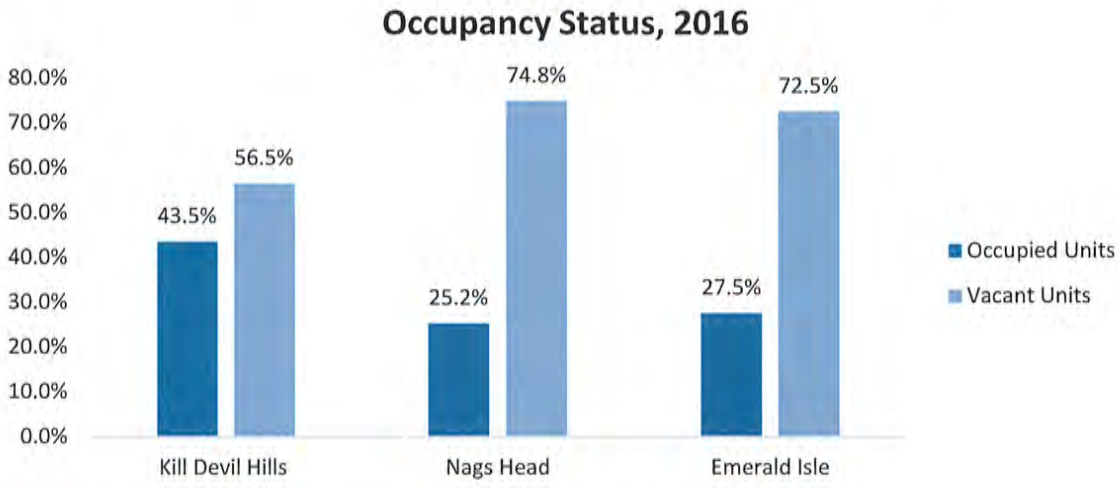
Table 5. Year Structure Built, 2016

	Kill Devil Hills		Nags Head		Emerald Isle	
	Number	% of Total	Number	% of Total	Number	% of Total
2014 or later	52	0.8%	0	0.0%	15	0.2%
2010 to 2013	11	0.1%	10	0.2%	40	0.6%
2000 to 2009	900	13.3%	771	16.0%	1,081	16.1%
1990 to 1999	1,058	15.7%	1,175	24.3%	1,819	27.1%
1980 to 1989	2,576	38.2%	1,597	33.0%	2,061	30.7%
1970 to 1979	1,166	17.3%	874	18.1%	1,334	19.8%
1960 to 1969	489	7.3%	128	2.6%	226	3.4%
1950 to 1959	264	3.9%	124	2.6%	131	1.9%
1940 to 1949	93	1.4%	108	2.2%	9	0.1%
1939 or earlier	134	2.0%	46	1.0%	5	0.1%
Total	6,743	100.1%	4,833	100.0%	6,721	100.0%

Source: US Census Bureau.

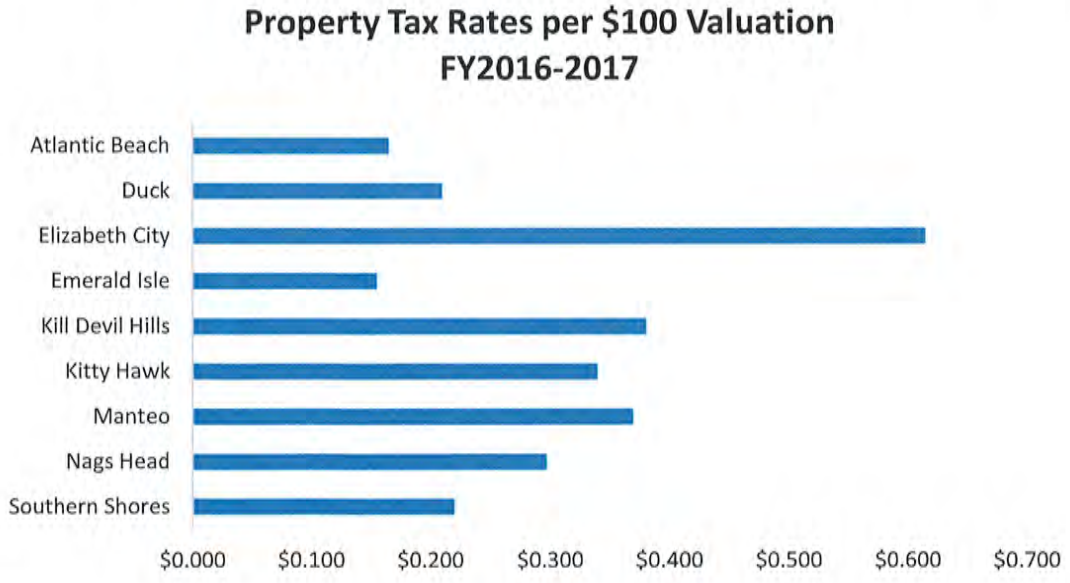
Housing Unit by Tenure

Of the approximately 6,743 housing units in Kill Devil Hills' corporate limits, nearly 56.5% (3,809) are considered vacant by the US Census Bureau. This percentage is much lower than most coastal beach towns in eastern North Carolina. This circumstance reiterates the fact that Kill Devil Hills serves as a hub for services and housing geared towards serving the Outer Banks tourist economy.



Property Tax Rates

For second homeowners, property tax rates can be a deterrent to investment, purchase, or construction of vacation units. Property tax rates are based on the total appraised value of land and buildings per $100 of value. The property tax rate in Kill Devil Hills is currently $0.381 per $100 valuation. The Town's property tax rate is slightly higher than the majority of coastal beach towns in eastern North Carolina, including the municipalities located along the Outer Banks. It should be noted that Kill Devil Hills' property owners must also pay a Dare County tax rate of $0.43 per $100 of property valuation.



Median Home Value

In 2016, the median home value in Kill Devil Hills was $234,900. This median home value is approximately 65% higher than that of the state overall. Both Nags Head and Emerald Isle have a higher median home value to that of Kill Devil Hills. Home values are typically higher in coastal communities than in mainland communities due to the presence of large vacation homes in close proximity to the water.

Table 6. Median Home Value, 2016

Municipality	Amount
Kill Devil Hills	$234,900
Nags Head	$341,800
Emerald Isle	$363,700
North Carolina	$157,100

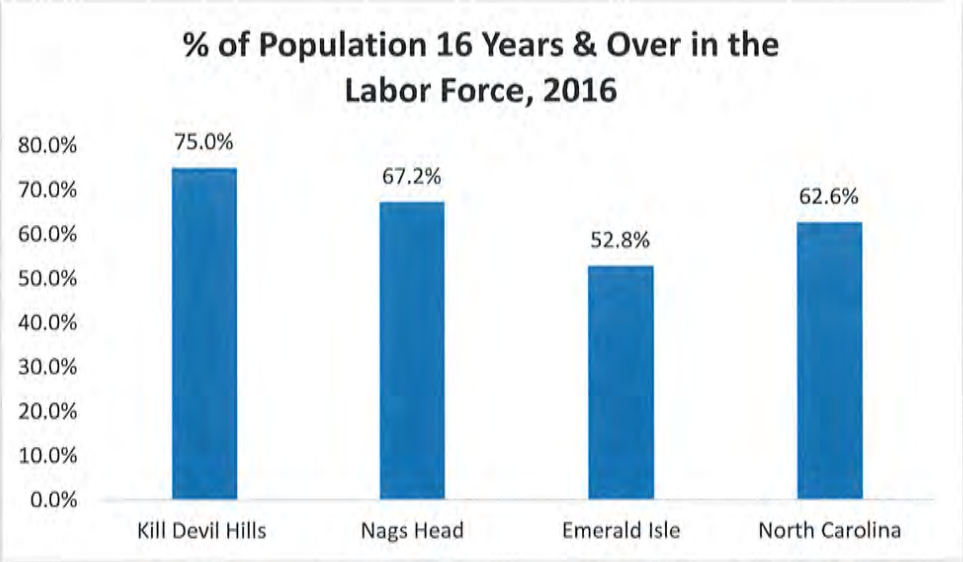
Source: US Census Bureau.

ECONOMIC DATA

Data related to Kill Devil Hills' local economy is included on the following pages. Information detailing the labor force, employment by industry, and household income is provided.

Labor Force

According to US Census data, approximately 75% of Kill Devil Hills' population aged 16 years and older are considered part of the labor force. This category consists mainly of workers involved in service delivery and public administration, establishing a workforce and infrastructure necessary to support the area's rapidly fluctuating seasonal population base.



Employment by Industry

In Kill Devil Hills, the arts, entertainment, and recreation/accommodation and food services industry provides the greatest percentage of employment to residents. Nearly 27% of the Town's employed population 16 years and over work in this industry, compared to 9.6% for the State. Other industries employing most of the Town's workers include construction, retail trade, and professional, scientific, and management/administrative and waste management services.

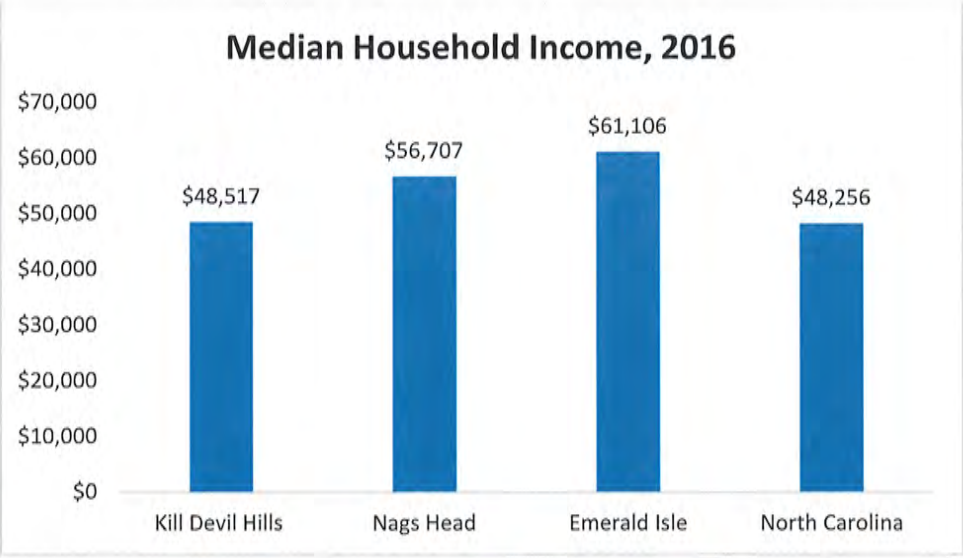
Table 7. Kill Devil Hills Employment by Industry, 2016

Industry	% of Employed Population Over 16 Years
Agriculture, Forestry, Fishing, Hunting, & Mining	0.3%
Construction	11.0%
Manufacturing	5.0%
Wholesale Trade	3.1%
Retail Trade	10.7%
Transportation, Warehousing, & Utilities	2.2%
Information	2.8%
Finance, Insurance, and Real Estate	9.5%
Professional, Scientific, Management, Administrative, and Waste Management Services	10.7%
Educational Services, Health Care, and Social Assistance	8.9%
Arts, Entertainment, Recreation, Accommodation, & Food Service	26.9%
Other Services, Except Public Administration	2.6%
Public Administration	6.3%

Source: US Census Bureau.

Income

For demographic purposes, income figures are calculated per household by the US Census Bureau. This figure includes the combined incomes of all people sharing a particular household or place of residence. Median household income in Kill Devil Hills ($48,517) is roughly nineteen percent less than the comparison communities of Nags Head and Emerald Isle.



Local Economic Issues

In 2007, the Town of Kill Devil Hills commissioned a survey and related report from the East Carolina University Center for Survey Research. This survey yielded the following issues/concerns regarding the economic climate of the Town.

- **Employment Issues**
  - Need more employment opportunities.
  - Need higher paying jobs.
  - Need more recruitment for service jobs, i.e., teachers, police, etc.
  - Maintain good working conditions.
- **Industry/Business**
  - Sustain Kill Devil Hills' opportunity to become the center showplace of the island. It could be the cultural, commercial, and overall economic hub of the Outer Banks.
  - Increase small manufacturing.
  - Keep year-round residents thriving by providing more industry.
  - Invite good high tech industry/business to settle in Kill Devil Hills.
- **Economy (General)**
  - Attract more tourists – for revenue to support the Town.
  - Enhance economic development/growth.
  - Support for the local economy.
  - Support the services and economy needed to maintain the Town.

SUMMARY

Population

- Kill Devil Hills' permanent population has increased by 315.8% since 1980.
- Kill Devil Hills' estimated peak seasonal population is 35,852 persons.
- Approximately 26.2% of Kill Devil Hills' residents have a high school diploma or equivalency, while roughly 27% have either an Associate's or Bachelor's degree.

Housing

- Over 85% of the housing stock in Kill Devil Hills is comprised of single-family dwellings.
- Approximately 68% of the homes located within Kill Devil Hills' corporate limits have been built since 1980.
- Within Kill Devil Hills, roughly 43.5% of total housing units are occupied units, while the remaining 56.5% are vacant, most of which are available for rental use.

Economic Data

- Within Kill Devil Hills, 75% of the resident population 16 years and over is engaged in the labor force.
- The largest employer industry for residents of Kill Devil Hills is arts, entertainment, and recreation, and accommodation & food service.
- The median household income for residents of Kill Devil Hills was reported as $48,517 in 2016.

INTRODUCTION

Sound land development policies require a thorough understanding of the existing natural systems, land use patterns, transportation networks, and supporting community facilities and services. The following existing conditions section provides information and details pertaining to each of these topics for the Town of Kill Devil Hills.

NATURAL SYSTEMS

Climate

The climate in Kill Devil Hills is dynamic and can present fairly harsh conditions, especially during winter months. The Town's unique location along the North Carolina coastline makes the Town vulnerable to heavy winds associated with hurricanes/tropical storms and nor'easters. Overall, the Town has a temperate coastal environment with a year-round temperature average of 70 degrees Fahrenheit (F). Over the course of a typical year, the temperature ranges from 37 degrees F to 87 degrees F. Other climate statistics include the following:

- Spring temperature averages 68 degrees F.
- Summer temperature averages 80 degrees F.
- Fall temperature averages 62 degrees F.
- Winter temperature averages 49 degrees F.
- Record low temperature -6 degrees F (December 1989).
- Record high temperature 103 degrees (June 1952).

A wet day is one with at least 0.04 inches of liquid or liquid-equivalent precipitation. The chance of wet days in Kill Devil Hills varies throughout the year. The wetter season lasts three months, from June 13 to September 12, with a greater than 36% chance of a given day being a wet day. The chance of a wet day peaks at 49% on August 5. The drier season lasts nine months, from September 12 to June 13. The smallest chance of a wet day is 23% on October 31.

According to the National Weather Service, the water temperatures for Kill Devil Hills range from an average of 56 degrees F in January to 73 degrees F in August.

Geography and Topography

The topography within two (2) miles of Kill Devil Hills is essentially flat, with a maximum elevation change of 90 feet and an average elevation above sea level of 7 feet. Approximately 3 to 20 feet is generally the characteristic of the entire Outer Banks, with the exception of Jockey's Ridge (66 feet) in Nags Head and the Wright Brothers Memorial (90 feet) in Kill Devil Hills. It should be noted, however, that the Wright Brothers Memorial is a man-made structure and not natural topography.

The Town of Kill Devil Hills is located on the Outer Banks of North Carolina. As noted in Section 1, the Outer Banks is a 200-mile-long string of barrier islands along the coast of North Carolina and southeastern Virginia. The Outer Banks extends along most of the North Carolina coastline, separating the Currituck Sound, Albemarle Sound, and Pamlico Sound from the Atlantic Ocean. Due to this unique landscape, Kill Devil Hills is nearly surrounded by water with the exception of the northern and southern

extents of Town. There are also several creeks and bays bordering the Town's estuarine shoreline including: Blount Bay, Buzzard Bay, Colington Creek, and Kitty Hawk Bay.

Flood Zones

According to the 2006 flood maps, approximately 67% of the Town of Kill Devil Hills is inundated by a Special Flood Hazard Area (SFHA). This percentage does not include areas impacted by the X flood zone as described in Table 8. A SFHA is defined as a land area with a greater than 1% chance per year of flooding and is also known as a "floodplain." Special Flood Hazard Areas are indicated on Flood Insurance Rate Maps (FIRMs), which are considered the most reliable and consistent source for delineating SFHAs and are the source used to determine whether or not the purchase of flood insurance is mandatory for developed properties with a mortgage.

SFHAs are broken into "AE" zones and "VE" zones. "AE" zones, formerly known as the 100-year floodplain, are areas subject to risk of flooding by standing or relatively static flood waters, while "VE" zones are areas subject to wave action. "Shaded X" is a supplemental flood hazard area in which there is a 0.2% annual chance of flooding, also known as the "500-year floodplain." Land bordering the Atlantic Ocean is most susceptible to wave inundation, whereas land bordering estuarine areas are most susceptible to flooding/rising waters.

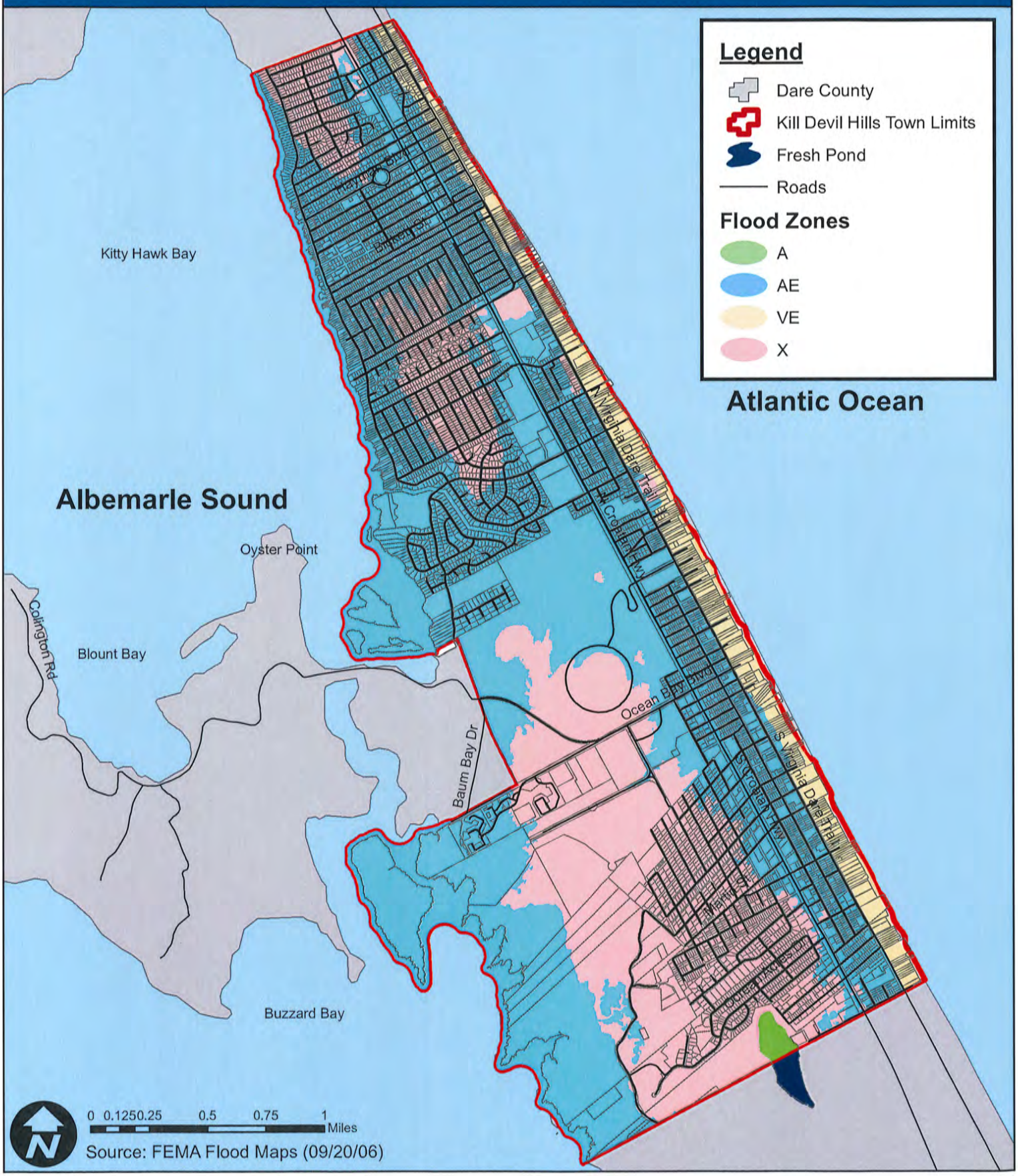
Approximately 60% of the Town's planning jurisdiction is impacted by the AE zone, while only 7.2% is impacted by the VE zone. These percentages are based on flood maps prepared by the National Flood Insurance Program in 2006. These maps are currently being updated and could affect the acreages outlined in Table 8. The geographic location of each flood hazard area is displayed on Map 2. Digital FEMA Flood Insurance Rate Maps are available for review at www.ncfloodmaps.com.

Table 8. Flood Hazard Areas

Flood Zones	Acres	% of Town Acreage
X (0.2% Annual Chance)	1,254.46	32.46%
A	13.68	0.35%
AE	2,318.08	59.99%
VE	278.05	7.20%
Total	3,864.27	100.00%

Source: Federal Emergency Management Agency.

Map 2. Flood Hazard Areas



Storm Surge Inundation

Maps 3 and 4 display areas of Kill Devil Hills that may be impacted by a hurricane-generated storm surge based on the SLOSH (Sea, Land, and Overland Surges from Hurricanes) model developed by the National Oceanic and Atmospheric Administration (NOAA), which computes storm surge heights from tropical cyclones, such as hurricanes. The SLOSH model estimates the extent of storm surge inundation for "fast-moving" storms (forward velocity greater than 15 miles per hour) and for "slow-moving" storms (forward velocity less than 15 miles per hour). Storm surge inundation from a slow-moving storm would result in the greatest potential damage to property in Kill Devil Hills. Approximately 86% of the Town would be potentially impacted by a slow-moving Category 5 hurricane. The following table provides a summary of surge inundation for both fast- and slow-moving hurricanes.



Storm surge damage resulting from Hurricane Matthew in 2016 washed out the Beach Road just south of the Black Pelican in Kitty Hawk. ***Image Source: Matt Lusk Photography.***

Table 9. Storm Surge Inundation

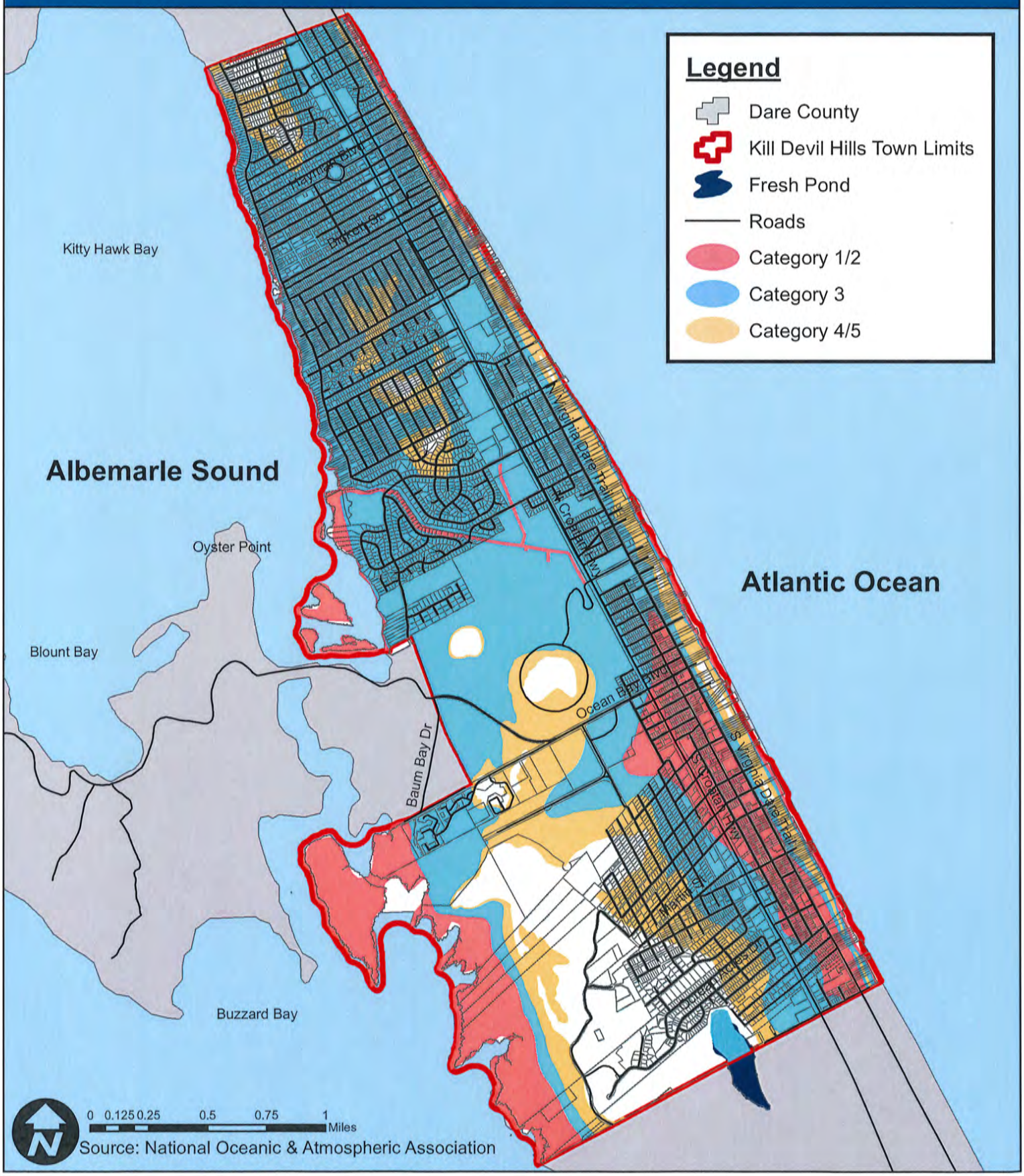
Fast Moving Storm	Acres	% of Town Acres
Category 1 & 2	600.24	15.53%
Category 3	2,562.15	66.30%
Category 4 & 5	3,151.62	81.56%
Slow Moving Storm	**Acres**	**% of Town Acres**
Category 1 & 2	1,702.78	44.06%
Category 3	2,402.25	62.16%
Category 4 & 5	3,328.69	86.14%

Source: National Oceanic and Atmospheric Administration.

Hazard Mitigation and Preparation

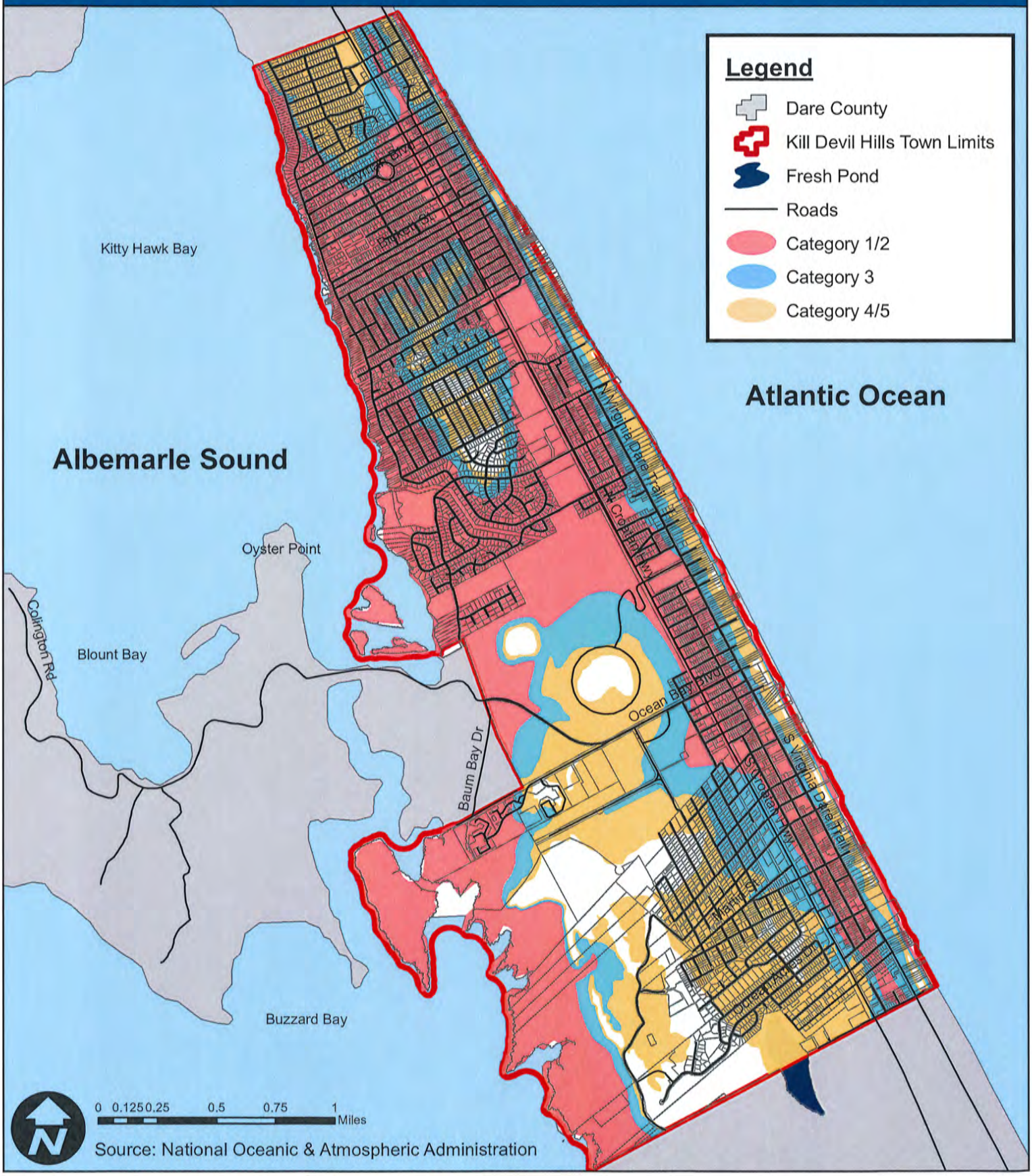
The Town of Kill Devil Hills falls under the jurisdiction of the Albemarle Regional Hazard Mitigation Plan. This plan involves the participation of Camden County, Chowan County, Currituck County, Dare County, Gates County, Hertford County, Pasquotank County, and Perquimans County. The plan identifies existing land use patterns in relation to the existing built environment, including what measures should be taken to reduce the risk of life and property throughout the Region as a result of natural hazard activity. Development and update of this plan is a requirement imposed by both the Federal (Disaster Mitigation Act of 2000) and State (NC Senate Bill 300) governments. The Albemarle Regional Hazard Mitigation Plan was certified by FEMA on May 12, 2015.

Map 3. Fast Moving SLOSH



Source: National Oceanic & Atmospheric Association

Map 4. Slow Moving SLOSH

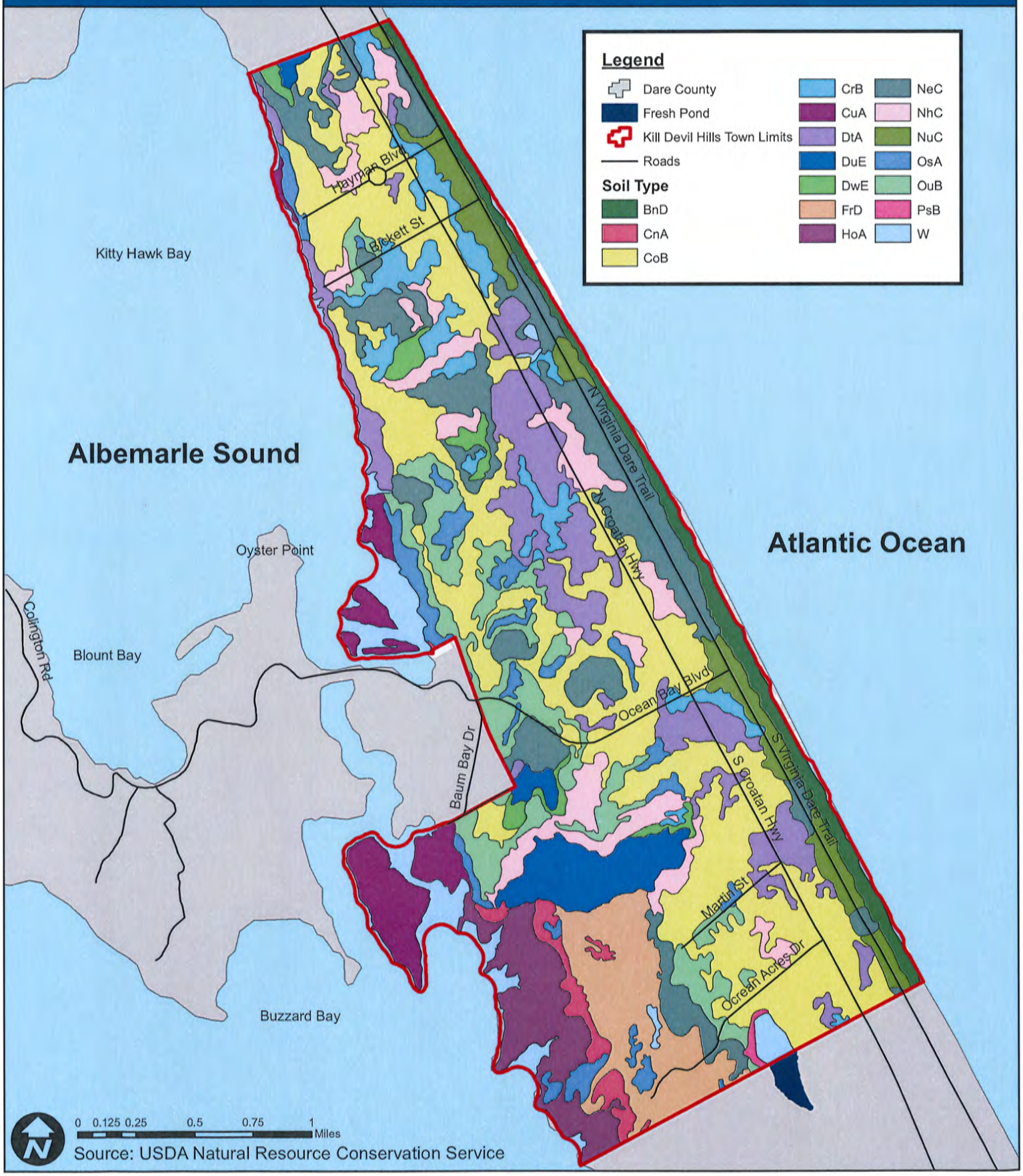


Source: National Oceanic & Atmospheric Administration

The following provides a listing of all hurricane events that have impacted the Town since 1996. The full Regional Hazard Mitigation Plan is available for review at the Kill Devil Hills Administration Building, or on the Town's website. Additionally, the mitigation strategies developed by Dare County and the Town of Kill Devil Hills through this process have been provided in Appendix B.

1996 – Fran August 23 – September 10 Max wind Speed: 121 mph	• Landfall: Cape Fear • Category 3 at landfall with 115 mph winds and an 8-12 foot storm surge • No evacuations in Dare County
1998 – Bonnie August 19 – August 31 Max Wind Speed: 115 mph	• Landfall: Cape Fear • Category 3 at landfall 6-8 foot storm surge • Evacuation – all of Dare County
1999 – Dennis August 24 – September 8 Max Wind Speed: 104 mph	• Landfall: Dare County 9/14/99 • Tropical Storm at landfall 69 mph winds • Evacuation – all of Dare County • Estimated $10 million in damages
1999 – Floyd September 7 – September 19 Max Wind Speed: 155 mph	• Landfall: Topsail Island 9/16/99 • Category 2 at landfall with 109 mph winds • Evacuation – all of Dare County
2003 – Isabel September 7 – September 29 Max Wind Speed: 160 mph	• Landfall: Drum Inlet 9/18/03 • Category 2 at landfall with 104 mph winds and 6-10 foot storm surge • Created breech in island between Frisco and Hatteras Village • Evacuation – all of Dare County • Estimated $400 million in damages
2010 – Earl August 25- September 5 Max Wind Speed: 145 mph	• Passed 100 miles off of the NC Coast • Evacuation - all of Hatteras Island and oceanfront of all Towns • Estimated $500,000 in damages
2011 – Irene August 20 – August 28 Max Wind Speed: 120 mph	• Landfall just south of the Outer Banks • Evacuation all of Dare County • Significant flooding • Estimated Damages: $54 million
2012 – Sandy October 25 – October 31 Max Wind Speed: 70 mph	• Significant road damage to NC 12 in Kitty Hawk and Rodanthe • 7-8 inches of rainfall • Emergency ferry activation due to NC 12 road damage • Estimated Damages: $13+ million
2014 – Arthur July 3 – July 4 Max Wind Speed: 101 mph	• Category 2 at landfall • Earliest hurricane on record • Landfall between Cape Lookout and Beaufort • Mandatory evacuation issued for Hatteras Island
2016 - Matthew October 8 – October 9 Max Wind Speed: 94 mph	• Category 1 at landfall in South Carolina • NWS reported rainfall 9.53 inches • Estimated damaged: $52.2 million

Map 5. Soils


Legend
Dare County
Fresh Pond
Kill Devil Hills Town Limits
Roads
Soil Type
BnD
CnA
CoB
CrB
CuA
DtA
DuE
DwE
FrD
HoA
NeC
NhC
NuC
OsA
OuB
PsB
W
Kitty Hawk Bay
Albemarle Sound
Atlantic Ocean
Oyster Point
Blount Bay
Buzzard Bay
Colington Rd
Baum Bay Dr
Hayman Blvd
Beckett St
N Virginia Dare Trail
N Croatan Hwy
Ocean Bay Blvd
S Croatan Hwy
S Virginia Dare Trail
Martin St
Ocean Acres Dr
0 0.125 0.25 0.5 0.75 1
Miles
Source: USDA Natural Resource Conservation Service

Soils

According to the Dare County Soil Survey, there are 16 different soil types within Kill Devil Hills' corporate limits (see Map 5). The most prominent soil types are various fine sands, which account for a majority of the soil in Kill Devil Hills. Most of the soils in Kill Devil Hills are considered very poorly drained or "hydric" soils. These soil types are often found in flood hazard and wetland areas. It should be noted; however, that the predominant method for wastewater treatment in a majority of homes and businesses is through some form of on-site system. Septic tank failures within Town are not common. Septic permits are issued by the Dare County Health Department on a site-by-site basis.

- BnD – Beaches-Newhan complex, 0 to 25 percent slopes
- CnA – Conaby muck, 0 to 2 percent slopes, rarely flooded
- CoB – Corolla fine sand, 0 to 6 percent slopes, rarely flooded
- CrB – Corolla-Duckston complex, 0 to 6 percent slopes, rarely flooded
- CuA – Currituck mucky peat, 0 to 1 percent slopes, frequently flooded
- DtA – Duckston fine sand, 0 to 2 percent slopes, occasionally flooded
- DuE – Dune land, 2 to 40 percent slopes
- DwE – Dune land-Newhan complex, 2 to 40 percent slopes
- FrD – Fripp fine sand, 2 to 30 percent slopes
- HoA – Hobonny muck, 0 to 1 percent slopes, frequently flooded
- NeC – Newhan fine sand, 0 to 10 percent slopes
- NhC – Newhan-Corolla complex, 0 to 10 percent slopes
- NuC – Newhan-Urban land complex, 0 to 10 percent slopes
- OsA – Osler fine sand, 0 to 2 percent slopes, rarely flooded
- OuB – Ousley fine sand, 0 to 5 percent slopes, rarely flooded
- PsB – Psamments, 0 to 6 percent slopes

Surface Waters

Each stream mile of water in North Carolina is evaluated and rated by the NC Division of Water Resources (formerly the Division of Water Quality). The classifications are based upon the existing or contemplated best usage of the various streams and segments of streams within a basin, as determined through studies, evaluations, and comments received at public hearings. The state water classification system is summarized in Table 10.

Table 10. NC Division of Water Resources Water Body Classifications

PRIMARY FRESHWATER AND SALTWATER CLASSIFICATIONS*	
Class	**Best Uses**
C and SC	Aquatic life propagation/protection and secondary recreation
B and SB	Primary recreation and Class C uses
SA	Waters classified for commercial shellfish harvesting
WS	*Water Supply Watershed.* There are five WS classes ranging from WS-I through WS-V. WS classifications are assigned to watersheds based on land use characteristics of the area. Each water supply classification has a set of management strategies to protect the surface water supply. WS-I provides the highest level of protection and WS-V provides the least protection. A Critical Area (CA) designation is also listed for watershed areas within a half-mile and draining to the water supply intake or reservoir where an intake is located.
SUPPLEMENTAL CLASSIFICATIONS	
Sw	*Swamp Waters:* Recognizes waters that will naturally be more acidic (have lower pH values) and have lower levels of dissolved oxygen.
Tr	*Trout Waters:* Provides protection to freshwaters for natural trout propagation and survival of stocked trout.
HQW	*High Quality Waters:* Waters possessing special qualities including excellent water quality, Native or Special Native Trout Waters, Critical habitat areas, or WS-I and WS-II water supplies
ORW	*Outstanding Resource Waters:* Unique and special surface waters that are unimpacted by pollution and have some outstanding resource values.
NSW	*Nutrient Sensitive Waters:* Areas with water quality problems associated with excessive plant growth resulting from nutrient enrichment.

**Primary classifications beginning with an "S" are assigned to salt waters. Source: NC Department of Environmental Quality.*

The water classifications relevant to Kill Devil Hills are provided in Table 11 (see Map 6). Fresh Pond is currently a designated water supply watershed. There are also three (3) wellhead protection areas associated with the Town's water system.

North Carolina Water Quality Basics

What Are Surface Water Classifications?

Surface Water Classifications are designations applied to surface water bodies, such as water streams, rivers and lakes, which define the best uses to be protected within these waters (for example swimming, fishing, drinking water supply) and carry with them an associated set of water quality standards to protect those uses. Surface water classifications are one tool that state and federal agencies use to manage and protect all streams, rivers, lakes, and other surface waters in North Carolina. Classifications and their associated protection rules may be designed to protect water quality, fish and wildlife, the free flowing nature of a stream or river, or other special characteristics.

How Do They Affect Me?

Before you buy property, plan a new development project, construct a new road or undertake other land use activities, you should check with local, state, and federal agencies about the assigned surface water classification for the waterbody on your property. Many of the newer classifications, especially those designed to protect drinking water supplies and certain high quality waters, have protection rules which regulate some land or disturbance and other human activities.

Why Do They Sometimes Overlay?

Many streams, rivers, and lakes may have several classifications applied to the same area. This is because surface waters are classified to protect different uses or special characteristics of the waterbody. For example, a stream or specific stream segment may be classified as Class WS-III Tr HWQ by the NC Division of Water Resources (DWR). This protects it as a drinking water supply (WS-III), as Trout Waters (Tr), and as High Quality Waters (HQW). The stream segments upstream or downstream may have different classifications based on other water uses or stream characteristics.

Stream's Classification?

DWR classifies all surface waters. A waterbody's classification may change at the request of a local government or citizen. DWR reviews each request for a reclassification and conducts an assessment of the waterbody to determine the appropriateness of the reclassification. DWR also conducts periodic waterbody assessments which may result in a recommendation to reclassify the waterbody. In order for a waterbody to be reclassified it must proceed through the rule-making process.

Map 6. Water Quality & Aquatic Life

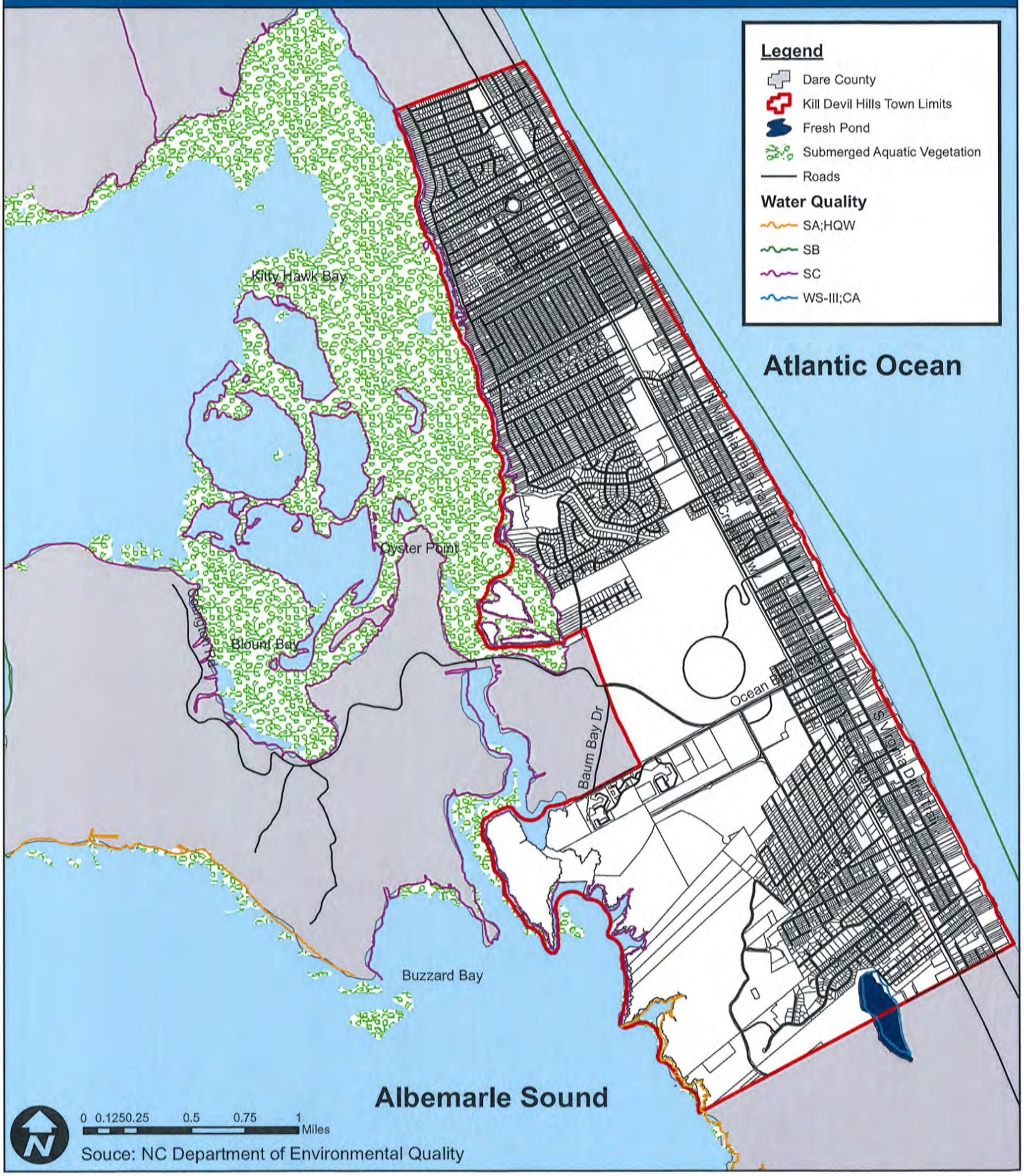


Table 11. Waterbody Classifications		
Waterbody	**Description**	**Classification**
Atlantic Ocean	The waters of the Atlantic Ocean contiguous to that portion of Pasquotank River Basin that extends from the North Carolina-Virginia state line to the northeast tip of Ocracoke Island	SB
Colington Creek	From Kill Devil Hills Bridge north to Kitty Hawk Bay	SC
Colington Creek	Wildlife ramp on Bay Drive	SC
Freshwater Lake at Kill Devil Hills	Entire lake	WS-III; CA
Pond Island	The waters surrounding the Island within 1,000 feet from shore within subbasin 03-01-56	SA; HQW
Source: NC Department of Environmental Quality.		

Under section 303(d) of the Clean Water Act, states, territories, and authorized tribes (included in the term State here) are required to submit lists of impaired waters. These are waters that are too polluted or otherwise degraded to meet water quality standards. There are no 303(d) impaired waters within the Kill Devil Hills planning jurisdiction.

Areas of Environmental Concern

The shorelines within the Town of Kill Devil Hills fall under the jurisdiction of the North Carolina Coastal Area Management Act (CAMA). CAMA establishes "Areas of Environmental Concern" (AECs) as the foundation of the Coastal Resources Commission's permitting program for coastal development. An AEC is an area of natural importance; it may be easily destroyed by erosion or flooding, or it may have environmental, social, economic, or aesthetic values that make it valuable.

The Coastal Resources Commission designates areas as AECs to protect them from uncontrolled development that may cause irreversible damage to property, public health or the environment, thereby diminishing their value to the entire state. Statewide, AECs cover almost all coastal waters and less than 3% of the land in the 20 coastal counties.

Fragile areas are those areas that are not explicitly defined as AECs but that could cause significant environmental damage or other diminution of quality of life if not managed. These include wetlands, natural heritage areas, areas containing endangered species, prime wildlife habitats, or maritime forests. The Town works diligently to manage development in a manner that will minimize adverse impacts on the Town's natural resources. The Town has no violations of Areas of Environmental Concern and has not adversely impacted any areas governed by the Environmental Protection Agency, the NC Department of Environmental Quality, the Coastal Area Management Act, or the US Army Corps of Engineers. Additionally, the Town's land use plan and zoning regulations define development patterns and land use types that limit development within environmentally sensitive areas, thus limiting incompatible development.

Estuarine Waters and Estuarine Shorelines (AEC)

An "estuary" can be defined as "a semi-enclosed coastal body of water which has a free connection to the open sea and within which sea water is measurably diluted with fresh water derived from land drainage." Estuaries basically serve as transition zones between fresh and salt water and are protected from the full force of ocean wind and waves by barrier islands, mudflats, and/or sand.

For regulatory purposes, the inland, or upstream, boundary of estuarine waters is the same line used to separate the jurisdictions of the Division of Marine Fisheries and the Wildlife Resources Commission. However, many of the fish and shellfish that spend parts of their lives in estuaries move between the "official" estuarine and inland waters.

Estuarine shorelines are land areas leeward of mean high tide that are immediately adjacent to or bordering estuarine waters. These areas support the ecological function of estuaries and are highly vulnerable to erosion caused by wind or water and to damage caused by development.

Under CAMA rules, all lands leeward from the mean high water mark are classified as estuarine shorelines and are subject to CAMA development regulations. No domestic discharges are permitted in these waters. Additionally, CAMA AEC setback factors for estuarine shorelines are enforced for all new development. The minimum setback for new construction is 30 feet from the mean high water mark.

Estuarine waters are situated along the Town's western shoreline adjacent to the Albemarle Sound, including a number of bays and creeks such as Colington Creek, Kitty Hawk Bay, and Buzzard Bay.

Public Trust Areas – Waters and Beaches

The North Carolina Division of Coastal Management (DCM) defines "Public Trust Areas" as the coastal waters and submerged lands that every North Carolinian has the right to use for activities such as boating, swimming, or fishing. These areas often overlap with estuarine waters, but they also include many inland fishing waters. The following lands and waters are considered public trust areas:

> All waters of the Atlantic Ocean and the lands underneath, from the normal high water mark on shore to the state's official boundary three miles offshore; all navigable natural water bodies and the lands underneath, to the normal high watermark on shore (a body of water is considered navigable if you can float a canoe in it). This definition does not include privately owned lakes where the public does not have access rights; all waters in artificially created water bodies that have significant public fishing resources and are accessible to the public from other waters; and all waters in artificially created water bodies where the public has acquired rights by prescription, custom, usage, dedication or any other means. Although public trust areas must be delineated by on-site analysis, all submerged lands adjacent to Kill Devil Hills along the Albemarle Sound shoreline and the Atlantic Ocean should be considered public trust areas. Under CAMA regulations, all lands 30 feet leeward of public trust areas are subject to the restrictions for estuarine shoreline areas.

Additionally, NCGS 77-20 clarifies the public's right to use the full width of the State's ocean beaches, from the base of the dunes to the water, as outlined below:

> (d) The public having made frequent, uninterrupted, and unobstructed use of the full width and breadth of the ocean beaches of this State from time immemorial, this section shall not be construed to impair the right of the people to the customary free use and enjoyment of the ocean beaches, which rights remain reserved to the people of this State under the common law and are a part of the common heritage of the State recognized by Article XIV, Section 5 of the Constitution of North Carolina. These public trust rights in the ocean beaches are established in the common law as interpreted and applied by the courts of this State.

> (e) As used in this section, "ocean beaches" means the area adjacent to the ocean and ocean inlets that is subject to public trust rights. This area is in constant flux due to the action of wind, waves, tides, and storms and includes the wet sand area of the beach that is subject to regular flooding by tides and the dry sand area of the beach that is subject to occasional flooding by tides, including wind tides other than those resulting from a hurricane or tropical storm. The landward extent of the ocean beaches is established by the common law as interpreted and applied by the courts of this State. Natural indicators of the landward extent of the ocean beaches include, but are not limited to, the first line of stable, natural vegetation; the toe of the frontal dune; and the storm trash line.

This public right was affirmed by the NC Court of Appeals in a unanimous 2015 ruling in the case of Nies v. Emerald Isle. The case was appealed to the US Supreme Court, but the request to review the case was denied. The November 2015 ruling of the NC Court of Appeals remains the definitive case law regarding the public's right to use the ocean beaches of North Carolina.

Coastal Wetlands

The Coastal Resources Commission rules define "Coastal Wetlands" as any marsh in the 20 coastal counties (including Dare County and therefore, Kill Devil Hills) that regularly or occasionally floods by lunar or wind tides, and that includes one or more of the following ten (10) plant species:

- *Spartina alterniflora*: Salt Marsh (Smooth) Cordgrass
- *Juncus roemerianus*: Black Needlerush
- *Salicornia spp.*: Glasswort
- *Distichlis spicata*: Salt (or Spike) Grass
- *Limonium spp.*: Sea Lavender
- *Scirpus spp.*: Bulrush
- *Cladium jamaicense*: Sawgrass
- *Typha spp*: Cattail
- *Spartina patens*: Salt Meadow Grass
- *Spartina cynosuroides*: Salt Reed or Giant Cordgrass

Coastal wetlands provide significant environmental and economic benefits to the residents of Kill Devil Hills, as well as the Outer Banks overall. They protect against flooding, help maintain water quality, provide habitat to wildlife, and serve as part of the estuarine system. In 2003, the Division of Coastal Management classified and mapped coastal wetlands based on an analysis of several existing data sets, including aerial photographs and satellite images of all coastal areas in North Carolina. Even though the presence of wetlands must be established by an on-site delineation and investigation of plants, DCM produced an excellent representation of wetlands in the Town, and throughout coastal North Carolina. According to the Coastal Wetlands Inventory, approximately 14% of the Town's planning jurisdiction, or 556 acres, are coastal wetlands (see Table 12 and Map 7).

Table 12. Wetlands

Wetland Type	Acres	% of Town Acreage
Cleared Estuarine Shrub/Scrub	2.11	0.05%
Cleared Maritime Forest	24.75	0.64%
Cutover Estuarine Shrub/Scrub	0.99	0.03%

Wetland Type	Acres	% of Town Acreage
Cutover Maritime Forest	4.15	0.11%
Depressional Swamp Forest	0.05	0.001%
Estuarine Shrub/Scrub	18.16	0.47%
Freshwater Marsh	4.93	0.13%
Managed Pineland	142.02	3.68%
Maritime Forest	55.22	1.43%
Pine Flat	13.24	0.34%
Salt/Brackish Marsh	290.47	7.52%
Total	556.09	14.39%
Source: Federal Emergency Management Agency.		

Non-Coastal Wetlands

The US Army Corps of Engineers defines wetlands as those areas that are inundated or saturated by surface or ground water at a frequency and duration to support, and that under normal circumstances do support, a prevalence of vegetation typically adapted for life in saturated soil conditions. It is generally agreed that wetlands have significant values that support the unique lifestyle enjoyed by residents of the coastal area. These values include the following:

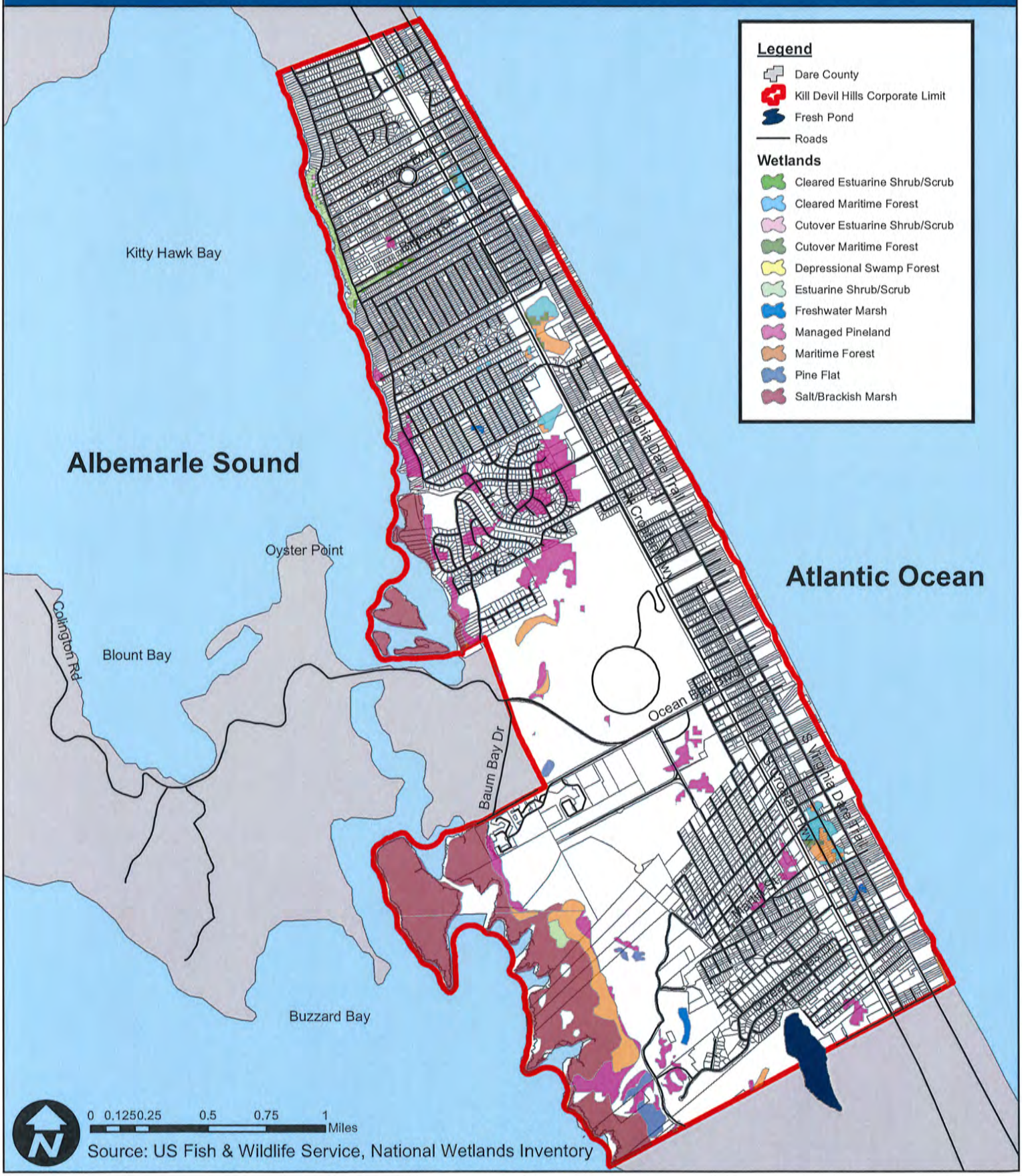
- *Water Storage.* Wetlands are able to temporarily store heavy rain, surface runoff, and floodwaters, and thereby, reduce downstream flooding.
- *Shoreline Stabilization.* Ground cover and roots of wetlands plants help hold soils in place and prevent sedimentation and nutrient transport.
- *Water Quality.* Wetlands plants can enhance water quality by removing pollutants from surface runoff.
- *Wildlife and Aquatic Life Habitat.* The variety of plants, hydrologic and soil conditions associated with wetlands provide abundant food and cover for animal populations and support a number of rare and endangered plants. Wet pine savannas with the wet pine flat designation have special importance because they are known to provide favorable habitat for rare species and are themselves rare.
- *Recreation and Education.* The rich array of plants and animals supported by wetlands provide significant consumptive and non-consumptive use values - hunting and fishing, bird watching, canoeing, etc.

The presence of non-coastal wetlands must be determined in the field on a case-by-case basis.

Inlet Hazard Areas

The Inlet Hazard AEC extends inland from an existing inlet a sufficient distance to encompass the area where the State reasonably expects the inlet to migrate over time. Development within inlet hazard AECs must comply with three key use standards: (1) the setbacks for the ocean hazard area; (2) density for commercial and residential structures limited to no more than 3 units per acre; and (3) only residential structures of 4 units or less or commercial structures of 5,000 square feet or less are allowed. There are no inlet hazard areas within the Kill Devil Hills planning jurisdiction.

Map 7. Wetlands



Ocean Beaches/Shorelines and Areas of Excessive Erosion

Ocean beaches and shorelines are lands consisting of unconsolidated soil materials (i.e., sand) that extend from the mean low water line landward to a point where either: (a) the growth of vegetation occurs; or (b) a distinct change in slope or elevation alters the configuration of the land form, whichever is farther landward. The entire eastern boundary of the Town of Kill Devil Hills – nearly five miles of shoreline - is an ocean beach. This entire area constitutes an Ocean Hazard AEC as defined by CAMA. The Ocean Hazard AEC covers North Carolina's beaches and any other oceanfront lands that are subject to long-term erosion and significant shoreline changes. The seaward boundary of this AEC is the mean low water line. The landward limit of the AEC is measured from the first line of stable natural vegetation and is determined by adding a distance equal to 60 times the long-term, average annual erosion rate for that stretch of shoreline to the distance of erosion expected during a major storm.

The CRC updates long-term erosion rates every five to ten years, using aerial photographs to examine shoreline changes. General maps of erosion rates are available free from the Division of Coastal Management; detailed erosion rate maps are available for inspection at all Coastal Management field and local permitting offices. There are two erosion rate factors affecting development setbacks and design along oceanfront portions of Kill Devil Hills. A majority of the Town's shoreline is subject to an erosion rate setback factor of 2.0; however, there are two stretches of beach along the northern and southern portions of town where a 4.5 to 6.0 setback factor is applied. Further information can be found at https://deq.nc.gov/about/divisions/coastal-management/coastal-management-oceanfront-shorelines/oceanfront-construction-setback-erosion-rate.

The oceanside shoreline adjacent to the Town of Kill Devil Hills is extremely dynamic and highly susceptible to the effects of coastal erosion. This erosion has begun to encroach on development along some stretches of Virginia Dare Trail (NC Highway 12). The ongoing impacts of tropical storm events and nor'easters have prompted action by the Town, as well as individual homeowners. These efforts have included completion of the Town's initial beach nourishment project completed in September 2017, (discussed further below) and the retrofitting of existing single-family homes. It should be noted that currently there are no public facilities at risk due to significant shoreline erosion.



Retrofitting of an existing oceanfront home through elevation. *Image Source: HCP.*

Beach Nourishment

Oceanfront beach erosion compromises the overall structural integrity of the dune and beach system; therefore, impairing environmental resources, the Town's property values, recreational opportunities for all, and the Town and County's tourism economy. Accordingly, the Town adopted a Shore Protection Plan in August of 2017, aimed at mitigating the erosive effects impacting the Town's oceanfront. This plan detailed the proposed activities to be carried out in conjunction with the Town's 2017 Beach Nourishment Project. Dare County (the contracting entity for the beach nourishment project which includes the Towns of Duck, Southern Shores, Kitty Hawk, and Kill Devil Hills) awarded the contract to Great Lakes Dredge and Dock Company for $38,596,850. For the Town of Kill Devil Hills, this effort

resulted in the construction of 2.6 miles of widened beach shoreline, from the Kitty Hawk/Kill Devil Hills town line south to Prospect Avenue. Kill Devil Hills' portion of this project cost was $8,861,529.

A portion of the 6% Occupancy Tax collected by Dare County is set aside for the Beach Nourishment Fund. The occupancy tax is applied to gross receipts derived from rental of room, lodging, campsite, or similar accommodation furnished by any hotel, motel, inn, tourist camp including private residence and cottages rented to visitors. The Beach Nourishment Fund must be used for the placement of sand from other sand sources, the planting of vegetation, and the building of structures that are in conformity with NC CAMA, such as sand fences and dunes, on beaches of the Atlantic Ocean of North Carolina for the purpose of widening the beach to benefit public recreational use and mitigating damage and erosion from storms to inland property. In addition, funds for beach nourishment are also provided by property and municipal service district taxes.

Occupancy Tax Distribution Rate:

- 3% Room Occupancy Tax (68% of net proceeds to Duck, Kill Devil Hills, Kitty Hawk, Manteo, Nags Head, and Southern Shores in proportion to the amount of *ad valorem* taxes levied by each town for the preceding fiscal year and 32% to Dare County).
- 1% Room Occupancy and Tourism Development Tax (net proceeds to the Dare County Tourism Board).
- 2% Room Occupancy and Tourism Development Tax for Beach Nourishment.

Why Should We Protect Ocean Beaches and Shorelines?

At the edge of the ocean, ocean hazard AECs get the full force of any storm. Waves, wind, and water can quickly change the shape of a shoreline, creating or filling inlets, flattening nearby dunes, eroding beaches and battering nearby structures. No oceanfront development can be absolutely safe from destructive natural forces, but development in ocean hazard areas can be carefully designed and located to minimize the risk to life and property, as well as to reduce the cost of relief aid.

Oceanfront beaches and dunes help protect buildings and environments behind them by absorbing the force of wind and waves, while the dense root networks of dune plants trap and anchor sand. Left uncontrolled, development can destroy these dunes and their vegetation, increasing the risk of damage to structures from erosion, flooding, and waves.

The Town is actively committed to preserving and protecting the dunes.



2017 Beach Nourishment Project. ***Image Source: Town of Kill Devil Hills.***

Fragile Areas

Fragile areas are not AECs but are sensitive areas that could be damaged or destroyed easily by inappropriate or poorly planned development. The inventory of fragile areas in Kill Devil Hills includes three types: (1) Protected Lands that are controlled by the State or subject to easements or covenants that limit development; (2) Natural Heritage Areas as identified by the NC Department of Natural and Cultural Resources; and (3) Maritime Forests which are intact.

Protected Lands are areas dedicated to conservation and open space uses that are protected from development by regulation or by ownership by governments or non-profit organizations. The North Carolina Division of Coastal Management has identified these areas through the assistance of the NC Center for Geographic Information and Analysis (NCGIA). There are several sites designated as Protected Lands in Kill Devil Hills (see Map 8). These include the Wright Brothers National Memorial, Nags Head Woods/Run Hill, and a small portion of the Kitty Hawk Woods Coastal Reserve. The sites are comprised of state and Town-owned open space areas. Additionally, other facilities, such as CAMA Public Access locations and town parks may be considered protected lands. These areas will be discussed further in the Community Facilities section of the plan.

Natural Heritage Program Natural Areas (NHNA) are areas containing ecologically significant natural communities or rare species. The North Carolina Natural Heritage Program of the NC Department of Natural and Cultural Resources identifies and helps facilitate the protection of these areas. There are two Natural Heritage Areas located within the Kill Devil Hills planning jurisdiction: the Wright Brothers Dune Barrens and Nags Head Woods/Run Hill (see Map 8).

Kill Devil Hills' maritime forests are an important natural resource that offers both opportunities and limitations for development. The definitions applied to maritime forests are rather broad: "Forests (that) have been developed under the influence of salt spray and (that) are found on barrier islands or immediately adjacent to estuarine waters; dominated by oak, red cedar, holly, and pine trees and evergreen shrubs." These forested areas are often the most stable locations on barrier islands and they offer safe and reasonable areas for development. There are several stands of maritime forests situated throughout the Town's planning jurisdiction.

As required by 15A NCAC 7B CAMA Land Use Planning Guidelines, Appendix C provides a US Fish & Wildlife Services list of endangered/threatened species in Dare County.

Slopes in Excess of 12%

There are limited areas of slope in excess of 12% within Kill Devil Hills' corporate limits. These areas are mainly located in the dunes areas, erosion escarpment, and the south side of the Wright Brothers Memorial.

Map 8. Protected Lands/NHP Natural Areas



Areas of Resource Potential

Regionally Significant Parks

The discussion of parks and open space will be addressed in the Community Facilities section of the plan.

Marinas and Mooring Fields

"Marinas" are defined by the NC Division of Coastal Management as any publicly or privately owned dock, basin, or wet boat storage facility constructed to accommodate more than ten boats and providing any of the following services: permanent or transient docking spaces, dry storage, fueling facilities, haulout facilities, and repair service. The Town does not currently have a full service or public/private marina. There are dockage facilities associated with residential developments adjacent to Colington Creek, as well as docks attached to single-family homes. Some of these docks are separated by the road from the principal use of the property. Kill Devil Hills is also served by a public boating access facility (with no overnight docking facilities) which is located at the end of Dock Street.

A "freestanding mooring" is any means to attach a ship, boat, or other watercraft to a stationary underwater device, mooring buoy, buoyed anchor, or piling not associated with an existing or proposed pier, dock, or boathouse. When more than one freestanding mooring is used in the same general vicinity, it is known as a "mooring field." CAMA has regulations for the safe siting and operation of moorings and mooring fields. There are currently no mooring fields in Kill Devil Hills.

Floating Homes or Structures

A floating home or structure is any structure, not a boat, supported by means of flotation and designed to be used without a permanent foundation which is used for human habitation or commerce. A structure is considered a floating home or structure if it is inhabited or used for commercial purposes for more than 30 days in any one location. A boat may be deemed a floating structure if its means of propulsion have been removed or rendered inoperative and it contains at least 200 square feet of living area. There are currently no floating homes within Kill Devil Hills' corporate limits.

Primary Nursery Areas, Anadromous Fish Spawning Areas, Submerged Aquatic Vegetation, Shellfishing Waters

Primary Nursery Areas, as defined by the Marine Fisheries Commission, are those areas in the estuarine system where initial post larval development takes place. These areas are usually located in the uppermost sections of a system where populations are uniformly very early juveniles. The Division of Marine Fisheries is responsible for preserving, protecting and developing Primary Nursery Areas for commercially important finfish and shellfish. High productive values in the estuarine waters are the result of three essential processes: (1) circulation patterns caused by tidal energy, freshwater flow, and shallow depth; (2) nutrient trapping mechanisms; and (3) protection offered to many species. Important features of the estuary system are mud and sand flats, eel grass beds, salt marshes, submerged vegetation flats, clam and oyster beds, and important nursery areas. There are no defined primary nursery areas adjacent to Kill Devil Hills; however, Buzzard Bay and Kitty Hawk Bay are designated as special secondary nursey areas.

"Anadromous" fish are those that migrate up rivers (or into estuaries) from the sea to breed in freshwater. The NC Marine Fisheries Commission (MFC) defines anadromous fish spawning areas as those where evidence of spawning of anadromous fish has been documented by direct observation of spawning, capture of running trip females, or capture of eggs or early larvae. It should be noted that there are no anadromous fishing spawning areas located within Kill Devil Hills' corporate limits.

Grasses that grow to the surface of, but do not emerge from shallow water are called submerged aquatic vegetation (SAV). One of the most important ecosystem services of the shallow waters adjacent to the northern shoreline of Kill Devil Hills is to provide refuge in which small fish and shellfish can hide from larger finfish predators. The habitat value of shallow water is greatly enhanced when it has structure that provides additional cover, and the structure provided by SAV provides some of the greatest habitat value for many species. Significant portions of Kitty Hawk Bay, Blount's Bay and Buzzard Bay support the growth of SAV and are shown on Map 6.

The Shellfish Sanitation Section is responsible for monitoring and classifying coastal waters as to their suitability for shellfish harvesting for human consumption. Recommendations are made to the Division of Marine Fisheries to close those waters that have the potential for causing illness and opening those that are assured of having clean, healthy shellfish. Much of the "SA" waters along the estuarine shoreline are open to commercial shellfishing. Up-to-date information about open and closed shellfishing areas is posted daily on the NC Division of Marine Fisheries website. As this information is always evolving, current closure locations have not been included in the plan. The Pasquotank River Basinwide Water Quality Plan, prepared by NC Division of Water Quality, shows the waters adjacent to Kill Devil Hills as fully supporting for aquatic life and primary and secondary recreation; partially supporting for fish consumption; and partially or non-supporting for shellfish harvesting.

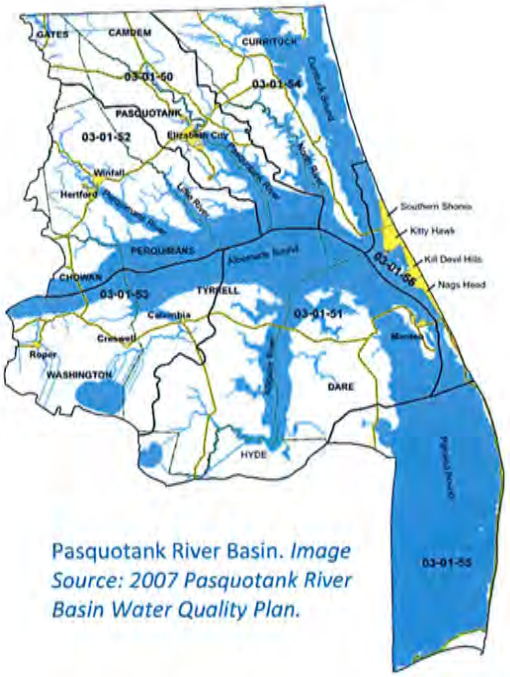
All estuarine waters adjacent to Kill Devil Hills are currently considered impaired with respect to shellfishing with the exception of a small portion of Buzzard Bay (see Appendix D for location of areas closed to shellfishing).

Aquaculture

As defined under N.C. General Statute 106-758, aquaculture is the propagation and rearing of aquatic species in controlled or selected environments. There is no significant aquaculture in Kill Devil Hills.

Water Quality

Basinwide water quality plans are prepared by the NC Division of Water Resources (DWR) for each of the seventeen major river basins in the state. Each basinwide plan is revised at five-year intervals. While these plans are prepared by DWR, their implementation and the protection of water quality entails the coordinated efforts of many agencies, local governments, and stakeholders in the State. The Town of Kill Devil Hills is located in the Pasquotank River Basin. The Pasquotank River basin lies entirely within the outer coastal plain of North Carolina. The overall river basin includes portions of the Albemarle, Currituck, Croatan, Roanoke and Pamlico Sounds. The Pasquotank River Basin is part of the Albemarle-Pamlico Estuarine System, the second largest estuarine system in the United States.



Pasquotank River Basin. *Image Source: 2007 Pasquotank River Basin Water Quality Plan.*

Kill Devil Hills is located in subbasin 03-01-56 of the Pasquotank River Basin. This subbasin includes the Outer Banks from the northern portion of Dare County south to Oregon Inlet. It also includes portions of Currituck Sound, Albemarle Sound and Roanoke Sound. Ecologically, it is within the Carolinian Barrier Islands and Coastal Marshes ecoregions. Land cover generally consists of beaches, marshes, forested wetlands and evergreen forests with scattered urbanized areas, wildlife habitat and recreational areas. Several public lands and significant natural heritage areas can be found in this subbasin, including Jockey's Ridge State Park, Nags Head Woods Preserve, Run Hill State Natural Area, Wright Brothers National Memorial, and Kitty Hawk Woods Coastal Reserve.

Water quality in areas with growing populations would benefit from individual or community implementation of backyard wetlands, rain gardens, bioretention areas, conversion of impervious surfaces, use of cisterns, streambank protection and restoration. The Dare County North Reverse Osmosis Water Plant holds the only National Pollutant Discharge Elimination System (NPDES) minor permit in the subbasin with a permitted discharge of 0.03 MGD. The water treatment plant discharges into the Atlantic Ocean via ocean outfall.

Subbasin 03-01-56 at a Glance

Land and Water Area

Total Area:	109 mi^2
Land Area:	37 mi^2
Water Area:	72 mi^2

Land Cover (%)

Surface Water:	70%
Forest/Wetland:	22%
Urban:	7%
Cultivated Crop:	<1%
Pasture/Managed Herbaceous:	2%

County
Dare

Municipalities
Kill Devil Hills, Nags Head, Kitty Hawk, Southern Shores

Monitored Waterbody Statistics:

Recreation

Total:	134.9 mi/22,216.2 ac
Supporting:	134.5 mi/22,211.5 ac
Impaired:	0.5 mi/4.7 ac

Shellfish Harvesting

Total:	21,045.2 ac
Supporting:	19,258.3 ac
Impaired:	1,786.9 ac

Source: 2007 Pasquotank River Basinwide Water Quality Plan.

COMMUNITY FACILITIES

The following provides an overview of all Town-maintained facilities and services. These day-to-day operations are critical to sustaining the quality of life that both residents and visitors of Kill Devil Hills have come to appreciate. This summary relates to existing public facilities and Town services that are currently being provided. Future services and facilities based on anticipated need/demand will be addressed in Section 4, Future Demand/Projections. See Map 9 for location of community facilities.

Health Care Resources

Medical Facilities

The largest hospital serving the region, Outer Banks Hospital, is located just south of Kill Devil Hills at 4800 South Croatan Highway in Nags Head. The Outer Banks Hospital is a full-service community hospital offering a wide range of inpatient and outpatient services. A joint venture between Vidant Health and Chesapeake Regional Healthcare, the 83,796 square foot facility includes eighteen (18) acute care medical-surgical beds, two (2) labor and delivery/recovery/post-partum beds, one (1) Level II nursery bed and three (3) operating rooms, a designated Caesarean section room, outpatient and diagnostic services, and a 24-hour emergency department.

Designed especially to meet the health needs of a coastal community, whose summer population increases significantly from its year-round population, the Outer Banks Hospital has approval as a provider of Medicare and Medicaid programs, licensure by the Division of Facility Services, and accreditation by the Joint Commission on the Accreditation of Healthcare Organizations, College of American Pathologists, and the American College of Radiology.

In addition to Outer Banks Hospital, there are a number of physicians' offices, as well as other healthcare providers, located throughout Kill Devil Hills, and in Southern Shores, Kitty Hawk, and Nags Head. Outer Banks Hospital also operates urgent care centers in Southern Shores and Nags Head.

Dare County Health Department

The Dare County Department of Health & Human Services is the primary department responsible for protecting the health of all Dare County residents and protecting, strengthening and helping families and individuals achieve self-sufficiency. The Department of Health & Human Services partners with individuals, families, and the community to strengthen their efforts towards healthy living, independence, permanence and safety. It is comprised of a public health division, social services division, and administrative division.

The Dare County Health Department provides a range of services including:

- Veterans Services
- Public Health Division
- Social Services
- Community and Clinical Services
- Adult Services
- Environmental Health Services
- Children's Services

- Health Education and Outreach
- Economic Services
- Home Health and Hospice Services, and
- Family Services.

Police Department

The Kill Devil Hills Police Department is responsible for protecting the lives and property of its citizens and visitors. Their work is carried out through a varied program of law enforcement, detection and prevention of crime and accidents, and planning and directing emergency response activities.

The department currently has 31 employees who provide police and support services to Kill Devil Hills' citizens and visitors. Kill Devil Hills has a year-round population of approximately 7,000 residents. The population grows to almost 36,000 during the summer months. The Department is divided into four divisions: Administration and Recordkeeping, Patrol, Criminal Investigations, and Animal Control.

Patrol Division

Uniformed officers assigned to the Patrol Operations Division have the primary purposes of responding to calls for service and conducting preventive patrols in the Town. After citizens telephone Dare Central Communications, calls for service are forwarded to officers through the dispatch office. Often, officers witness conditions that require self-initiated response. The first responding officer to a 911 call is usually dispatched from the Patrol Operations Division.

Criminal Investigations Division

The Criminal Investigations Division is staffed by sworn police officers tasked with investigating felony crimes that occur in the Town. Personnel assigned to the Criminal Investigations Division are educated and trained in various fields of law enforcement and the investigations of crimes. Such crimes include violent assaults, narcotic related offenses, financial fraud, substantial larcenies, residential and commercial burglaries, and other felonious activity.



Police Department Detective Badge. ***Image Source: Town of Kill Devil Hills.***

Animal Control

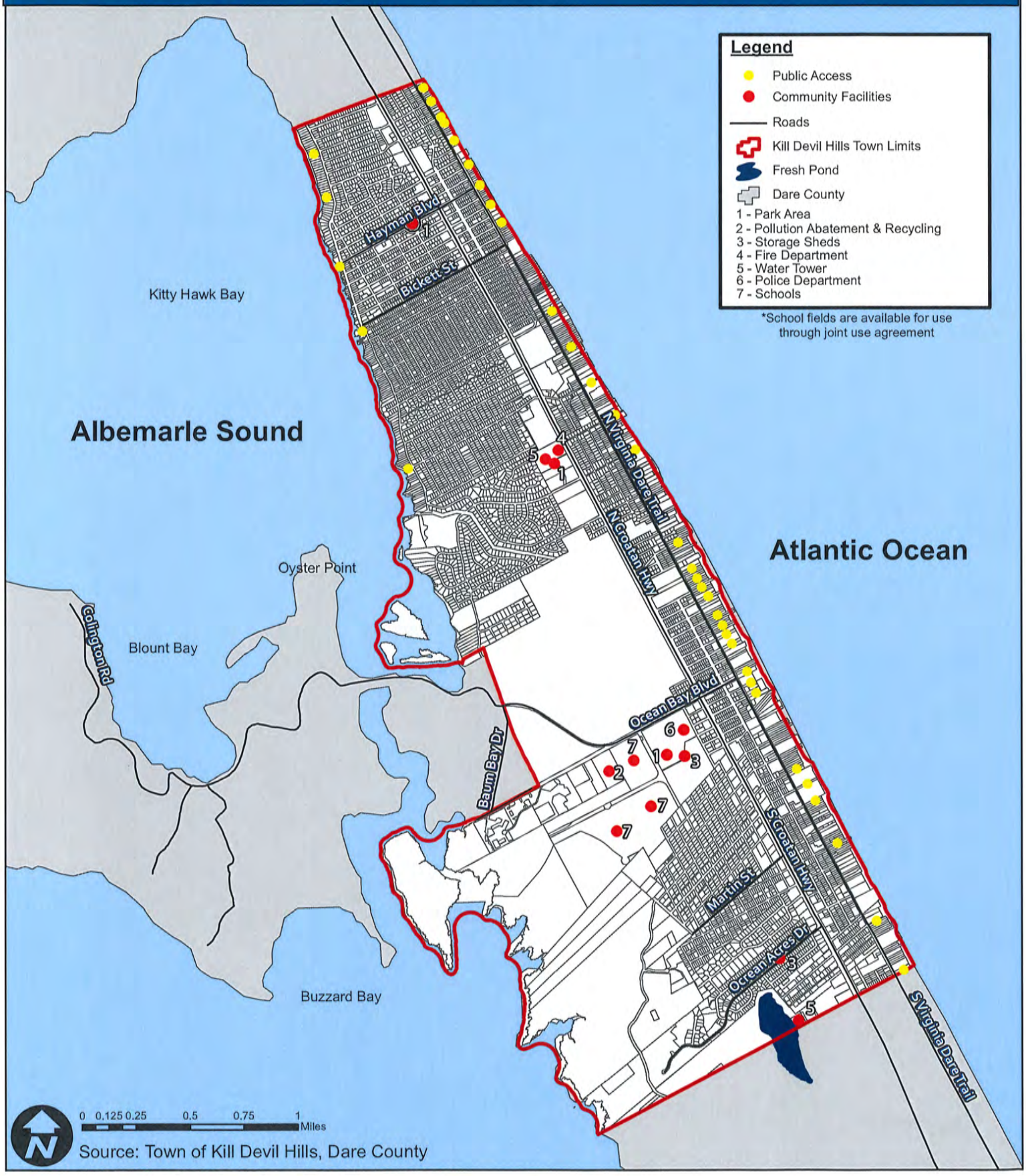
The Animal Control Division is responsible for enforcing the Town's ordinances regarding animals, along with operating and maintaining the Kill Devil Hills Animal Shelter.

Fire Protection and Emergency Medical Services

Fire Protection

The Kill Devil Hills Fire Department is a combination fire department (staffed with both career and volunteer firefighters) serving the Kill Devil Hills community. The department maintains an Insurance Service Office (ISO) rating of 3. This outstanding rating not only indicates the effectiveness of the department but also provides insurance benefits to property owners.

Map 9. Community Facilities



The Kill Devil Hills staffing model consists of well-trained, dedicated career and volunteer professionals. The duty crews, or career team members, are tasked with emergency response duties 24 hours a day, 365 days of the year. They handle daily workload operations and maintenance tasks to ensure the department is in a constant state of readiness. Maintaining training requirements is also an important part of ensuring readiness, and ensuring that safety requirements are met. Reserve firefighters/ volunteers provide the necessary additional staffing and are a vital part of the department's emergency response model. This model is a balanced approach to meet the ever-changing conditions associated with a coastal barrier island community.

Ocean Rescue Division

The Ocean Rescue Division became an integral part of the Kill Devil Hills Fire Department in August 1998. The first full season of the division was 1999 at which time it was equipped with 14 fixed guard stands, four roving lifeguards on all-terrain four-wheelers, two pick-up trucks, and one jet-ski. Prior to 1998, lifeguards were a contracted service. The division now operates with 21 fixed guard stands, with guards in four separate zones, and one roving lifeguard group leader in each zone. This level of staffing gives the division nearly complete stand-to-stand sight lines and continuous visibility of the high water line.

Equipment for the division includes two similarly outfitted pick-up trucks, each with a jet-ski and other rescue and communications equipment. The division also has one three-seat personal water craft and two rigid inflatable boats (12 feet and 19 feet in length, respectively).

The Ocean Rescue Division is located at the Ocean Bay Boulevard Regional Access building. The building is located at 103 S. Virginia Dare Trail at approximately the 8.5 milepost (at the end of Ocean Bay Boulevard on the oceanfront).



Kill Devil Hills Ocean Rescue Division. ***Image Source: HCP.***

Emergency Medical Services

Emergency medical services in Kill Devil Hills are provided by Dare County Emergency Medical Services (EMS). Dare County EMS Station One, including all administrative offices, is located in Kill Devil Hills. Dare County EMS operates eight EMS stations throughout the County as follows:

Table 13. Dare County EMS Stations

Station	Location	Address
1 and EMS Admin. Offices	Kill Devil Hills	1632 N Croatan Highway, Kill Devil Hills
2	Manteo	515 Bowsertown Road, Manteo
3	Frisco	50346 Highway 12, Frisco
4	Southern Shores	28 E. Dogwood Trail, Southern Shores (located in the Southern Shores Volunteer Fire Department)
5	Nags Head	5314 S. Croatan Highway, Nags Head (located in the Nags Head Fire Rescue Station)

Station	Location	Address
6	Rodanthe	24297 Atlantic Drive, Rodanthe (located in the Chicamacomico Banks Volunteer Fire Department)
7	Dare MedFlight Crews Quarters	1078 Driftwood Drive, Manteo 1025 Driftwood Drive, Manteo
8	Manns Harbor	6677 Highway 64/264, Manns Harbor

Source: Dare County Emergency Medical Services.

Dare MedFlight

Dare County is recognized as an innovative pioneer in providing aeromedical transport services. Dare MedFlight provides rapid medical transportation for its residents and visitors. For over 25 years, Dare County has furnished one of the few county-owned aeromedical operations in the entire nation. Based at the Dare County Regional Airport, Dare MedFlight serves all of Dare County.

Dare MedFlight has a dedicated staff of 5 pilots, 2 full-time mechanics, and 11 flight paramedics. Together as a team, they operate a MedFlight Airbus H-145 helicopter, capable of carrying two patients and air crew members. The aircraft has advanced safety features including enclosed tail rotors and a four-axis pilot system.

Dare MedFlight began operating in 1975 to ensure that all levels of medical care are accessible for residents and visitors. A helicopter drastically reduces transport times for patients needing rapid transfer to hospitals outside of Dare County for provision of trauma and other critical care services.



Dare MedFlight Landing Pad and Helicopter. ***Image Source: Outer Banks Chamber of Commerce.***

Emergency Management

The Town of Kill Devil Hills Fire, EMS, and Police Departments, in concert with Town Administration, work closely with the Dare County Emergency Management Department to address threats from both natural and man-made hazards. Dare County Emergency Management is charged with maintaining a high level of preparedness, identifying vulnerabilities, effectively mitigating disasters, providing public education, responding to all hazard emergency situations, and facilitating effective recovery efforts following any all-hazard incident.

Parks, Recreation, and Open Space

Public Access

The North Carolina Division of Coastal Management defines two types of public access points:

- Local accesses that primarily provide access for pedestrians and bicyclists from the immediate neighborhood.
- Regional accesses that include a large number of parking spaces, bike racks, restrooms and bathhouse, and picnic area.

Kill Devil Hills maintains twenty-nine (29) beach access sites with varying amenities and parking availability. The following provides a summary of these facilities running from north to south:

- Arch Street – Access Only
- Helga Street – Lifeguard
- Chowan Street – Access Only
- Hayman Boulevard - Parking, Lifeguard, Handicap Access, Shower, Bathroom
- Walker Street – Access Only
- Avalon Drive – Parking, Lifeguard, Dune Walkover
- 5th Street – Parking, Lifeguard
- 4th Street – Dune Walkover
- 3rd Street – Lifeguard, Dune Walkover, Shower, Pet Waste Bags
- 2nd Street – Parking, Lifeguard, Shower, Pet Waste Bags
- 1st Street – Parking, Lifeguard, Dune Walkover, Shower, Pet Waste Bags
- Asheville Drive – Parking, Lifeguard, Handicap Access, Dune Walkover, Restrooms, Shower, Pet Waste Bags
- Prospect Avenue – Parking, Handicap Access, Dune Walkover, Shower, Pet Waste Bags
- Glenmore Avenue – Parking, Handicap Access, Dune Walkover, Shower, Pet Waste Bags
- Woodmere Avenue – Parking, Handicap Access, Dune Walkover, Shower, Pet Waste Bags
- Ferris Avenue – Parking, Handicap Access, Dune Walkover, Shower, Pet Waste Bags
- Raleigh Avenue – Parking, Handicap Access, Dune Walkover, Shower, Pet Waste Bags
- Carlow Avenue – Parking, Handicap Access, Dune Walkover, Shower, Pet Waste Bags
- Sutton Avenue – Parking, Handicap Access, Dune Walkover, Shower, Pet Waste Bags
- Pinehurst Avenue – Access Only
- Ocean Bay Boulevard – Parking, Handicap Access, Dune Walkover, Shower, Pet Waste Bags, Bath House
- Carlton Avenue – Access Only
- Oregon Avenue – Lifeguard, Handicap Access, Shower
- Clark Street – Parking, Dune Walkover, Shower, Pet Waste Bags
- Calvin Street – Access Only
- Martin Street – Parking, Handicap Access, Dune Walkover, Shower, Pet Waste Bags
- Atlantic Street – Parking, Handicap Access, Dune Walkover, Shower, Pet Waste Bags, Bathrooms
- Lake Drive – Access Only
- 8th Street – Parking, Handicap Access, Dune Walkover, Shower, Pet Waste Bags

Parks

The Dare County Parks & Recreation Northern Beach Division office is located at the Dare County Youth Center at Family Recreation Park in Kill Devil Hills. The Youth Center and Family Recreation Park serves as the focal point for most of the division's activities and programs and provides programming for youth and adults. Below are listed amenities at Dare County Family Recreation Park:



- Family Recreation Park
  - Multipurpose field
  - Baseball field with lights
  - Softball field with lights
  - Two batting cages
  - Four tennis courts with lights
  - Outdoor volleyball court
  - Tennis hitting wall
  - Playground with climbing wall
  - Covered picnic pavilion (with 4 grills, 15 picnic tables, lights, and electrical outlets)
  - Concession stand (with heat and air conditioning)
  - Three Press boxes (1 large with heat and air conditioning)
  - Restrooms

Meekins Field is located behind the Fire Department in Kill Devil Hills. It is owned by the Town and maintained by the Town with support from Dare County Parks & Recreation. Additionally, the Town's Building and Ground Division operates and maintains the following municipal open space/park facilities: Aviation Park, Copley Park, and Hayman Park. Below are amenities at each of these facilities:



- Aviation Park
  - Roller hockey rink
  - Skatepark
  - Restrooms
  - Children's play area
  - Fitness trail
- Copley Park
  - Playground equipment
- Hayman Park
  - Large open area
  - Benches
  - Picnic tables
  - Grill
  - Playground equipment
- Meekins Field
  - Softball field with lights
  - Tennis courts with lights (2)
  - Soccer field (210' x 140')
  - Playground
  - Restrooms



Afterschool Program

The Youth Center located at Family Recreation Park serves as a safe afterschool place for middle and high school students. Conveniently located within walking distance from both First Flight Middle and High Schools, youth can partake in open-play basketball, volleyball, soccer, Frisbee, and/or tennis, or participate in one of the many other organized programs offered.

Fresh Pond

Fresh Pond is a 27-acre body of water that straddles Nags Head and Kill Devil Hills and is difficult to access. There has been discussion about establishing access to the site which Kill Devil Hills has begun with hope of providing a range of outdoor passive recreational activities for residents and visitors. This effort will be discussed further in the Future Demands Section of the plan.

Historic Properties

There are currently three (3) properties in Kill Devil Hills listed on the National Register of Historic Places. These properties include the Wright Brothers National Memorial Visitors Center, the Wright Brothers Memorial, and Sam's Diner (Kill Devil Grill). Refer to Map 10. In addition to those properties listed on the National Register, the Town has designated a number of locally significant historic structures, as listed below:

- Birdsong/Phelan Cottage – 1825 North Virginia Dare Trail
- Boyette Cottage – 1303 South Virginia Dare Trail
- Brothers Cottage – 1211 B South Virginia Dare Trail
- Brown Cottage – 1235 South Virginia Dare Trail
- Christensen-Small Cottage – 2021 South Virginia Dare Trail
- Coggins/Lassiter Cottages – 501 South Virginia Dare Trail
- Green Cottage – 1233 South Virginia Dare Trail
- Hall House – 2401 North Virginia Dare Trail
- Hayman House – 418 West Hayman Boulevard
- Johnston-Witt Cottage – 2041 South Virginia Dare Trail
- Mardre-Woolard Cottage – 1229 South Virginia Dare Trail
- McCandless Cottage – 2007 Newbern Street
- Owens House – 1407 South Virginia Dare Trail
- Pappendick-Heath Houses – 302 North Virginia Dare Trail
- Perry-Owens Cottage – 2019 South Virginia Dare Trail
- Poulas-Kiger House – 2309 North Virginia Dare Trail
- Powell-Stokes Cottage – 1207 South Virginia Dare Trail
- Reisse Cottage – 2807 North Virginia Dare Trail
- Sawyer-Turk-Cheshire House – 2015 North Virginia Dare Trail
- Smith Cottage – 2306 North Virginia Dare Trail
- Spitzer-Weinburg House – 2701 North Virginia Dare Trail
- Stick-Roebuck House – 1521/1523 North Virginia Dare Trail
- White Cottage – 2400 North Virginia Dare Trail
- Young/Croarkin Cottage – 201 Random Street
- Z.A. Harris Cottage – 1413B North Virginia Dare Trail

Map 10. Historic Properties



Source: National Register Historic Places,
Town of Kill Devil Hill's Guide to Local Historic Landmarks

Water System

The Town of Kill Devil Hills operates a town-wide water distribution system serving all single-family residences and businesses. The Town's water system contains 1.65 million gallons of storage – both ground storage and elevated. Recently performed on-site visual and non-intrusive inspections of the above-ground facilities at the 8th Street pump station facility and the Old Town Hall pump station facility show that structures and equipment are generally in good condition. The 8th Street elevated tank was repaired and repainted in 2018 and it is anticipated that the Old Town Hall elevated storage tank will be replaced in 2019.

The Dare County Water Department is the wholesale supplier of potable water to many communities in the County, including the Town of Kill Devil Hills. The County can currently produce up to 10 million gallons per day (mgd) in potable water and deliver a maximum of 14 mgd. Maximum daily demands for Kill Devil Hills will occur during the summer months, and are projected to reach 2.61 mgd by 2021 and 2.80 mgd by 2031. Therefore, the 3.0 mgd contractual water supply should be adequate to serve the Town for the next 20 years.

To meet the growing demand of its customer base, Dare County is considering expanding one of its two plants by 2-mgd, resulting in a 12-mgd capacity for its system. This expansion will enhance the ability of the County to meet the Town's long-term water supply needs.

As the Town is responsible for the drinking water quality of its customers, it has to be prepared to meet existing and future regulatory requirements. A comparison of the finished water quality to USEPA drinking water quality standards shows that the Dare County water treatment plants are producing high quality water that meets, and in most cases, exceeds today's regulatory standards. This standard is critical to the Town's ability to meet requirements throughout its distribution system.

Sewer System

Kill Devil Hills Wastewater Treatment Plant, LLC, provides central sewer service to some properties located in Kill Devil Hills; however, this service is not operated by the Town and is only available if service lines are installed or are already available.

There are no current plans to develop a large-scale, public, central sewer system in Kill Devil Hills. In lieu of a central wastewater treatment system controlled by the Town, Kill Devil Hills will continue to rely on state and county permitting for on-site wastewater systems. A wastewater permit issued by the Dare County Health Department is required prior to commencing any development project throughout town when on-site septic is utilized. Permit staff at Dare County Health Department indicates that generally permits for septic tanks are not a problem in Kill Devil Hills and that once installed, the systems function as intended.

Natural Gas

Kill Devil Hills does have access to central natural gas service along NC 12 and US 158 through Piedmont Natural Gas. Additionally, there are several private companies that provide LP gas service for commercial and private residential use.

Solid Waste

The Town of Kill Devil Hills provides curb-side solid waste management services. During winter/off-season months, the Town provides services once per week. The east side of Highway 158 is collected on Mondays and the west side of Highway 158 is collected on Tuesdays. Once-per-week collections run from November through March of each year. Throughout the remainder of the calendar year, curb-side collection is provided twice per week as follows: the east side of Highway 158 is collected on Mondays and Thursdays and the west side of Highway 158 is collected on Tuesdays and Fridays. The Town does provide curb-side recycling collection as a subscription service through a franchise agreement with Outer Banks Hauling. The Town also has a centralized Recycling Center for use by all residents located at 701 Bermuda Bay Boulevard. Pickup of bulk items is provided two times per year.

Street Maintenance

The Town of Kill Devil Hills is responsible for street maintenance on all right-of-ways (approximately 60 miles) throughout the Town's corporate limits, with the exception of NCDOT right-of-ways which include Colington Road, US 158, and NC 12. The Town's Public Services Department maintains a schedule of improvements that is updated annually, which outlines the greatest needs/deficiencies relating to right-of-way maintenance.

Administration

The Town of Kill Devil Hills Administration Department serves the following purposes:

- To promote the Town of Kill Devil Hills in a positive manner to its citizens and visitors through programs and events.
- To continue to search for ways to further involve its citizens in Town activities.
- To welcome inquiries and requests for assistance and provide friendly, pleasant, and efficient service.
- To ensure that the services provided by the Town to its citizens and visitors are cost-efficient and responsive, meet the needs of our citizens, and are compliant with the provisions of local ordinances and state and federal law.

The Administration Department includes the Town Manager, Assistant Town Manager, Town Clerk, Administrative Specialist, Office Assistant, and Administrative Assistant.

EXISTING LAND USE

Introduction

The following provides a summary of Kill Devil Hills' existing land use. Land use patterns with maps and associated data enable policy makers to make more informed decisions about future service needs and future land use demands. This effort, in turn, assists elected officials, planning board members and citizens at-large in making educated decisions about rezoning cases (map amendments), quasi-judicial hearings and zoning ordinance text amendments.

The following existing land use map and associated data provide a comprehensive update from the information presented in the 1997 Kill Devil Hills CAMA Land Use Plan. Three factors are reflected: an improvement in the data available, a shift in the existing land use designations utilized in the plan, and actual changes in land use. The existing land use designations have been modified slightly to better reflect the current built environment throughout Kill Devil Hills.

Methodology

Existing land use should not be confused with zoning. Existing land use classifies the current land use, which may differ from current zoning. The Dare County tax parcel file, in coordination with aerial photos, was used to determine the existing land use classification for properties in Kill Devil Hills. Field surveys and Google's street view were used to confirm the accuracy of the aerial photos and tax data. Further, property value was used to ensure whether parcels were unimproved. The following provides a summary of the existing land use categories utilized:

Commercial

Retail, service, and shopping establishments.



Industrial

Light manufacturing and fabrication.



Office and Institutional

Government offices, medical facilities, airport, churches, and offices.



Mixed Use

Retail and residential uses occupying the same structure.



Multi-Family Residential

Four or more units within the same structure.



Single-Family Residential

Single-family residential development.



Recreational

Public parks/open spaces and public beach access sites currently operated and maintained by the Town of Kill Devil Hills.



Vacant/Unimproved

Parcels that are either undeveloped or are unimproved.

Existing Land Use Map

Like many barrier island beach communities, Kill Devil Hills' existing land use pattern is characterized predominantly by single-family residential development. Non-residential development in the form of commercial or office and institutional land uses are situated along the Town's main transportation thoroughfares including Croatan Highway (US 158) and certain portions of Virginia Dare Trail (NC 12). There are a number of multi-family residential developments throughout Town, and mixed use development is fairly limited.

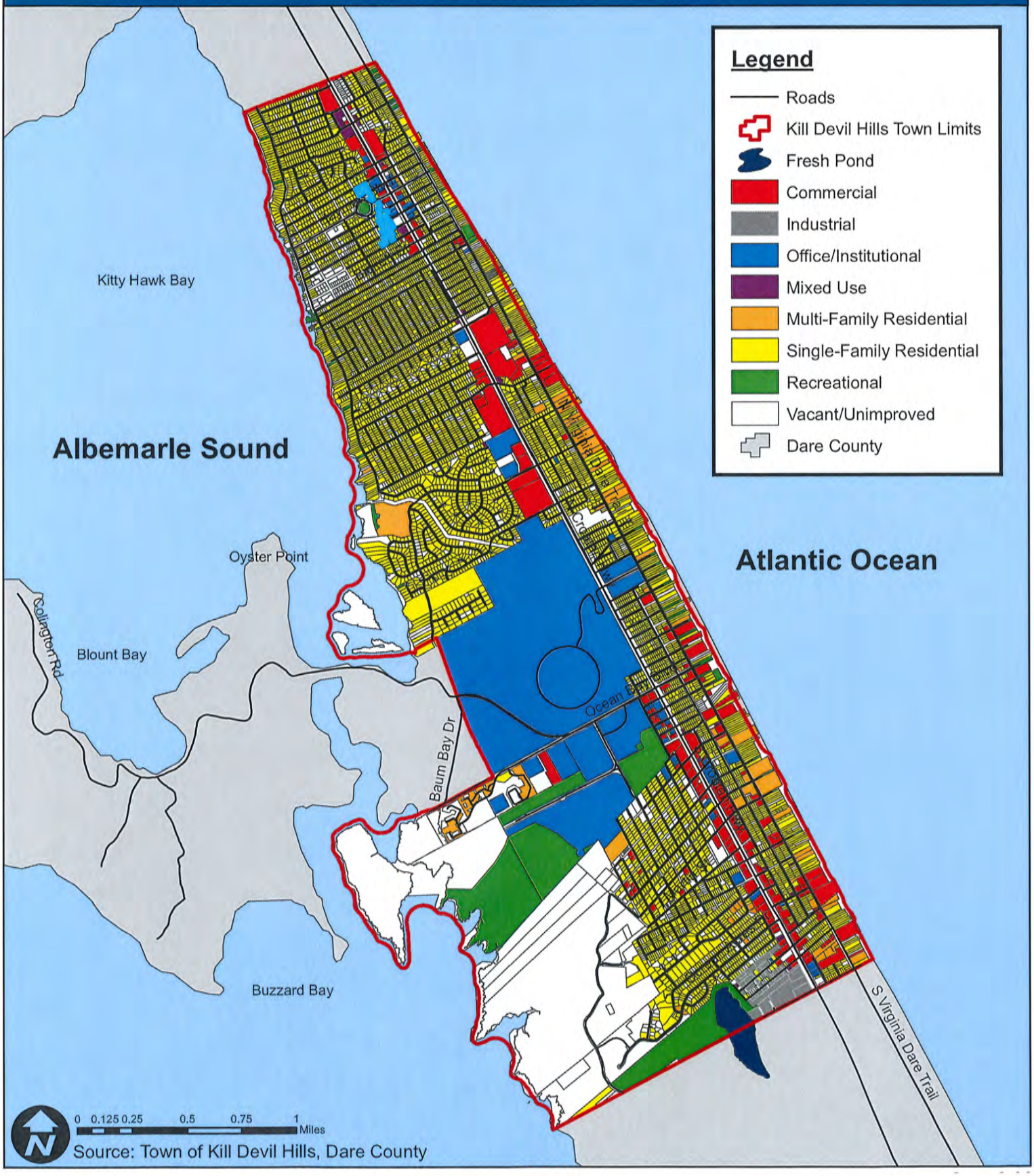
The following table and associated map provide an overview of existing land use throughout the Town of Kill Devil Hills.

Table 14. Existing Land Use

Land Use	Acres	% of Total
Commercial	199.0	6.4%
Industrial	32.7	1.0%
Office and Institutional	596.2	19.2%
Mixed Use	5.8	0.2%
Multi-Family Residential	97.2	3.1%
Single-Family Residential	1,153.8	37.1%
Recreational	86.9	2.8%
Vacant/Unimproved	941.3	30.2%
Total	3,112.9	100.0%

Source: Dare County Tax Office, HCP, Inc., Town of Kill Devil Hills.

Map 11. Existing Land Use



Zoning and Vacant Parcels

Throughout the corporate limits of Kill Devil Hills, there is approximately 946 acres of vacant land, as identified through the existing land use survey process. A substantial percentage of this acreage (59.1% or 559 acres) is comprised of land that is in large part protected and/or considered fragile areas (see discussion of Fragile Areas on page 3-18). This area is located in the southwestern corner of the Town's corporate limits and contains the Run Hill State Natural Area land that is deed restricted by The Nature Conservancy and Fresh Pond, as discussed in the Parks and Recreation section of the plan. This portion of Town is zoned Maritime Forest Environmental District for the purposes of environmental protection. Also included in this area (south of Run Hill State Natural Area) is The Natural Conservancy Land which is zoned MFED and Government/Institutional – Public. The remaining 387 acres of vacant land are, for the most part, zoned for either residential or commercial use. Development of these vacant parcels is governed by a number of local ordinances and State and Federal regulations. The use of vacant land, and redevelopment of existing development to new uses, must comply with standards defined in the Town of Kill Devil Hills Zoning Ordinance.

The Kill Devil Hills zoning ordinance is considered a pyramidal or cumulative zoning code. This variation of Euclidian zoning is less commonly used today. It does still afford a great level of protection for single-family residential uses when located in a single-family residential district because that is the exclusive use allowable in that zone. However, in this scheme, each successively more intense zoning category (multi-family, commercial, and industrial) allow most of the uses from the previous zones.

Euclidean zoning is a convenient nickname for traditional as-of-right or self-executing zoning in which: district regulations are explicit; residential, commercial, and industrial uses are segregated; districts are cumulative; and bulk and height controls are imposed. *Source: American Planning Association.*

The uses at the top of the pyramid can slide down to the zones below, but not back up. For example, in this scheme, multi-family and single-family would be allowed in a commercial zone. The reverse is not true, so a commercial use would not be allowed in a multi-family or single-family residential zone. The fact that this type of zoning would allow a single-family use to be built in an industrial zone gives the property owner more discretion, but dilutes the power of protection intended in zoning.

There are nine Zoning Districts included in the Town of Kill Devil Hills Zoning Ordinance (see Map 12). The following provides a summary of these districts:

- *Ocean Impact Residential (OIR) Zone:* The OIR zone is established in an effort to promote health, safety and welfare and to limit the level of peril to the public welfare associated with dwellings and other structures located in that part of the town that borders on the Atlantic Ocean and which is subject to tropical storms, storm surges, hurricanes and shoreline migration.
- *Low Density Residential (RL) Zone:* The RL zone is established as an area in which the principle use of the land is for single-family residences and is intended to preserve and enhance low-to-medium density neighborhoods.
- *High Density Residential (RH) Zone:* The RH zone is established as an area to preserve, enhance and encourage high density neighborhoods.
- *Commercial (C) Zone:* The C zone is established primarily to encourage convenient and accessible sales, service, entertainment, and professional and business facilities to the general

populace of the town in such a manner that will not infringe upon nor degrade the natural qualities of residential neighborhoods.

- ***Light Industrial Two (LI-2) Zone:*** The LI-2 zone is established to provide standards for the location of commercial services which are required for the development of the town. It is the intent of this section to regulate and buffer such uses so that their location will not be detrimental to adjacent uses.

- ***Light Industrial One (LI-1) Zone:*** The LI-1 zone is established to provide standards for the location of commercial services which are required for the development of Kill Devil Hills; such facilities as wholesale food and beverage warehousing, building supply facilities and other similar uses which are required elements of a self-sufficient community. It is the intent of this section to regulate and buffer such uses so that their location will not be detrimental to adjacent uses, the environment and sources of potable water, such as the Fresh Pond and groundwater.

- ***Government and Institutional – Public (G/I-Public) Zone:*** The G/I-Public zone is established to provide the proper location and setting for governmental use and institutional operation, structures, and equipment necessary for providing public services and the maintenance of public health and well-being.

- ***Government and Institutional – Private (G/I-Private) Zone:*** The G/I-Private zone is established to provide proper location for privately-owned wastewater treatment facilities and multi-family planned unit developments.

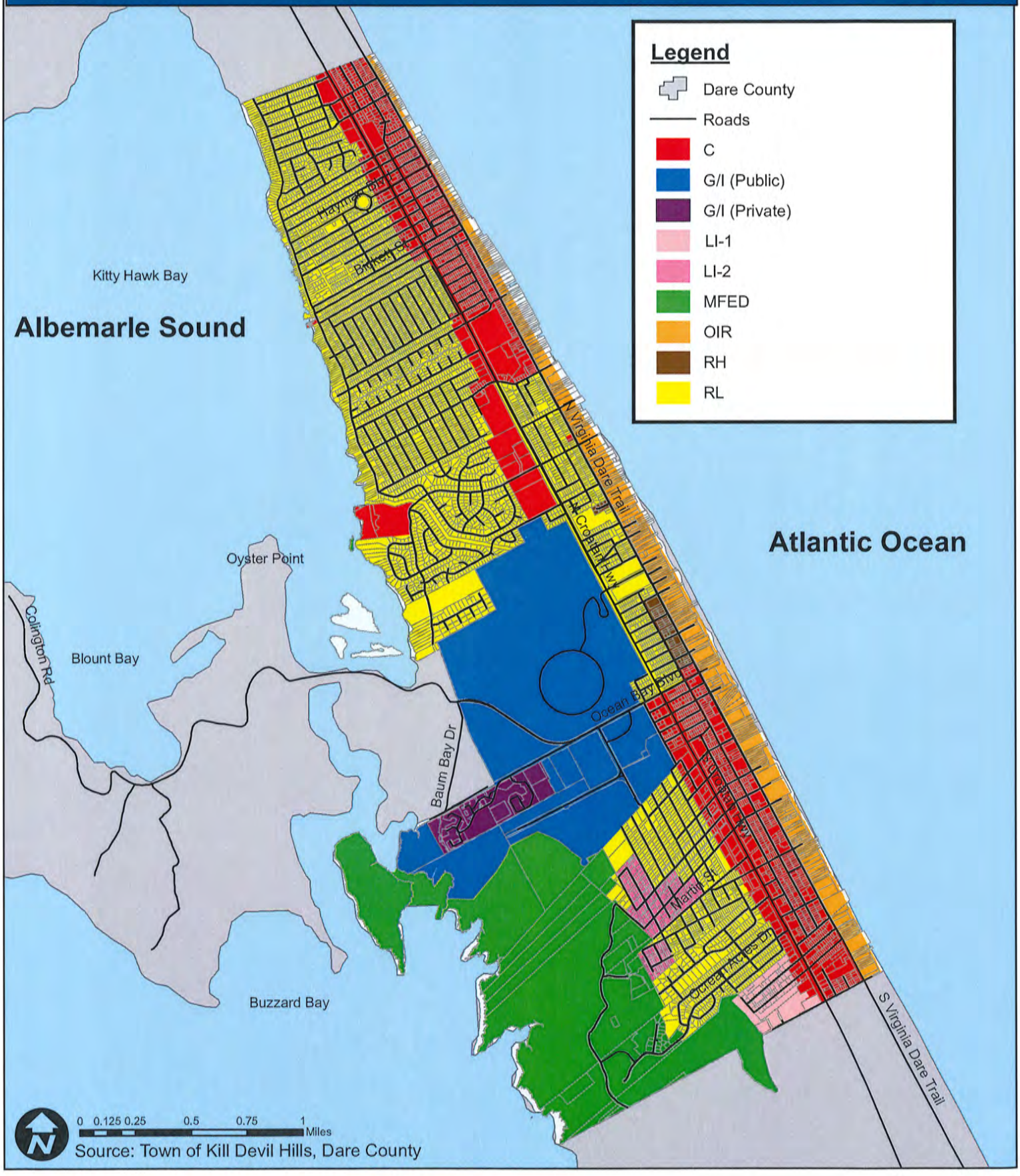
- ***Maritime Forest Environmental District (MFED):*** The MFED zone is established to conserve the natural resources and environment located within the Town collectively known as the Maritime Forest. The MFED is created to require that any development be compatible with the environmentally-sensitive setting of Nags Head Woods Maritime Forest.

Table 15. Zoning

Zoning District	Acres	% of Total
OIR	208.3	6.7%
RL	899.2	28.9%
RH	20.7	0.7%
C	568.4	18.3%
LI-1	41.2	1.3%
LI-2	41.6	1.3%
G&I-Public	750.2	24.1%
G&I-Private	56.1	1.8%
MFED	507.2	16.3%
Not Zoned*	19.9	0.6%
Total	3,112.8	100.0%

**There are three small islands adjacent to Colington Island that fall within the Town's corporate limits. The Town has not zoned this upland area.*
Source: Town of Kill Devil Hills, HCP, Inc.

Map 12. Zoning



Appraised Value Per Acre

Understanding the financial impacts of particular types of development can help a community become more fiscally sound. Specifically, it is important to understand the value of all land use classes from a proportional standpoint. Calculating the per acre appraised value of each different land use reveals development types that may be most beneficial to the Town from a revenue perspective. Of the existing developed land use categories, the mixed use category yields the greatest average appraised value per acre; however, single-family residential is extremely close in comparison. These development types yield higher tax revenues per acre primarily due to their increased density (number of units per acre).

The following provides a summary of value per acre of developed land based on the existing land use map (see Map 11).

Table 16. Total Value Per Acre

Land Use	% of Total Land Use Acreage	$ per Acre Value
Commercial	6.4%	$494,470
Industrial	1.0%	$234,890
Office and Institutional	19.2%	$135,162
Mixed Use	0.2%	$379,943
Multi-Family Residential	3.1%	$28,677
Single-Family Residential	37.1%	$552,283
Recreational	2.8%	$125,303
Vacant/Unimproved	30.2%	$134,204

Source: Dare County Tax Office, HCP, Inc., Town of Kill Devil Hills.

SUMMARY

Natural Systems

- The year-round temperature average in Kill Devil Hills is 70 degrees F. The summer temperature average is 80 degrees F, while the winter temperature average is 49 degrees F.
- The topography within Kill Devil Hills is generally flat; however, the Wright Brothers Memorial has a vertical elevation of 90 feet above sea level.
- Approximately 68% of the Kill Devil Hills corporate limits is located within a designated floodplain (A, AE or VE).
- During a slow moving hurricane, as defined by the Sea, Land, and Overland Surges from Hurricanes (SLOSH) model, approximately 44% of the Town will be inundated by a Category 1 & 2 storm, while roughly 62% will be inundated by a Category 3 storm.
- Since 1996, the Town of Kill Devil Hills has been impacted by ten landfalling hurricanes.
- There are sixteen different soil types located within Kill Devil Hills, which are primarily comprised of fine sands.
- Fresh Pond is a currently designated water supply watershed located within Kill Devil Hills. There are also three wellhead protection areas within the Town's corporate limits.
- Estuarine waters are located along the Town's western shoreline adjacent to the Albermarle Sound.
- Approximately 14% of the Town's corporate limits are comprised of Coastal Wetlands.
- The oceanfront portions of Kill Devil Hills are subject to excessive erosion and the effects of erosion stemming from surge associated with hurricane/tropical storm events.
- The Town of Kill Devil Hills undertook its first beach nourishment project in 2017, resulting in a storm protection project which widened 2.6 miles of shoreline.
- Kill Devil Hills has three areas within the Town's corporate limits designated as NC State Natural Heritage Areas including: Kitty Hawk Bay Islands, Wright Brothers Dune Barrens, and Nags Head Woods/Run Hill.
- There are no marinas or mooring fields located within the Town of Kill Devil Hills.
- Significant portions of Kitty Hawk Bay, Blount's Bay, and Buzzard Bay support the growth of subaquatic vegetation.
- Kill Devil Hills is located within the Pasquotank River Basin, part of the Albermarle-Pamlico Estuarine system, considered the second largest estuarine system in the United States.

Community Facilities

- Kill Devil Hills is served by the Outer Banks Hospital located in neighboring Nags Head.
- The Dare County Health Department provides a variety of health and human services aimed at improving the overall health of County residents.
- The Kill Devil Hills Police Department maintains four divisions and provides protection for roughly 7,000 residents during off peak months and 36,000 during summer months.
- The Kill Devil Hills Ocean Rescue Division operates under the Town's Fire Department and was initiated in 1998 (prior to that it was a contracted service).
- Dare County operates eight EMS Stations. The Kill Devil Hills station is located at 1632 North Croatan Highway and serves as the County's EMS administrative headquarters.
- Emergency Management for the Town of Kill Devil Hills is overseen by Dare County; however, the Town administration and first responders are also directly involved in his process.
- Kill Devil Hills maintains twenty-nine beach access points, which have varying access facilities.
- There are several public recreation facilities located within the Town of Kill Devil Hills including Family Recreation Park, Meekins Field, Aviation Park, Copley Park, and Hayman Park.
- The water system within Kill Devil Hills is owned and operated by the Town and peak demand clearly comes during summer months. The water is purchased from Dare County.
- The Kill Devil Hills Wastewater Treatment Plant, LLC, provides central sewer service to certain portions of Town.
- The Town of Kill Devil Hills provides curb side waste collection services; however, curb side recycling service is available through a franchise agreement with Outer Banks Hauling on a subscription basis. The Town maintains a Recycling Center and bulk trash drop off for all residents.

Existing Land Use

- There are eight existing land use categories designated within Kill Devil Hills including: Commercial, Industrial, Office and Institutional, Mixed Use, Multi-Family Residential, Single-Family Residential, Recreational, and Vacant/Unimproved.
- Approximately 59% of the Town's vacant acreage, as indicated by the existing land use map, is comprised of land that is protected and/or considered fragile area.
- The Town of Kill Devil Hills maintains nine zoning districts ranging from Industrial development to the Maritime Forest Environmental District.
- The highest value existing land use within Kill Devil Hills is the Single-Family Residential category with a developed value of $552,283 per acre, while Commercial properties are a close second at $494,470 per acre.

INTRODUCTION

This section of the Comprehensive Plan focuses on the future demand for Kill Devil Hills. This discussion addresses a range of issues including the following:

- Population Projections
- Future Community Facilities and Services Needs

This discussion of community facilities and services needs combined with a discussion of future land use in Section 5 is intended to provide a foundation for the development of the implementing actions component of this plan. These sections provide a summary of need with regard to community services and facilities while also defining future growth and land use patterns. Permanent and seasonal population projections are provided as a baseline for determining the increased need for Town-sponsored programs, services, and community facilities.

POPULATION PROJECTIONS

Establishing future population forecasts for the Town of Kill Devil Hills is essential to determining impacts to infrastructure and community services/needs. However, calculating population projections is a difficult task and all forecasts are subject to a variety of unforeseen factors. Population forecasting is as much an art as it is a science.

"Straight-line" population growth trends over time are typically used to calculate population projections. Because most of Kill Devil Hills allows for residential development in every zone (with the exception of Government and Institutional – Public [G/I-Public] zoning district), straight-line projections are not considered appropriate. As discussed in Section 3 of the plan, development throughout Kill Devil Hills is subject to standards outlined in the Town's pyramidal or cumulative zoning code. Table 17 provides a summary of population projections for the Town of Kill Devil Hills.

Table 17. 2035 Population Projections

2016 Total Number of Housing Units	2016 Total Housing Occupancy	2035 Estimated Total Number of Housing Units[1]	2035 Total Housing Occupancy[2]	2035 Total Peak Seasonal Daily Visitors[3]	2035 Total Daily Peak Population Estimate
6,743	27,792	8,263	36,425	8,060	44,485
2016 Permanent Population Estimate	**2020 Permanent Population Estimate**	**2025 Permanent Population Estimate**	**2030 Permanent Population Estimate**	**2035 Permanent Population Estimate**	
6,948	7,012	7,092	7,172	7,265	
2016 Peak Seasonal Population Estimate	**2020 Peak Seasonal Population Estimate**	**2025 Peak Seasonal Population Estimate**	**2030 Peak Seasonal Population Estimate**	**2035 Peak Seasonal Population Estimate**	
35,852	37,668	39,938	42,208	44,485	

[1]2035 number of housing units is based upon an average increase of 80 housing units per year during the planning period (19 years x 80 housing units per year = 1,520 additional housing units). This figure was determined by assessing building permit activity dating back to 2008.

[2]2035 total housing occupancy is based upon the number of increased housing units (1,520) times the persons per household as reported in the US Census. Persons per household assumes that approximately 91.2% of the new units will be rental occupied as reported in the 2016 American Community Survey. The remaining units assume an average household size of 2.37 as reported by the US Census. 1,520 X 91.2% = 1,386 rental-occupied units X 6 persons per household = 8,316 persons; 134 owner-occupied housing units X 2.37 persons per household = 317 persons; 8,316 + 317 = 8,633 persons.

[3]2035 total peak seasonal daily visitors is based on 2016 estimates (see page 2-2).

Source: US Census Bureau and HCP, Inc.

FUTURE COMMUNITY FACILITIES AND SERVICES NEEDS

Many factors have an impact on the land use, infrastructure, and transportation systems within a given jurisdiction. For Kill Devil Hills, the primary impacts are related to a growing permanent population, increasing use of second homes (throughout the entire year – not just during typical vacation season), increasing visitation in the pleasant spring and fall seasons, the desire for additional amenities, and sustained economic growth for local businesses.

While managing these impacts, the Town must stay true to its core identity, and recognize that Kill Devil Hills succeeds in its desirability as a beach destination that embraces its traditional family beach image and small-town atmosphere. Community infrastructure and services such as utilities, beach nourishment, police, fire, emergency medical services, public services, and recreation will all be affected by these factors, as well as projected growth and development. Projected needs that will result from future development and changes to the land use pattern are discussed in this section, in addition to impacts on infrastructure and services.

Public Safety (Police and Fire Departments)

Based on the mutual needs of these departments, the discussion of future demand has been coordinated between the two departments. Discussions with staff personnel of both the police and fire departments has provided a consensus that there is a substantial need for a Town Public Safety Facility. Currently, the departments are housed independently within facilities that are, at times, inadequate for the needs and demands of supporting the Town's growing population. This situation becomes especially problematic during peak summer months, as well as during hurricane/tropical storm events.

A Town public safety facility would serve a variety of needs as well as address deficiencies regarding each department's current facility arrangements. One of the principal benefits of establishing this facility would be the ability of emergency service and police personnel to remain on the island in the event of a Category 4, and possibly Category 5, hurricane event.

The proposed facility would not only assist in protecting personnel, but will ensure protection of evidence and records associated with Police Department investigations, as well as Fire Department inspection records and equipment. The Public Safety Building would serve as an on-site Emergency Operations Command Center when needed and should have the capacity to house and feed, at a minimum, thirty Town personnel.

The following provides additional needs identified specifically by department. There is no current plan to address these needs; however, the Town will continue to seek grant funding to assist in the acquisition and/or construction of these facilities throughout implementation of this plan. It should be noted that both the Police and Fire Departments are on a regular rotation for both equipment and vehicle replacement as a component of the Town's capital budgeting program.

- Police Department:
    - Construct a Town-sponsored firing range for officer training and development. This effort may be accomplished in concert with the Town of Nags Head.
    - Acquire a modern computer-based fingerprinting machine.
- Fire Department:
    - Increase resources for Ocean Rescue as need is determined.

- Establish a Quick Response Unit comprised of volunteers and former staff personnel to supplement existing response companies. It is anticipated that the scope of these Quick Response Units will increase as the Town's population increases.

Parks and Recreation

The Town of Kill Devil Hills completed an update of its parks and recreation plan in 2004. The plan provided the following recommendations to improve the provision of parks and recreation facilities and services to the citizens of Kill Devil Hills. It should be noted that these recommendations reflect general policies and projects not completed to date.

- Develop cooperative agreements with other area recreational providers including the YMCA, Dare County Senior Services, and the Dare County Parks and Recreation Department for programming and staffing of activities and events utilizing Town-owned sites and facilities.
- Review (every five years or when circumstances dictate) and revise as necessary the memorandum of understanding between Kill Devil Hills and Dare County concerning the operation and maintenance plan for Meekins (Commissioners') Field at 1634 North Croatan Highway.
- Solicit and use assistance from youth groups such as the Boy Scouts of America, Girl Scouts of America, Grounded Adventure Club, and civic groups such as the Rotary Club for site maintenance and event staffing.
- Charge the Building and Grounds Division with recording (photographs and written documentation) improvements to facilities and at sites as they are completed, and marking improvements such as utility line locations on exhibits and maps.
- Charge the Building and Grounds Division with developing and maintaining a maintenance routine schedule in spreadsheet form to chart activities, expenditures, recommendations for improvements and activities at sites, and general observations of site and facility conditions.
- Consider and incorporate parks and recreation related activities and facilities into planning for the potential conversion of the Fresh Pond Park and surrounding property from a primary water source/water protection areas to other uses.
- Consider revisions to the 1998 Town of Kill Devil Hills Shoreline Access Plan Update.
- Evaluate the appropriateness of including recreational uses and facilities when Town-owned land is considered for sale for development or improvement.
- Evaluate the potential for and appropriateness of developing recreational uses and facilities on land(s) that may be considered for acquisition by the Town or offered/donated to the Town.
- Consider revisions to the Kill Devil Hills 2004 Recreational Facilities Plan Update as improvements are made and projects are completed.
- Seek grant money and/or consider additional Town funding for new recreational facilities and improvements to existing facilities.

- Seek grant money and/or consider additional Town funding for conceptual planning and design of improvements at Fresh Pond Park and Hayman Park.
- Support efforts to acquire land in central Kill Devil Hills for use as a park site and to provide additional connection to existing oceanfront facilities or to those that may be acquired or developed.
- Support efforts to increase and improve the Town's bike and pedestrian facilities and seek grant money and/or consider additional Town funding for new bike and pedestrian facilities and improvements to and/or extensions of existing facilities.

The following addresses specific recommendations regarding existing and proposed park facilities:

- Projects at Aviation Park:
  - Construct penalty boxes.
  - Install electric score/bulletin board.
  - Construct special events pavilion.
  - Complete as-built survey of site utilities.
- Projects at Fresh Pond Park:
  - Install Town identification sign.
  - Install 400 linear feet of split-rail wooden fence.
  - Develop nature walking trail and designated natural areas.
  - Develop interconnection with and parking at adjacent Town-owned (water plant building) property.
  - Provide landscaping.
- Projects at Hayman Park:
  - Replace swing set.
  - Install three (3) picnic tables and construct concrete pads/in-ground mounts for picnic tables.
  - Construct 40' x 20' open air pavilion with restrooms, water fountains, and septic tank drainfield system.
  - Install bike rack.
  - Relocate perimeter fencing to increase usable park/field area.
  - Replace sign.
  - Modify/relocate irrigation system to meet area needs after fence relocation.
  - Replace children's picnic table.
  - Complete as-built survey of site irrigation system.
  - Install two (2) portable soccer goals.
- Projects at Meekins Field:
  - Pave parking area (to the south) adjacent to existing lot; plant trees to screen parking area and the (fenced) area under the water tower; install signage, striping, and movement controls in parking area; and repair existing parking lot.
  - Install perimeter landscaping.
  - Install bike rack.
  - Install concrete pad (if necessary) for bike rack.

- Replace tennis nets.
- Replace restroom building and fencing.
- Relocate portion of sidewalk along first base line to accommodate bleachers.
- Install concrete pad behind home plate backstop for bleacher and picnic table placement.
- Install two (2) picnic tables.
- Install concrete pads for two picnic tables.
- Install fence around entire perimeter.
- Replace tennis court screen.
- Complete as-built survey of site utilities.

Water System

As outlined in Section 3 of the plan, the Town of Kill Devil Hills owns and maintains water distribution lines that serve the entire planning jurisdiction. The Town does not treat the water; it is purchased from Dare County at a negotiated rate and capacity. It is anticipated that the current demand and remaining allotted capacity will be adequate to support projected development throughout the planning period.

The Town will continue to follow and implement the water system improvement recommendations as outlined in the Town of Kill Devil Hills Water Master Plan.

Sewer System

As discussed in Section 3 of the plan, the Town of Kill Devil Hills does not provide wastewater treatment services to Town residents. The Town does maintain a sewer line along Ocean Acres Drive, which will continue operation through the planning period. A majority of the Town relies on conventional septic tanks treatment with subsurface drainfield disposal; however, properties within the Southern Sanitary District have access to a privately-owned wastewater facility through the Ocean Acres Wastewater System. The private system (KDHWWTP) is also available in other areas of Town at the property owner's expense. The Town will continue to rely primarily upon individual septic tank systems as a wastewater solution throughout the planning period. Septic tank failures have not been an impediment to development within the Town.

Street Maintenance

Town-Maintained Streets

As noted in Section 3, Kill Devil Hills' road network is comprised of private roads, Town-maintained streets, and state-maintained Colington Road, US Highway 158, and NC Highway 12. In total, the Town is responsible for maintaining 62.99 linear miles of public right-of-way. The Town of Kill Devil Hills utilizes funding provided, in part, through the Powell Bill program for maintenance and improvement of all town-maintained streets as well as the Town's Capital Reserve fund. The Town maintains a prioritized maintenance schedule that is revisited on an annual basis in accordance with the availability of Powell Bill funding in a given fiscal year.

A detailed breakdown of proposed street improvements is provided in Appendix E of the plan. This summary provides all proposed improvements recommended by the Town's Street Improvement Special Project Subcommittee through fiscal year 2021, as of the drafting of this plan.

State-Maintained Streets

The two main thoroughfares providing access to Kill Devil Hills, as well as a majority of the Outer Banks, are NC Highway 12 and US Highway 158. These roads are owned and maintained by NCDOT. The following provides a summary of proposed improvements regarding US 158 as outlined in the Dare County Comprehensive Transportation Plan, which was adopted in July 2015.

Identified Problem: Existing US 158 is projected to be over capacity by 2040 from the Currituck County line to 8th Street, and near capacity from 8th Street to US 64. There is significant congestion on this facility during the summer tourist season. The primary purpose of improving US 158 is to relieve congestion on the existing facility such that a minimum Level of Service (LOS) D can be achieved, and to improve mobility of the facility through Dare County, consistent with the North Carolina Strategic Highway Corridor (SHC) Vision Plan. Another desired outcome of this improvement is safety. An explanation of DOT level of service is provided in Appendix F.

Justification of Need: US 158 is a major corridor in Dare County that connects Currituck County in the north to US 64 on the southern end, which leads westward to Roanoke Island and the mainland. This facility is the primary north-south connector through the towns of Kitty Hawk, Kill Devil Hills, and Nags Head, which comprise the more densely populated portion of the Outer Banks in Dare County. It also serves as a parallel alternative to a portion of NC 12, which is a 2-lane facility that runs along the coastline through the entire length of the Outer Banks. By 2040, the facility is projected to be over capacity from the Currituck County line to 8th Street and near capacity from 8th Street to US 64, based on providing a LOS D. Summer weekday traffic counts are projected to increase in range from 20,800 to 34,500 vehicles per day (vpd) in 2012 to 27,500 to 45,500 vpd in 2040, compared to a LOS D capacity of 32,650 vpd for most of the facility.

Multi-Modal Transportation

Apart from the recommendations on the two major corridors through Kill Devil Hills, several sidepaths, sharrows, and signed routes are recommended to improve connectivity for cyclists and build on existing bike infrastructure. Additional multi-modal trails will supplement the 3.6 mile multi-use trail along Bay and Canal Drives on the west side of the island. Bicycle boulevards are recommended where roadways are connected for several blocks in a row between US 158 and NC 12. These boulevards will provide an alternative option for cyclists that prefer low-traffic roadways and can be implemented affordably within existing right-of-way.

Multi-modal transportation is critical to a barrier island coastal community such as Kill Devil Hills. Not only does this transportation provide an alternative source of travel for pedestrians and cyclist(s), but these facilities also serve as economic development opportunities, demonstrating improvements in quality of life for both citizens and visitors. Providing a robust multi-modal system assists in reducing overall trip counts, especially during peak summer months.

The following outlines needs and proposed improvements regarding multi-modal transportation in Kill Devil Hills as outlined in the Albemarle Regional Bicycle Plan completed in 2013:

- US 158 bears the weight of local access and regional mobility. Locally, the corridor serves as the commercial and residential lifeline for Kitty Hawk, Kill Devil Hills, and Nags Head. It also provides critical mobility for regional trips and during evacuations. US 158 is designated as a

boulevard in need of upgrade as part of the state's Strategic Highway Network. Several issues make the corridor dangerous for bicycle travel: high traffic volumes, unpredictable automobile movements, an inconsistent bicycle network, limited safe crossing opportunities, and multiple accesses cut from side streets and businesses.

- US 158 provides access to numerous activity centers (e.g., the Wright Brothers National Memorial) as well as the majority of the beach's commercial properties and residences. Many cyclist crashes have occurred along the corridor, indicating a need to address bicycle safety.

In addition to the improvements outlined above, the Town of Kill Devil Hills currently budgets $100,000 for expansion the Town's existing multi-use path and sidewalk network through the Town's Capital Reserve fund. As development occurs throughout Town, sidewalk installation will be required as outlined in the Town's Zoning Ordinance and Subdivision Regulations. A majority of the budgeted funds are being utilized to fill in gaps created through current and past development.

Stormwater Management

The Town of Kill Devil Hills prepared a Stormwater Management Plan in 2010, in an effort to reduce flooding and non-point source pollution associated with stormwater runoff, thus protecting public and private property and the resources crucial to the Town's economic viability and quality of life. Major topics of the Plan included the following:

A. Regulations, criteria and policies to reduce the negative effects that filling a developing property can have on adjacent already-developed land and Town rights-of-way.

B. Increased use, in public and private projects, of Best Management Practices (BMP's), especially infiltrative BMP's. A Stormwater Design Manual was suggested as a way of promoting infiltrative practices, including perforated storm drainage pipes encased in filter fabric ("sock drains"), depressed roadside swales and other areas where stormwater can collect and wait to infiltrate.

C. Allowance of modest increases in residential lot coverage in exchange for engineered BMP's.

D. More detailed standards for the "management" of 4.3 inches of rain (nominally, the 10-year, 2-hour event) in non-residential areas, including special provisions when storage within sandy soil is counted in addition to open storage volume, "freeboard" requirements on detention pond banks in areas where pond overflow would be detrimental, etc.

E. Inclusion of stormwater elements into public projects whose primary purpose may be street improvements or replacement of aged water distribution lines.

F. Clearer requirements that stormwater leaving a development site must be discharged to a suitable outfall.

Significant strides have been made toward achievement of these objectives set forth in the 2010 Stormwater Management Plan.

- For those affecting private development, most changes have been through policy and standards changes, as opposed to ordinance amendments. The extensive use of pervious concrete parking lot pavement in two major commercial developments in recent years is an example.

- In the case of public projects, the principles of B and E above have been thoroughly integrated into the design of the Town's capital improvement projects.

Several million dollars of stormwater infrastructure have been accomplished in the last 10 years, and such progress is programmed to continue well into the next decade in accordance with a schedule of projects reviewed annually by the Street Improvement and Special Projects Committee, the Planning Board, and the Board of Commissioners. Key elements of this long-range capital project planning, furthering the objectives listed above are:

- Significant capacity improvements in the main "trunks" of key stormwater systems in the area. For example, these have included:
    - A full ten-fold increase in the capacity of the Memorial Boulevard system from Ocean Bay Boulevard northward to Woodmere Avenue and wrapping the Wright Memorial property northward and westward to the NCDOT culvert under US 148 at Asheville Drive. These improvements, accomplished in 2015, provide primary service to 150 acres of land and secondary support to another 675 acres served primarily by the three ocean outfalls.
    - A two- to five-fold increase in the capacity of the drainage system drainage southward from the Dare Centre, across the Town's fire station/water storage and pumping complex and on through the Publix and Lowe's site (the latter accomplished by those private developments). These improvements serve over 200 acres, with incremental completion in 2012, 2018, and 2019.
    - Extensions of these systems in 2020 and beyond will bring further improvements to their more upstream reaches.
- The use of smaller-diameter "sock drains," typically with infiltration swales above them, has characterized every street improvement project from 2010 on, and some even older. These extremely cost-effective systems do convey stormwater to an outfall, but their even more important purpose is to manage the groundwater table, often for 200' or more to either side of the pipe itself. For example, if the "sock drain" system, installed 3.5' to 4' deep, has lowered the groundwater to 30" below the surface, the pores and that sandy soil is open to receive all the runoff from a 10-inch rain event. Since such an event typically includes short-duration bursts of very heavy rainfall rates, the provision of swales and other depressions above and near the "sock drain" are needed so that excess runoff can "wait its turn" to infiltrate into the dry soil. This strategy has been validated in several extreme rainfall events, either preventing flooding or, in the remarkable Hurricane Matthew event, significantly reducing its severity and duration. Accordingly, sock drain will continue to be a mainstay of the Town's storm drainage/stormwater management strategy.
- The Hurricane Matthew event of October 8/9, 2016 deserves special mention. 13.7 inches of rain were recorded to have fallen in Kill Devil Hills in less than a day, with about 13 inches falling between 10 pm and 4 am. Incredibly, using the nomograph generated by the NOAA Precipitation Frequency Data Server (PFDS), this represent the 2,000-year, 6-hour storm. The Town Engineer has opined that these extreme rain events seem to be more frequent and more severe than the past statistics which underlie the PFDS, and may be an effect of some degree of

climate change. In any case, regardless of exactly what Nature serves up, Town staff and Town Engineer propose to continue stormwater management policies that:

- Aggressively address historical drainage problem areas,
- Promote infiltration for better water quality,
- Avoid high-groundwater events that worsen flooding, and
- Accomplish these goals through innovative, cost-effective approaches.

Beach Nourishment

As noted in Section 3 of the plan, the Town of Kill Devil Hills recently completed the Town's initial beach nourishment effort involving 2.6 miles of beachfront. This project was completed in 2017 and has established a wide stretch of beach that will assist in mitigating potential storm damage associated with hurricanes, tropical storms, and nor'easters. Moving forward, the Town will monitor the project annually in accordance with the Beach Nourishment Shore Protection Maintenance Plan adopted in August 2017. Renourishment is scheduled on a 5-year interval in the plan. Funding will be provided through the County Beach Nourishment Fund (funds allocated through occupancy tax) and the Town's Municipal Service District associated with beach nourishment. It should also be noted that the North Carolina state legislature has recently established a fund for coastal nourishment efforts. It has not yet been determined how this fund will benefit the Town of Kill Devil Hills.

SUMMARY

- It is estimated that by the year 2035, the peak seasonal population in Kill Devil Hills will increase to 44,485.
- The Town of Kill Devil Hills Police and Fire Departments would like to establish a Public Safety Facility that would not only serve day-to-day needs, but will serve as an Emergency Operations Center during hurricane events in excess of a category 2 storm.
- The Town of Kill Devil Hills maintains 62.99 miles of public streets. Maintenance of these streets is funded, in part, through the Powell Bill program while the majority of funding comes from the Town's Capital Reserve fund. Improvement of these streets is determined annually through the Town's appointed Street Improvement Special Project Committee.
- The current Dare County Comprehensive Transportation Plan outlines a range of improvements to US Highway 158 to address traffic congestion along the corridor, especially during peak summer months.
- It is anticipated that current water supply capacity, as outlined in Section 3 of the plan, will be sufficient to support estimated demand through the planning period.
- The Town of Kill Devil Hills does not operate a central sewer system; however, sewer service is available through the private sewer service utility provider KDHWWTP, LLC.

INTRODUCTION

This section of the plan addresses Future Land Use including potential build-out of the Town of Kill Devil Hills. The Future Land Use Map provides an illustration of the Town's potential in terms of development and growth. There is not a significant amount of vacant property available for development within the Town of Kill Devil Hills. However, current uses of land as well as potential redevelopment indicate that careful consideration should be given to the future uses of land throughout the Town's planning jurisdiction.

It should be noted that the following portions of the plan are based on the draft Future Land Use Map, which makes the assumption that the existing zoning will primarily remain in place. The Conservation District allows single-family residential use with a two-acre minimum lot size.

FUTURE LAND USE MAP

Methodology

The Future Land Use Map (Map 13) embodies the Town of Kill Devil Hills' vision for future land use, and should be used as a foundational guide for decisions concerning the zoning/rezoning of property. NCGS 160A-383 requires the following consistency statement with regard to zoning amendments, which shall not be subject to judicial review:

1) A statement approving the zoning amendment and describing its consistency with an adopted comprehensive plan and explaining why the action taken is reasonable and in the public interest.

2) A statement rejecting the zoning amendment and describing its inconsistency with an adopted comprehensive plan and explaining why the action taken is reasonable and in the public interest.

3) A statement approving the zoning amendment and containing at least all of the following:

    a. A declaration that the approval is also deemed an amendment to the comprehensive plan. The governing board shall not require any additional request or application for amendment to the comprehensive plan.

    b. An explanation of the change in conditions the governing board took into account in amending the zoning ordinance to meet the development needs of the community.

    c. Why the action was reasonable and in the public interest.

If and when a zoning map amendment is requested and adopted upon recommendation of the Planning Board and approval by the Board of Commissioners, the Future Land Use Map will be revised without additional public hearing consistent with the rezoning action as defined in the North Carolina General Statutes.

The future land use analysis includes five (5) Future Land Use categories (refer to Map 13). These sectors are based on:

1) Current land use patterns;
2) Physical and man-made limitations;
3) Environmentally sensitive areas;
4) Input received from the Planning Board, public, and Town staff during development of the plan; and
5) Future Land Use goals and implementing strategies.

Future Land Use Categories

The following provides a definition of each Future Land Use category as depicted on Map 13.

Commercial

These portions of Town are dedicated to commercial land uses intended to provide goods, tourism-based services, and businesses and professional services to both citizens and visitors. This district allows single-family, duplex, and multi-family residential development as defined within the Town's Zoning Ordinance. Mixed use development is encouraged.

Corresponding Zoning Districts – Commercial (C)

Residential

These areas are planned primarily for single-family and duplex structures; however, multi-family (three units or more) development is permitted (if land is available). This category includes many existing areas that are already developed. It is the Town's intent to encourage only residential in this future land use category.

Corresponding Zoning Districts – Ocean Impact Residential (OIR), Low Density Residential (RL), High Density Residential (RH), Government and Institutional – Private (G/I-Private)

Conservation

The Conservation district involves portions of Town that are considered environmentally sensitive. Large portions of this district are protected from development through North Carolina state-owned deed restrictions and/or environmental conditions. Lots must be a minimum of two (2) acres unless platted prior to November 18, 1991. Lots platted prior to November 18, 1991, are "grandfathered" in.

Corresponding Zoning Districts – Maritime Forest Environmental District (MFED)

Industrial

These portions of Town are intended for use as light industrial facilities, which includes uses such as machine shops, warehousing/storage, and other commercially-based light manufacturing operations. This district provides a location on the Outer Banks for these facilities to serve the community. The availability of land for these uses is limited.

Corresponding Zoning Districts – Light Industrial One (LI-1), Light Industrial Two (LI-2)

Government and Public Institutional

These portions of the Town of Kill Devil Hills are dedicated to governmental/office type uses. This district includes both the Wright Brothers Memorial and the Town/County operational facilities. The properties within this district are not currently available for private sector development.

Corresponding Zoning Districts – Government and Institutional – Public (G/I-Public)

Future Land Use Acreages

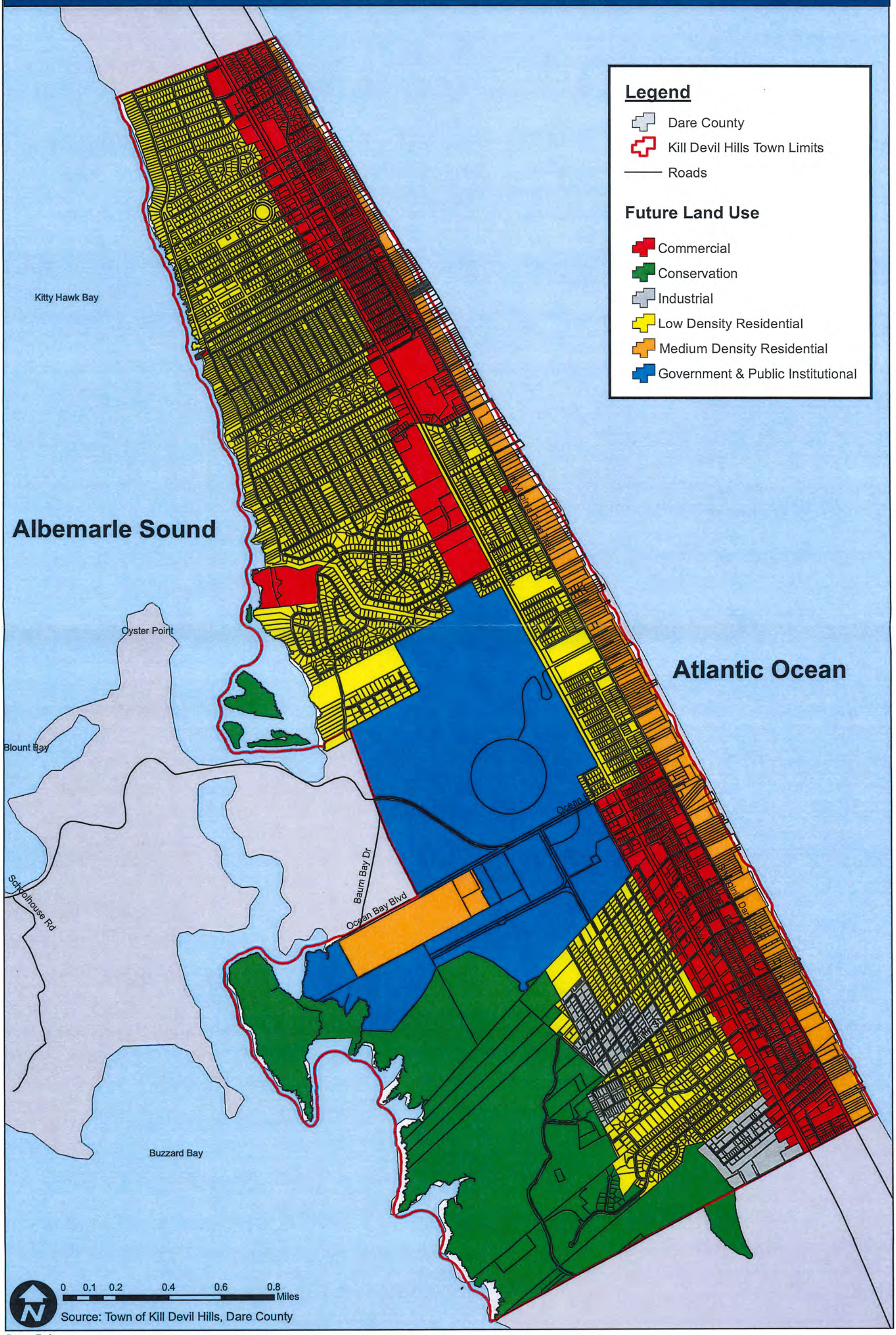
Table 18 provides a summary of acreages associated with the future land use map.

Table 18. Future Land Use

Land Use	Acres	% of Total
Commercial	944.2	30.3%
Conservation	539.6	17.4%
Industrial	95.9	3.1%
Low Density Residential	625.4	20.1%
Medium Density Residential	315.9	10.1%
Government & Public Institutional	591.8	19.0%
Total	3,112.8	100.0%

* See Introduction to this section, page 5-1.
Source: Dare County Tax Office, Town of Kill Devil Hills, HCP, Inc.

Map 13. Future Land Use



INTRODUCTION

This plan establishes goals and implementing actions for the land use/quality of life issues that will affect Kill Devil Hills' future. This section also responds to the NCAC 7B requirements for CAMA certified land use plans. The stated actions are designed to address issues which have been identified by the staff, Planning Board, Board of Commissioners, and citizens of Kill Devil Hills. The goals and implementing actions will also assist Town officials in making long-range decisions in such areas as economic development, provision of community services and facilities, transportation planning, community preservation, environmental management, and CAMA regulatory requirements.

This section of the plan includes specific implementing actions for each of the following areas of concern:

- Public Access.
- Land Use Compatibility.
- Infrastructure Carrying Capacity.
- Natural Hazard Areas.
- Water Quality.
- Local Concerns.

The responsibility for implementing the recommendations included in this plan belongs to the Kill Devil Hills elected officials. The adoption of this plan is not the end but rather the beginning of a continuous pragmatic process. Opportunity exists for the Town to provide positive direction to development as it continues to occur. Some of the actions stated in this plan may be implemented in months while others may require years to accomplish effectively. Planning is only as good as the commitment and abilities of the people responsible for implementing the plan. Kill Devil Hills is fortunate to have involved citizens, dedicated elected officials, and competent staff. It is expected that this benefit will continue into future years.

Goals and implementing actions frequently utilize the following words: *should, continue, encourage, enhance, identify, implement, maintain, prevent, promote, protect, provide, support, and work*. The intent of these words is defined as follows:

- *Should:* Follow an officially adopted course or method of action to implement the community goals. Though not mandatory as "shall," it is still an obligatory course of action unless clear reasons can be identified that an exception is warranted. Town staff and Planning Board should be involved at all levels from planning to implementation.

- *Continue:* Follow past and present procedures to maintain desired goal, usually with Town staff involved at all levels from planning to implementation.

- *Encourage:* Foster the desired goal through Town policies. Could involve Town financial assistance.

- *Enhance:* Improve current goal to a desired state through the use of policies and Town staff at all levels of planning. This could include financial support.

- *Identify:* Catalog and confirm resource or desired item(s) through the use of Town staff and actions.

- *Implement:* Take actions to guide the accomplishment of the Plan recommendations.
- *Maintain:* Keep in good condition the desired state of affairs through the use of Town policies and staff. Financial assistance should be provided if needed.
- *Prevent:* Stop described event through the use of appropriate Town policies, staff actions, Planning Board actions, and Town finances, if needed.
- *Promote:* Advance the desired state through the use of Town policies and Planning Board and staff activity at all levels of planning. This may include financial support.
- *Protect:* Guard against a deterioration of the desired state through the use of Town policies, staff, and, if needed, financial assistance.
- *Provide:* Take the lead role in supplying the needed financial and staff support to achieve the desired goal. The Town is typically involved in all aspects from planning to implementation to maintenance.
- *Support:* Supply the needed staff support, policies, and financial assistance at all levels to achieve the desired goal.
- *Work:* Cooperate and act in a manner through the use of Town staff, actions, and policies to create the desired goal.

PUBLIC INPUT

A successful planning process must have comprehensive, inclusive, and constructive input from the public. The plan will serve the needs of Kill Devil Hills' citizenry and should, therefore, be written on their behalf. Throughout the planning process, multiple methods were used to solicit public input. The Town's Planning Board, made up of key community representatives and citizens, was tasked with steering the consultant throughout the process. In addition to input received from the Planning Board, the results of the 2007 and 2017 public input surveys were analyzed. The 2007 public input survey was mailed to 5,985 property owners; the survey was completed by 1,488 property owners. The 2017 public input survey was disseminated via SurveyMonkey (an online survey software); approximately 1,600 responses were received. Appendix G provides a summary comparison of the 2007 and 2017 results. Overall, citizen opinion has not dramatically change since 2007 with the exception of off-shore oil exploration which was strongly opposed in 2017. The 2017 survey was completed by a slightly younger group than the 2007 likely due to the electronic survey versus the paper survey done in 2007. Town-wide meetings were also used to gather citizen input.

Project Website

At the outset of the project, a website dedicated to the preparation of the CAMA Land Use Plan was established (http://plankdh.com/). All information concerning plan development was posted on the website. The website provided continuous access for the public to obtain information and provide input. As of August 22, 2018, there had been 1,087 visitors to the website.

Public Meetings

The Planning Board conducted five (5) meetings to review/discuss the preparation of the CAMA Land Use Plan:

- February 20, 2018
- April 17, 2018
- May 15, 2018
- June 19, 2018
- September 18, 2018

On July 19, 2018, the Board of Commissioners and Planning Board conducted a joint public input/project review meeting. The policies/strategies proposed for this plan were reviewed. An open house meeting was conducted on _____, 20__, to allow the public an opportunity to review and comment on the draft plan prior to the public hearing held on _____, 20__. All meetings were advertised and open to the public.

GOALS

The following planning process goals have been heavily influenced by public input/opinion received during the planning process and the input of the Planning Board. An annual review of these goals should be conducted by the Board of Commissioners, and adjusted, if necessary, as implementation is accomplished.

- **Goal 1:** Support public involvement in the governance of Kill Devil Hills.
- **Goal 2:** Promote and protect a family values and beach atmosphere.
- **Goal 3:** Promote fiscal responsibility and the value of taxpayer dollars.
- **Goal 4:** Preserve the Town's natural resources.
- **Goal 5:** Achieve strategies which promote appropriate development and redevelopment.
- **Goal 6:** Promote better citizen understanding of land use planning.
- **Goal 7:** Preserve Kill Devil Hills' residential areas.
- **Goal 8:** Support Kill Devil Hills' local economy as a year-round community.
- **Goal 9:** Support actions to diversify Kill Devil Hills' local economy.
- **Goal 10:** Support infrastructure which will adequately serve the Town's future.
- **Goal 11:** Protect recreational water quality.
- **Goal 12:** Promote public beach access.

POLICIES REGARDING LAND USE AND DEVELOPMENT IN AEC'S

The Town of Kill Devil Hills accepts state and federal law regarding land uses and development in AEC's. By reference, all applicable state and federal regulations are incorporated into this document. No policies exceed the use standards and permitting requirements found in Subchapter 7H, State Guidelines for Areas of Environmental Concern. However, the Town of Kill Devil Hills does not consider the following issue to be relevant at this time within its planning jurisdiction: Peat or Phosphate Mining's Impact on any Resource.

The Areas of Environmental Concern and Fragile Areas within the Town's planning jurisdiction include the following:

- Public trust areas as defined in 15A NCAC 7H.0207 public trust areas.
- 404 wetland jurisdiction determinations (can only be made by Corps of Engineers personnel through individual on-site analysis).
- Fragile Areas.
- Estuarine waters as defined in 15A NCAC 7H.0206.
- Coastal shorelines as defined in 15A NCAC 7H.0209.

For the issuance of CAMA permits within areas of environmental concern, the state's minimum acceptable use standards are defined by 15A NCAC 7H. A local unit of government must adopt policies which are, at a minimum, equal to and consistent with the state's minimum use standards.

The second area of land use plan application is that of establishing policies to guide the jurisdiction's local planning. This situation may apply both within areas of environmental concern where CAMA regulations apply and in non-CAMA regulated areas of the Town's planning jurisdiction. Under North Carolina legislation, land use plans are not regulatory controls. Non-CAMA related recommendations must be implemented with local land use ordinances such as zoning or subdivision ordinances. If this plan recommends that the average residential density should be three dwelling units per acre within a particular area, then that density must be achieved through local zoning ordinance or other regulatory control. (This should not be confused with the interaction of the land use plan with the CAMA regulations and 15A NCAC 7H use standards).

The final area of application is that of "Consistency Review." Proposals and applications for state and federal assistance or requests for agency approval or projects are normally reviewed against a jurisdiction's land use plan to determine if the project is consistent with local policies. Inconsistencies of a project with local policies could serve as grounds for denial or revision of a project. For example, an individual or agency may request state or federal funding to construct a 30-unit low-to-moderate income housing project. If the proposed location of the project is within an area in which this land use plan states that the residential density should not exceed two dwelling units per acre, the project may be judged to be inconsistent with the local land use plan.

Note the following policy clarifications:

- No policy is subordinate to another.
- All management topics have equal status.

- The future land use map may show some areas in a developed category which may also include sensitive habitats or natural areas. The intent is that development should be designed/permitted to protect these areas through utilization of concepts such as cluster development. Development/project approval will be based on project design which avoids substantial loss of important habitat/environmentally sensitive areas.
- The US Army Corps of Engineers maintains jurisdiction over freshwater wetlands.

LAND USE PLAN MANAGEMENT TOPICS

A key objective of any comprehensive plan is the creation of a robust and achievable set of goals, policies, and implementing actions. These items should support implementation of the future land use map. Implementation of these strategies is the responsibility of the Town's elected officials, staff, and citizens. Decisions made as a result of this plan should serve to enhance the quality of life for residents, support long-term economic growth, and promote viable land use and development patterns. This plan serves as the Town's overall comprehensive plan and provides for compliance with the CAMA Land Use Plan requirements.

CAMA Land Use Plans must support the goals of CAMA, define the CRC's expectations for the land use policies, and provide a basis for land use plan review and certification. Goals, policies, and implementing actions are provided for each of the following CAMA management topics: Public Access, Land Use Compatibility, Infrastructure Carrying Capacity, Natural Hazard Areas, and Water Quality, in addition to other local areas of concern. These strategies apply to the Town's entire planning jurisdiction. Please note: Policies and Implementing Actions are numbered consecutively throughout this document with the letter "P" denoting a policy and the letter "I" denoting an implementing action.

This plan is intended to support Kill Devil Hills' vision statement (page 1-9). No negative impacts are anticipated by the implementation of the goals, policies, and implementing actions which are included in this plan. All implementing actions are prioritized/scheduled by: high; medium; low; or continuing. The scheduling for these priorities following plan adoption is: high - within 2 fiscal years (FY2018-2019 to FY2019-2020); medium - 3 to 5 fiscal years (FY2020-2024); low - 6 to 8 fiscal years (FY2025-2027); continuing - a daily implementing action. This schedule is subject to annual reviews and update of this Plan.

Note: It is intended that all policies are consistent with applicable State and Federal requirements when State and Federal requirements apply.

Public Access

Public access is important to the Town for the provision of recreational access and as a contributor to the Town's tourism industry and quality of life.

Management Goal: Maximize public access to the beaches and the public trust waters of the coastal region.

Planning Objectives: Policies that address access needs and opportunities, with strategies to develop public access and provisions for all segments of the community, including persons with disabilities. For oceanfront communities, establish access policies for beach areas targeted for nourishment.

Policies:

P.1 The Town supports the provision of access to the shoreline for residents and visitors of Kill Devil Hills, including persons with disabilities.

P.2 The Town supports improving its shoreline accessibility.

Implementing Actions:

I.1 Support the recommendations of the Shoreline Access Plan, including acquisition of land and improvements to access facilities including parking, paths, and dune crossovers. The Town favors updating the Shoreline Access Plan every five years as necessary. ***Schedule: Continuing.***

I.2 Continue to seek out grant funding for the establishment of new beach and estuarine access sites through the Town's jurisdiction. Special attention will be given to providing access to handicapped individuals. ***Schedule: Continuing.***

I.3 Maintain public access within the beach renourishment area to meet the US Army Corps of Engineers standards for participation in beach nourishment projects. ***Schedule: Continuing.***

I.4 Monitor the use of personal watercraft and consider regulations for sound and ocean operation, if deemed appropriate. ***Schedule: Continuing.***

I.5 Support channel maintenance activities in surrounding waters, particularly at the Dock Street public boat ramp and including partial local funding when necessary. ***Schedule: High.***

Land Use Compatibility

Land use compatibility is always an important issue as the Town seeks to balance growth with the protection of valuable natural resources. As development occurs, the Town desires to protect its maritime forest, estuarine, and extensive sensitive natural and open space areas. The future land use map reflects the concentration of future development.

Management Goal: Ensure that development and use of resources or preservation of land balance protection of natural resources and fragile areas with economic development, while avoiding risks to public health, safety, and welfare.

Planning Objectives: Policies that characterize future land use development patterns and establish mitigation criteria and concepts to minimize conflicts.

Policies:

P.3 The Town does not support heavy industry within its borders but supports commercial services and light industry in zoning districts where such uses are considered appropriate.

P.4 The Town supports redevelopment of developed areas only after review of plans for consistency with the Town's adopted plans and regulations. Redevelopment should enhance the appearance of the Town and improve the community atmosphere.

P.5 The Town supports the regulation of land uses of unincorporated land within one mile of the Town's jurisdictional limit and is not opposed to participating in friendly annexations if favorable to the Town.

P.6 The Town supports the efforts of the Historic Landmarks Commission to identify and designate the Town's historic structures.

P.7 The Town supports maintenance of its traditional low profile skyline and image by limiting building height. The Town supports maintaining the building height in the commercial and light industrial zoning districts as well as the lower height regulations in the residential and oceanfront zoning districts.

P.8 The Town supports the use of alternative energy resources for both residential and non-residential property owners. The Town supports offshore wind farms.

P.9 The Town supports maintaining low-density residential development in the vicinity of the Wright Brothers National Historic Site along those portions of US 158 not zoned commercial.

P.10 The Town will maintain its three-tier approach to land use and housing mix, with land west of US 158 used primarily for its permanent population residing in detached single-family dwellings. For land use east of NC 12, development of single-family homes, hotels, and multi-family structures for vacation rentals will be acceptable. Commercial zoning districts between the two highways will continue to contain single-family dwellings used in a commercial application as short-term vacation rentals as well as private residences.

P.11 It is Town policy that the Community Appearance Commission will advise the Board on improvements to the community's appearance, including studies and recommendations as may be necessary to enhance the NC 12 and US 158 corridors.

P.12 The Town supports enhancement to and the preservation of its family beach atmosphere and thus, does not encourage the construction, establishment, location, or operation of adult establishments within its borders or jurisdiction. However, the Town will permit those establishments in compliance with Town codes.

P.13 The Town encourages public participation in all land use decisions and procedure development processes and encourages citizen input via its boards, commissions, and agencies.

P.14 The Town supports the concept of a Town center or creation of walkable community areas.

Implementing Actions:

I.6 Protect identified areas of archaeological or historical significance. ***Schedule: Continuing.***

I.7 Encourage recreational activities including fishing and discourage commercial agriculture, forestry, and mining. ***Schedule: Continuing.***

I.8 Support the concept of streetscape planning along US 158 including lighting, landscaping, signage, design standards, traffic calming, sidewalks and other multi-modal improvements to create a uniform corridor. ***Schedule: High.***

I.9 Support regulation of signs through the Town's zoning ordinance. The Town does not support signs using LED, LCD, or similar technologies. ***Schedule: High.***

I.10 Work to accommodate the installation and use of alternative energy equipment and resources through amendments to the Town Zoning and Subdivision Ordinances. Potential text amendments will consider potential impacts on adjoining property owners regarding the installation and use of alternative energy. ***Schedule: High.***

I.11 Support efforts to provide workforce housing within the Town boundaries. ***Schedule: High.***

I.12 Study the impacts that may result from the placement of fill material and consider regulations with standards to mitigate impacts found to be detrimental to the Town. ***Schedule: Medium.***

I.13 Continue to monitor and assess all impacts of large single-family homes in Kill Devil Hills. ***Schedule: Continuing.***

I.14 Consider an update to the Town's current Zoning, Subdivision, and Flood Damage Prevention Ordinances in an effort to streamline the development process and reduce the potential for land use conflicts. The ordinance updates will focus on the best land use practices and overall protection of public and private infrastructure. ***Schedule: High.***

I.15 Support the current regulatory efforts to maintain a moderate growth rate. The Town also supports government action to promote redevelopment and to make the Town a more desirable place to live and locate. ***Schedule: Medium.***

I.16 Develop regulations to control outdoor display and storage of merchandise. ***Schedule: Low.***

I.17 Support improvements to the aging residential housing stock. ***Schedule: Low.***

Infrastructure Carrying Capacity

Diversification of the Town's economy is dependent upon maintaining and providing adequate community and infrastructure services. In addition, future Town capital improvements plans will strongly influence the location of future land uses.

Management Goal: Ensure that public infrastructure systems are sized, located, and managed so the quality and productivity of AECs and other fragile areas are protected or restored.

Planning Objectives: Policies that establish service criteria and ensure improvements minimize impacts to AECs and other fragile areas.

Policies:

P.15 The Town supports the establishment of a publicly-owned community-wide wastewater treatment system within the Government and Institutional Zone without surface water discharge of effluent for the protection of the health, safety, and welfare of the citizens of Kill Devil Hills and not to promote increased dwelling density.

P.16 The Town supports the use of package treatment plants in the interim if they are affixed to the units they serve and if both the package treatment plants and the units they serve are located within the boundaries of Kill Devil Hills. The Town supports requiring periodic and regular inspection of private septic systems.

P.17 The Town supports exactions and system development fees from developers for required services and infrastructure improvements necessary to address impacts created by development.

P.18 The Town opposes the placement of public and multi-service energy facilities other than carefully planned substations within Town borders and supports the placement of new and replacement distribution utility lines underground. The Town supports one electric transmission corridor within its municipal boundaries.

P.19 The Town supports a "pay as you go" policy for the construction and improvements of streets as may be necessary to improve traffic flow and drainage. The Town is not opposed to the concept of alternative funding policies including special assessments.

P.20 The Town advocates a public transportation system which addresses the needs of its seasonal population, seniors, and year-round residents.

P.21 The Town supports the installation of multi-modal transportation facilities. Potential facilities should include shared bike lanes, dedicated bike lanes, sidewalks, and multi-use trails. Sidewalks should be established on all major thoroughfares including US 158 and NC 12.

P.22 The Town supports the provision of adequate, accessible, well-maintained public recreational facilities.

P.23 The Town supports consolidation of services through inter-local agreements and contracts when services can be provided more cost efficiently through such agreements.

Implementing Actions:

I.18 Support the economical and efficient provision of potable water to its citizens and the construction and maintenance of facilities as necessary. Continue to rely on the Dare County Water Department for providing water. Work with Dare County to study additional and alternative water sources including maintenance of the Fresh Pond as a potable water source. ***Schedule: High.***

I.19 Support the concept of requiring those who generate the demand to pay for street improvements that may be necessary to provide for safe traffic movement. ***Schedule: Continuing.***

I.20 Support updates to the Street Improvement Master Plan, creating a comprehensive approach to right of way planning to include all forms of transportation, utility and stormwater needs. ***Schedule: Medium.***

I.21 Support the expeditious completion of the following inter-jurisdictional road improvement projects by the NC Department of Transportation:

- Projects necessary to mitigate drainage problems and provide pedestrian and bicycle amenities along NC 12 and US 158.
- Replace all wire and pole signals with mast arm signals.
- Projects necessary to improve the entire SR 1217 corridor including improvements to facilitate bicycle and pedestrian traffic.
- Complete the four-laning of US 64 from Raleigh to the coast.
- Construction of "Mid-County Bridge" across the Currituck Sound.
- Resurfacing/redesign/reconstruction of US 158.
- Pedestrian crossings at signalized intersections on NC 12 and US 158.
- Support planning for seasonal public transportation. ***Schedule: High***

I.22 Continue to levy fees and exactions for development and infrastructure improvements. Consider new fees where appropriate to address impacts created by development. ***Schedule: Continuing.***

I.23 Support curbside recycling and the current system of the Town's drop-off recycling center. ***Schedule: Continuing.***

I.24 Review and encourage implementation of the 2012 Albemarle Regional Bicycle Transportation Plan and update when NCDOT funds become available. ***Schedule: Low.***

I.25 Install multi-modal transportation facilities as new development occurs, streets are resurfaced, and through local investment as dictated by the Town's annual budget. These facilities should focus on establishing connectivity between bicycle and pedestrian infrastructure which currently exists throughout the Town's corporate limits. Solutions for various locations will be determined based on suitability and need. Special attention will be given to portions of Town where connectivity among existing facilities is lacking as well as beach and estuarine access points, parks, and community facilities. The Town will continue to fund construction of these facilities through the annual budget, Powell Bill funding, and grant funding (when available). ***Schedule: Medium.***

I.26 Support organized recreational activities and recommendations of the Recreational Facilities Plan. The Town favors updating the Recreational Facilities Plan at least every five years or as necessary. ***Schedule: Low.***

I.27 Support planning for public transportation on the Outer Banks including bus routes and stops to be considered with future roadway improvements. ***Schedule: Low.***

I.28 Continue to maintain a Capital Reserve Fund that will be based on an annually approved Capital Improvements Plan. The Town will plan for the timely and conservatively cost-effective provisions of major capital improvements and services based on anticipated growth and demand. ***Schedule: Continuing.***

Natural Hazard Areas

The preservation of natural hazard areas is important to the Town's quality of life and the economy. The Town must deal with a range of issues associated with natural hazards, from hurricane preparation to beach nourishment and management.

Management Goal: Conserve and maintain barrier dunes, beaches, floodplains, and other coastal features for their natural storm protection functions and their natural resources giving recognition to public health, safety, and welfare issues.

Planning Objectives: Policies that establish mitigation and adaptation concepts and criteria for development and redevelopment, including public facilities, and that minimize threats to life, property, and natural resources resulting from erosion, high winds, storm surge, flooding, or other natural hazards.

Policies:

P.24 The Town supports the guidelines of the Coastal Area Management Act (CAMA) and the associated policies of the Coastal Resources Commission (CRC) but reserves the right to oppose specific sections of CAMA and proposed rules or rule changes. The Town is opposed to any additional AEC designations or the extension or enlargement of any existing AEC designations within its borders.

P.25 The Town supports US Army Corps of Engineers regulations as applicable, reserving the right to oppose any proposed modifications to existing regulations. The Town supports properly permitted mitigation activities.

P.26 The Town supports the maintenance and management of maritime forests and supports the use of locally adopted management guidelines.

P.27 The Town supports the protection of fragile areas such as the Fresh Pond AEC and supports measures to mitigate potential adverse effects of industrial uses.

P.28 The Town supports long-term efforts to maintain and enhance the public trust beach through funding of a beach nourishment project using Federal, State, and local funds.

P.29 The Town will consider establishing a higher regulatory standard for flood damage prevention including flood development requirements within the "X" flood zone and increased freeboard requirements in Special Flood Hazard Areas.

P.30 The Town supports the Dare County Emergency Management Plan.

P.31 The Town supports a post-disaster fund of state monies to supplement Federal disaster relief aid to be allocated to North Carolina communities that have been declared major disasters.

Implementing Actions:

I.29 Continue to attend CRC meetings and submit opposition to regulations that will adversely affect development in Kill Devil Hills. ***Schedule: Continuing.***

I.30 Continue to monitor regulatory changes of USACOE and submit opposition to regulations that will adversely affect development in Kill Devil Hills. ***Schedule: Continuing.***

I.31 Continue to participate in the CAMA permitting process with the provision of a local permit officer. ***Schedule: Continuing.***

I.32 Require private owners of land in maritime forests to retain the natural wooded condition of their property in accordance with the Town zoning regulations. ***Schedule: Continuing.***

I.33 Support the development of a passive/public recreation area located within and adjacent to Fresh Pond. These facilities may include both water recreation and open space uses such as walking trails and picnic shelters. Seek grant funding as well as work with the Town of Nags Head in these efforts. ***Schedule: Medium.***

I.34 Support the preservation of the current undeveloped estuarine islands under the jurisdiction of Kill Devil Hills. ***Schedule: Continuing.***

I.35 Support the continued construction of properly permitted estuarine bulkheads, but do not issue bulkhead permits where substantial wetlands loss is imminent. ***Schedule: Continuing.***

I.36 Support the construction and revegetation of oceanfront sand dunes and oppose the mining of island dunes. ***Schedule: Continuing.***

I.37 Support Dare County's efforts in a storm protection project involving Kill Devil Hills, Duck, Southern Shores, Kitty Hawk, and Nags Head. The Town also favors non-structural responses to erosion such as acquisition of existing endangered structures, setbacks for new construction, and measures as may be necessary to protect property endangered due to erosion so severe that non-structural responses are impractical or ineffective. ***Schedule: High.***

I.38 Require that individual property owners bear the cost of site-specific protection measures and mitigation costs when such measures cause damage to public beaches and down-drift property owners. ***Schedule: Continuing.***

I.39 Support emergency measures such as emergency dunes and sand placement in response to storm events. ***Schedule: Continuing***

I.40 Support the following:

- Annual awareness campaigns and evacuation exercises.
- Bridge and road improvements as may be necessary to increase traffic flow on evacuation routes.
- Continuation of a full-time Dare County Emergency Management Coordinator and an annual update of the Dare County Hurricane Evacuation Master Plan and Disaster Assessment Team Personnel Roster.
- Erection of evacuation route identification signs during hurricane season. ***Schedule: High.***

I.41 Hold annual meeting for development community to provide updates on local, state, and federal floodplain regulations. ***Schedule: Continuing.***

I.42 Initiate an education program to inform the public about the danger of flooding and how to prevent property damage. ***Schedule: High.***

I.43 Continue to participate in the Community Rating System (CRS) to educate and make the community safer from flood risks and to reduce premiums for federal flood insurance. ***Schedule: Continuing.***

I.44 Continue to update and maintain the Town's Hurricane Preparedness Plan annually and conduct annual disaster preparedness exercises. ***Schedule Continuing.***

I.45 Maintain a Hazard Mitigation Plan for disaster preparedness and recovery. Work with surrounding communities in development and revision of the plan. ***Schedule: Medium.***

I.46 Participate in the federal Hazard Mitigation Grant Program to elevate severe repetitive loss structures. ***Schedule: High.***

I.47 Update priorities for the issuance of permits after a disaster to reflect priorities such as life safety services, essential public utilities and services, and repair of storm damage. Seek to educate and encourage those applying for building permits to exceed minimum regulatory standards (both flood prevention and construction standards) to increase resiliency during and after a storm event. ***Schedule: Continuing.***

I.48 Support the concept of wildlife management within the Town limits. Partner with The Nature Conservancy to manage deer and other wildlife as appropriate. ***Schedule: Continuing.***

Water Quality

Water quality is important to the Town's qualify of life and economic development. Water quality impacts the Town's natural assets and the activities of the Town's population. Preservation of the Town's water quality demands proper management of stormwater runoff.

Management Goal: Maintain, protect, and where possible, enhance water quality in all coastal wetlands, rivers, streams, and estuaries.

Planning Objectives: Policies that establish strategies and practices to prevent or control nonpoint source pollution and maintain or improve water quality.

Policies:

P.32 The Town supports mitigation of adverse impacts associated with stormwater runoff within Town limits.

P.33 The Town supports Federal, State, and local efforts for navigational dredging projects.

P.34 The Town is opposed to seismic testing and off-shore drilling for either exploration for, or production of, either oil or gas, and/or the location of onshore support facilities for such activities.

P.35 The Town supports voluntary water conservation measures.

P.36 The Town opposes floating homes and the residing upon or mooring of vessels in public trust waters adjacent to Kill Devil Hills.

Implementing Actions:

I.49 Continue to implement and update, as necessary, the Stormwater Management Plan. ***Schedule: High.***

I.50 Promote stormwater management on single-family dwellings through Best Management Practices to minimize effects. ***Schedule: Continuing.***

I.51 Enforce stormwater regulations for all non-single/two-family residential development. ***Schedule: Continuing.***

I.52 Oppose permit denial for navigational dredging projects if such denial is based on the presence of submerged aquatic vegetation. ***Schedule: Continuing.***

I.53 Preserve recreational water quality through implementation of the Stormwater Master Plan. *Schedule: Continuing.*

I.54 Provide comments to State agencies when appropriate regarding offshore leases, protective policies, and revenue streams. *Schedule: Continuing.*

Local Areas of Concern

In addition to the CRC Management Topics outlined above, CAMA guidelines also allow for the inclusion of policies to address local areas of concern. The following provides strategies which address concerns and/or issues unique to the Town of Kill Devil Hills.

Policies:

P.37 The Town supports tourism and its recognition as an industry. The Town supports measures that promote and enhance its public image.

P.38 The Town supports measures to provide continuous affordable insurance for Outer Banks residents and property owners. The Town opposes insurance increases solely targeted at coastal areas and supports equitable rates statewide validated by data.

P.39 The Town supports architectural and design standards for all development and redevelopment other than single-family and duplex dwellings.

P.40 The Town supports seasonal restrictions on beach driving and limiting driving to daylight hours.

Implementing Actions:

I.55 Support the continued provision of quality, affordable health care and the continued operation of a full service hospital in Dare County. *Schedule: Medium.*

I.56 Support the construction of additional educational facilities as may be necessary. *Schedule: Low.*

I.57 Retain existing vegetation on lots and parcels to the extent practicable. The Town will support preservation of existing vegetation. *Schedule: Low.*

I.58 Encourage citizen involvement through the Town's website, email communications, and attendance and participation at public meetings. *Schedule: Low.*

I.59 Sustain the tourist economy and diversification of workforce including expanding medical and educational facilities. Encourage development by increasing land use intensities in selective opportunity areas using environmentally sustainable techniques. *Schedule: Medium.*

I.60 Continue participation with NC-20 to lobby for equitable insurance premiums. *Schedule: Continuing.*

GUIDE FOR LAND USE DECISION MAKING

It is intended that this document be an integral part of the Kill Devil Hills decision-making process concerning future land use. This document should be consulted prior to any decision being made by the Kill Devil Hills staff, Planning Board, and/or Board of Commissioners concerning land use and development.

EXISTING MANAGEMENT PROGRAM

The existing management program includes the following plans/ordinances:

- CAMA Land Use Plan
- Flood Damage Prevention Ordinance
- Subdivision Ordinance
- Zoning Ordinance
- Storm Hazard Mitigation Plan
- Stormwater Management Plan
- Shoreline Access Plan
- Recreational Facilities Plan
- Street Improvement Master Plan
- Peddler and Itinerant Vendors/Special Events Ordinance
- Local Historical Sites
- Nuisance Ordinance

The Town maintains a full-time Planning and Inspections Department which includes a Planning Director, two full-time planners, zoning administrator, two building inspectors and a code enforcement officer. The Department administers, reviews, and advises on local, state, and federal grants. In addition, the Town has a Planning Board and Board of Adjustment which provide legislative and quasi-judicial oversight of the land use related plans and ordinances. The Town's Board of Commissioners has final approval authority for all plans/ordinances, except for Board of Adjustment decisions.

CONTINUING PLANNING PROCESS

This plan provides the framework upon which zoning and subdivision regulations and the capital improvements plan should be based. In fact, the preparation of a land use plan and map is mandated by North Carolina legislation as a prerequisite for zoning for both cities and counties.

Specifically, in implementing this plan, the following should serve as guiding land use/planning principles:

- Consider the future land use map as part of the policies included in this plan.
- Consult this plan, including the future land use map, during the deliberation of all rezoning requests and proposed text amendments.

- Consider the following in deliberation of all zoning petitions:
    - All deliberations should consider this plan's goals, implementing strategies, and future land use map.
    - All uses that are allowed in a zoning district must be considered. A decision to rezone or not to rezone a parcel or parcels of property cannot be based on consideration of only one use or a partial list of the uses allowed within a zoning district.
    - Requests for zoning changes should not be approved if the requested change will result in spot zoning. Spot zoning is a form of discriminatory zoning whose sole purpose is to serve the private interests of one landowner instead of furthering the welfare of the entire community as part of an overall zoning plan. Spot zoning is based on the arbitrary and inappropriate nature of a rezoning change rather than, as is commonly believed, on the size of the area being rezoned.
    - Zoning which will result in strip development should be discouraged. Strip development is a mélange of development, usually commercial, extending along both sides of a major street. Strip development is often a mixture of auto-oriented enterprises (e.g., gas stations, motels, and food stands), and truck-dependent wholesale and light industrial enterprises. Strip development may severely reduce traffic-carrying capacity and disrupt traffic flow of abutting streets by allowing for excessive and conflicting curb cuts.
    - Access management should be considered in all land use/zoning decisions.
    - The concept of uniformity should be supported in all zoning deliberations. Uniformity is a basic premise of zoning which holds that all land in similar circumstances should be zoned alike; any different circumstances should be carefully balanced with a demonstrated need for such different treatment.
    - Specifically, the Planning Board and Board of Commissioners should ask the following questions:
        - Is the request in accordance with this plan? Zoning regulations shall be made in accordance with the Town's Comprehensive Plan (NCGS 160A-383). When adopting or rejecting any zoning amendment, the Board of Commissioners shall also approve a statement describing whether its action is consistent with the Town's Comprehensive Plan and any other officially adopted plan that is applicable, and briefly explaining why the Board of Commissioners considers the action taken to be responsible and in the best public interest.
        - Will the request have a serious adverse impact on traffic circulation and other infrastructure?
        - Will the request have an adverse impact on other Town services, including police protection, fire protection, or public works?

- Is there a good possibility that the request, as proposed, will result in lessening the use of adjacent properties?
- Will the request, as proposed, cause serious noise, odors, light, activity, or unusual disturbances?
- Does the request raise legal questions such as spot zoning, hardship, or violation of precedents?
- Does the request adversely impact water quality or other natural resources?
- Will the request adversely impact beach maintenance or access?

Following adoption of this plan, the Town may implement the following to ensure effective citizen participation:

- Encourage diverse public participation and citizen input in all land use decisions and procedure development processes, and encourage citizen input.
- Publicize all meetings of the Planning Board and Board of Adjustment through newspaper advertisements, public service announcements, internet notices, and on the Town's website.
- Utilize broad-based advisory committees to assess and advise the Town on special planning issues/needs, including implementation of this plan.
- All Planning Department activities will be available on the Town's website.
- At a minimum, update this plan every five to seven years.

LAND USE PLAN AMENDMENTS

At which time the Town of Kill Devil Hills CAMA Land Use Plan needs to be amended, the Town will apply the guidelines for Land Use Plan Amendments under Subchapter 7B, Section 0901 of the North Carolina Administrative Code. A brief summary of those guidelines is provided below.

- The Land Use Plan may be amended as a whole by a single resolution or in parts by successive resolutions. The successive resolutions may address geographical sections, county divisions, or functional units of subject matter.
- The Town must hold a public hearing of which the public has been properly notified.
- Copies of the proposed amendment(s) must be available for review at the Town Hall during designated hours.
- The executive secretary or a designated agent of the Coastal Resources Commission shall be given notice of the public hearing, a copy of the proposed amendment(s), and a reason for the amendment(s).
- Amendments must be consistent with the Coastal Resources Commission's Land Use Planning Guidelines (15A NCAC 7B) and, if possible, with the Land Use Plans of adjacent jurisdictions.

- If possible, the Town shall adopt the plan amendments expeditiously following the close of the public hearing.
- The Town will provide the executive secretary of the Coastal Resources Commission with a copy of the amended text or maps, and certification of adoption within 7 days of adoption.

CITIZEN PARTICIPATION

For the preparation of this plan, the Kill Devil Hills Board of Commissioners adopted a citizen participation plan. A copy of that plan is included as Appendix A. Following adoption of this plan, Kill Devil Hills will implement the following to ensure adequate citizen participation:

- The Town will encourage public participation in all land use decisions and procedural development processes while encouraging citizen input via its boards and commissions.
- Kill Devil Hills will advertise all meetings of the Town's Planning Board and Board of Adjustment through newspaper advertisements, public service announcements, internet notices, and on the Town's website.
- The Town will, at least annually, conduct a joint meeting of the Board of Commissioners and the Town's Planning Board to identify planning issues/needs.
- Ensure that the membership of all planning related and *ad hoc* advisory committees has a cross-section of Kill Devil Hills' citizenry.

INTRODUCTION

The Town of Kill Devil Hills has initiated the preparation of an updated CAMA Land Use Plan (CAMA LUP) for the Kill Devil Hills planning area. The final document will serve as comprehensive plan for future public investment to achieve the community=s overall vision. The intent of this project is to draft a plan that will maintain the positive attributes of the existing Plan, while identifying new and strategic development goals and policies, and new and strategic public initiatives supported by the community.

Recognizing that a collaborative effort with the public is essential, the initial step in the planning process is the adoption of this Citizen Participation Plan (CPP) by the Kill Devil Hills Board of Commissioners. Approval of the CPP was accomplished on January 31, 2018.

RESPONSIBILITY

The Town of Kill Devil Hills Planning Board will supervise the preparation of the CAMA Land Use Plan Update. The town's staff and consultant will serve in an advisory capacity to the Planning Board. The updated CAMA Land Use Plan will be drafted by Holland Consulting Planners, Inc., the town's consultant. Final approval will be by the Town of Kill Devil Hills Board of Commissioners.

MEETINGS

All Planning Board meetings will be conducted in an open format which will encourage public involvement/engagement. The Planning Board will conduct up to five (5) work sessions to prepare the draft CAMA Land Use Plan Update. At a minimum, the following meetings will be conducted throughout the plan preparation process:

- Up to five (5) work sessions with the Planning Board and one (1) joint work session with the Board of Commissioners will be conducted. At each meeting, the location, date, and time of the succeeding meeting will be determined.
- A mid-project public review meeting to report overall project status and to obtain public input on progress to date. This meeting will be scheduled approximately five (5) months into the project, and will provide a summary of all data and issues identification obtained to date in the process.
- Submittal of draft plan to the Planning Board by the consultant. Following approval of a draft plan by the Planning Board, one (1) open house meeting for public review will be conducted to allow the public to question and comment on the draft plan prior to formal public hearing(s).
- Submit the plan to the Board of Commissioners for work session and consideration prior to submittal to the Division of Coastal Management.
- Following review and comments by the Division of Coastal Management, present the final plan at a public hearing.

PUBLIC NOTIFICATION

As public bodies, all meetings of the Planning Board and Board of Commissioners are conducted in an open and transparent manner. All meetings are open to the public and Kill Devil Hills citizens are encouraged to attend and participate.

To ensure public awareness of the CAMA LUP project, meeting times and dates, project updates, and public participation opportunities, and to increase ease of access to CAMA LUP-specific information, we proposed the following:

- The project team will create and maintain an interactive CAMA LUP-dedicated website to both collect and disseminate information. The website will be especially valuable in reaching out to non-resident property owners. Project progress, public notifications, and the draft plan will be posted on this website for ease of public review and comment.
- Development of a public information video using Staff, the consultant, elected officials, Planning Board members for broadcast on the CurrentTV, and placement on the CAMA LUP website, and the Town's Facebook page and www.kdhnc.com website.
- Legal and commercial advertising will be placed in The Coastland Times, the Outer Banks Sentinel, and the on-line newspaper, Outer Banks Voice. Additionally, all advertisements will be placed on the specialized CAMA LUP-dedicated website, the KDH website, www.kdhnc.com, the Town's Facebook pages (Administration, Police, and Fire/Ocean Rescue), posted on all Town bulletin boards, and electronically distributed.
- Sign-up sheets will be placed in the Kill Devil Hills Administration Building at all departmental public greeting areas, at the Dare County Public Library, 400 Mustian Street, Kill Devil Hills, at all meetings of public bodies and other groups held at the Town Hall, for interested persons and groups to register to receive electronic messaging, including meeting notifications, update information, and opportunities for review of the CAMA Land Use Plan Update. Similar opportunities for registration will be placed on the Town's website and Facebook pages. Staff will transmit lists updates to the consultant on an at-least bi-weekly basis. Individuals who place their names on this list will be mailed or emailed notices announcing meeting times for review of the CAMA Land Use Plan Update.
- The Town will utilize email and electronic communications on all aspects of the public participation program to public distribution lists, civic groups, interested groups and organizations.

DISSEMINATION OF INFORMATION

The following procedures will be utilized to ensure the availability of information:

- Copies of the draft CAMA LUP will be available for public review in the Planning or Administration Departments in the Administration Building, 102 Town Hall Drive; and the Dare County Library, 400 Mustian Street.

- Using the sites and methods of public notification provided in the Public Notification section, the availability of the draft plan will be publicly announced and the draft document will be posted for public review and/or printing. Information regarding the location of the online document will be included in all published notices of Planning Board meetings, and communicated at all meetings of the Board of Commissioners.
- As they are readied for discussion, sections of the draft plan will be provided to the Planning Board prior to any meetings at which they will be discussed. Planning Board meetings materials, as well as Board of Commissioners meetings materials, are all posted on the Town's website and linked to the Administration Facebook page, for public information and review.
- Copies of the draft CAMA LUP or sections of the draft plan may also be obtained from the Planning or Administration Departments, in the Administration Building, 102 Town Hall Drive.

PUBLIC COMMENT

Throughout the process, the public will have the following opportunities for input:

- At each Planning Board meeting, time will be allocated for public comment, both written and oral, which includes the opportunities for questions.
- At any time during the preparation of the draft plan, the public may submit written or email comments. Information on how to submit such comments will be provided on public notices and advertisements, Facebook pages, and websites.
- The town-wide mid-project status meeting/public input session, Planning Board work sessions, open house, and public hearing will all provide additional opportunities for public input and questions.

SCHEDULE

The CAMA Land Use Plan planning process will utilize the following schedule:

Phase	Project Task	Timeframe
Phase I:	• Issue Notice to Proceed	December 2017
	• Project Initiation/Public Involvement Strategy	December 2017-January 2018
Phase II:	• Research and Analysis	January-April 2018
Phase III:	• Plan Format/Development	May 2018-February 2019
Phase IV:	• Submit plan to the NC Division of Coastal Management for review and comment (75-day review period required)	March-May 2019
	• Public Hearing	To be determined

Table 7.2.5 Dare County Mitigation Strategies

Action #	Description/Strategy	Hazard(s) Addressed	Relative Priority	Lead Agency / Department	Potential Funding Source	Implementation Status
DAR1	Identify Funding to improve stormwater drainage and land management preparation for flooding	Hurricanes, Nor'easters, Severe Thunderstorms, Floods	Medium	Dare County Planning	General Fund, Grant Funds	Seek funding from mitigation sources at state/fed level. Utilize academic partners to leverage combined assessment revenues.
DAR2	Identify problem areas and prioritize projects to improve drainage systems throughout the county.	Hurricanes, Nor'easters, Severe Thunderstorms, Floods	High	Dare County Planning	General Fund	Actively pursue damage assessment using GIS mapping techniques after each significant event
DAR3	Enforce ordinances that prevent fill or structures without a drainage plan.	Hurricanes, Nor'easters, Severe Thunderstorms, Floods	High	Dare County Planning	General Fund	Routinely Enforce the Dare County flood ordinance regulations for fill in the VE flood zones.
DAR4	Assist property owners with safe and efficient clean up after storm events by implementing yearly contract with debris removal services	Hurricanes, Nor'easters, Severe Thunderstorms, Floods	Medium	Dare County Planning, Dare County Soil and Water Board	General Fund, Grant Funds	Continue yearly contract renewal with debris removal services. Compose media template for public outlining county debris plan and debris pick-up separation of items Seek FEMA/state funding for reimbursement after storm events
DAR5	Increase the number of properties that meet and exceed the published Base Flood Elevations	Hurricanes, Nor'easters, Severe Thunderstorms, Erosion, Flood, Tsunami	High	Dare County Planning, Dare County Emergency Management	General Fund	All new structures permitted under County's review have to meet or exceed the published Base Flood Elevations and based on annual permitting reports meet strategy.
DAR6	Utilize existing post storm information and GIS mapping to identify the most vulnerable structures in the County.	Hurricanes, Nor'easters, Severe Thunderstorms, Erosion, Flood, Tsunami	High	Dare County Planning, Dare County Emergency Management	General Fund, Grant Funds	County participate in Regional Plan that has vulnerability review of structures in County, will seek additional grant funding for mitigation of vulnerable structures identified.

Action #	Description/Strategy	Hazard(s) Addressed	Relative Priority	Lead Agency / Department	Potential Funding Source	Implementation Status
DAR7	Implement a repetitive loss plan to reduce the potential damage from future events.	Hurricanes, Nor'easters, Severe Thunderstorms, Erosion, Flood, Tsunami	High	Dare County Planning, Dare County Hurricane Recovery	General Fund, Grant Funds	Additional grant funding to elevate 44 homes secured by Dare County after Hurricane Irene, work on elevation to be completed by 2015
DAR10	Identify and prioritize funding to mitigate vulnerable structures and develop the repetitive loss plan	Hurricanes, Nor'easters, Severe Thunderstorms, Erosion, Flood, Tsunami	High	Dare County Planning Emergency Management	General Fund, Grant Funds	Repetitive loss map/plan identified as CRS goal for 2015 update, incomplete.
DAR11	Implementation and Enforcement of CAMA Use Standards for Coastal Wetland AECs as Identified under 15NCAC7H, Section 0205 and 0208	Hurricanes, Nor'easters, Flood	Medium	Dare County Planning	Grant Funds	Dare County continues to provide LPO assistance in unincorporated Dare County. County per CAMA has adopted Land Use Plan. All development within AEC may require CAMA major permit and must be consistent with County's adopted plan.
DAR12	Continue to Administer the CAMA Local Enforcement Program and Maintain the Staff Necessary for this Work	Hurricanes, Nor'easters, Flood	Medium	Dare County Planning	General Fund	County provides Local Permit Officer assistance in unincorporated Dare County.
DAR13	Refer Applicants to U.S. Army Corps of Engineers Permit Program, Specifically Section 404	Hurricanes, Nor'easters, Flood	Medium	Dare County Planning	General Fund	As needed for individual development projects and subdivision projects County refers Applicants to U.S. Army Corps of Engineers Permit Program, Specifically Section 404 for Wetland development
DAR14	Facilitate Implementation of Permit Program for Wetland Management	Hurricanes, Nor'easters, Flood	Medium	Dare County Planning	General Fund, Grant Funds	Incomplete, No local wetland permit program established, refer all applicants to US Army Corps of Engineers.
DAR15	Protect transportation routes and improve traffic flow along NC 12. Improve NC 12 to a two lane road and coordinate traffic signals.	Hurricanes, Nor'easters, Flood	Medium	Dare County Planning, Dare County Emergency Management, NCDOT	NCDOT	Annually attend RPO meetings that make recommendations for the State's Transportation Improvement Program. Funding that is programmed in STIP has to meet the criteria and recommended as Regional, Statewide project.
DAR16	Advocate the replacement of the Bonner Bridge.	Hurricanes, Nor'easters, Flood, Erosion	High	Dare County Planning, Dare County Emergency Management, NCDOT	NCDOT	NCDOT working to replace bridge; lawsuits from environmental courts have resulted in delays, no action.
DAR17	Establish secondary water supplies/points for fire protection efforts.	Hurricanes, Nor'easters, Flood, Wildfire	Medium	Dare County Fire Marshal	Grant Funds	New Action, funding to be sought.
DAR18	Acquire generators or other forms of redundant power supply to ensure that critical facilities and infrastructure remain operational where normal power supply is not available	All Hazards	Medium	Dare County Fire Marshall	Grant Funds	New Action, funding to be sought.

Action #	Description/Strategy	Hazard(s) Addressed	Relative Priority	Lead Agency / Department	Potential Funding Source	Implementation Status
DAR19	Require Realtors to disclose flood zones. Develop and maintain relations with Real Estate Community and provide outreach and educational opportunities. Provide access to floodplain maps and floodplain information for the Real Estate Community.	Hurricanes, Nor'easters, Flood	Medium	Dare County Planning	General Fund	Expanded outreach includes Real Estate community and receives feedback on planned brochures. Completed: Flood disclosure required on Real Estate Disclosure Forms.
DAR20	Enhance NFIP information by distributing NFIP brochures and including up to date flood maps on the County website.	Hurricanes, Nor'easters, Flood	Medium	Dare County Planning, Dare County GIS	General Fund	Completed.
DAR21	Coordinate with NC Floodplain Mapping on public dissemination of updated floodplain maps.	Hurricanes, Nor'easters, Flood	High	NC Floodplain Mapping, Dare County Planning	General Fund	Updated Flood maps are posted on County's website.
DAR22	Continue to participate in the Community Rating System. Look for additional activities to implement to improve Class rating.	Hurricanes, Nor'easters, Flood	High	Dare County Planning	General Fund	Actively engages the CRS committee for Dare County. Annually do mailings that address drainage methods and storm recovery activities to the public.
DAR23	Continue participation in Storm Ready program.	Hurricanes, Nor'easters, Flood	High	Dare County Emergency Management	General Fund	New Action
DAR24	Develop Emergency Response Plan for Road/Bridge Loss	Bridge Collapse, Transportation Infrastructure Failure	High	Dare County Emergency Management, NCDOT	General Fund	County staff works closely with NCDOT officials and annually advocate at RPO meetings bridge/road improvements for State's Transportation Improvement Plan.
DAR25	Advocate for Beach Replacement	Hurricanes, Nor'easters, Flood, Erosion	High	DCBC/Manager	Grant Funds	Annually brief local representatives in State Legislature, invited to attend County's budget retreat.
DAR26	Circulate brochures on all hazards identified in the risk assessment to educate the public on protective actions that they can prepare for in their disaster plans.	All Hazards	Low	Dare County Emergency Management	General Fund	CRS outreach activities completed annually, brochures available in Planning offices. Expanded activities to include all hazards. Expanded outreach includes Real Estate community and receives feedback on planned brochures. Brief annually local representatives in State Legislature, invited to attend County's budget retreat. Flood maps are posted on County's website.
DAR27	Conduct annual outreach activities to increase awareness of all potential hazards that affect Dare County.	All Hazards	Medium	Dare County Emergency Management, Dare County Planning	General Fund	New Action
DAR28	Prioritize and Fund Critical Drainage Projects that improve stormwater drainage and land management preparation for flooding.	Hurricanes, Nor'easters, Flooding, Thunderstorms, Tidal Flooding	High	Dare County Planning	Grant Fund	Grants funds are secured when available to assist homeowners with drainage improvements. Received grants funds from Department of Agriculture for "snag and drag" cleanup of ditches in Wanchese. Phase 1 completed in fall 2014 and Phase 2 scheduled for mid-2015.

Action #	Description/Strategy	Hazard(s) Addressed	Relative Priority	Lead Agency / Department	Potential Funding Source	Implementation Status
DAR29	Educate the public with assistance with safe and efficient clean up after storm events.	Hurricanes, Nor'easters, Flooding, Thunderstorms, Tidal Flooding	High	Dare County Planning	General Fund	Dare completes annual CRS outreach activity in August to all property owners in unincorporated Dare County. Additionally, a flood damage response placket to be used immediately following a flood event will be developed later this summer as part of our CRS outreach activities.
DAR30	Fund and implement assistance to property owners with safe and efficient clean up after storm events.	Hurricanes, Nor'easters, Flooding, Thunderstorms, Tidal Flooding	High	Dare County Planning	General Fund	Dare County has a storm debris agreement with a private contractor already in place should storm event occur. This allows for pre-positioning of equipment and personnel before event for faster responses to affected areas.
DAR31	Develop plan to increase the number of properties that meet and exceed Base Flood Elevation (BFE).	Hurricanes, Nor'easters, Flooding, Thunderstorms, Coastal Erosion, Tidal Flooding, Tsunami	High	Dare County Planning	General Fund	Flood Prevention Ordinance revised in January 2014 to require 1-foot freeboard for all new construction and substantial improvements. All utilities and ductwork must also be elevated to comply with 1-foot freeboard. Submission of elevation certificate to verify compliance with 1-foot freeboard is required.
DAR32	Prioritize funding to increase the number of properties that meet and exceed BFE.	Hurricanes, Nor'easters, Flooding, Thunderstorms, Coastal Erosion, Tidal Flooding, Tsunami	High	Dare County Planning	General Fund, Grant Funds	Elevation of hazard mitigation grant currently underway -- 44 homes to be elevated by end of 2016 with funding secured after Hurricane Irene. Full-time staff is employed to oversee grant project. Structures are all elevated to be consistent with freeboard requirement of Dare County Flood Prevention Ordinance.
DAR33	Lobby State Legislators to require realtors to disclose flood zones.	Hurricanes, Nor'easters, Tidal Flooding, Flooding	Medium	Dare County Planning	General Fund	Work with Dare's elected representatives in NC House and NC Senate for the consideration of legislation requiring disclosure standards for all real estate transactions including for sale by owners and long-term lease agreements.

Action #	Description/Strategy	Hazard(s) Addressed	Relative Priority	Lead Agency / Department	Potential Funding Source	Implementation Status
DAR34	Lobby local realtors board to require realtors to disclose flood zones	Hurricanes, Nor'easters, Tidal Flooding, Flooding	Medium	Dare County Planning	General Fund	Inclusion of representatives from real estate industry on CRS committee for outreach activity. Development of disclosure brochures for distribution at local realtors' offices planned as part of 2015 CRS outreach activities. Amendments to flood ordinance, zoning ordinance and subdivision ordinance adopted in February 2015 requiring disclosures of flood hazard/CBRA zoning on all new plats, site plans, and at time of building permit issuance.
DAR35	Circulate Brochure on NFIP to enhance NFIP information.	Hurricanes, Nor'easters, Tidal Flooding, Flooding	High	Dare County Planning	General Fund	CRS outreach activities completed annually; brochures available in Planning offices. Links to NFIP information posted on Dare County webpage as part of CRS outreach activities.
DAR36	Put Flood Maps on the County's Website to enhance NFIP information.	Hurricanes, Nor'easters, Tidal Flooding, Flooding	High	Dare County Planning	General Fund	Flood zone layer available on Dare County GIS, link to flood maps also on Dare County webpage.
DAR37	Continue to Participate in CRS Activities to enhance NFIP information.	Hurricanes, Nor'easters, Tidal Flooding, Flooding	High	Dare County Planning	General Fund	Dare County remains an active participant in the CRS program, implementation of new activities to maintain current class 8 ranking with possible increase to class 7 are being developed. Development of PPI, enhanced webpage, freeboard, non-conversion deed restrictions are examples of some activities already adopted or in development.
DAR38	Update FIRM to enhance NFIP information.	Hurricanes, Nor'easters, Tidal Flooding, Flooding	High	Dare County Planning	General Fund	Anticipated August 2015 release of new FIRMS for Dare County, with procedures implemented by Dare County for adoption of new FIRMS and associated flood ordinance revisions as part of mapping initiative by end of 2016.

Table 7.2.7 Town of Kill Devil Hills Mitigation Strategies

Action #	Description/Strategy	Hazard(s) Addressed	Relative Priority	Lead Agency / Department	Potential Funding Source	Implementation Status
KDH1	Continue to enforce the zoning ordinance and amend when necessary	Hurricanes, Nor'easters, Floods, Erosion	High	Planning Dept., Board of Commissioners, Building Inspect.	General Fund	Incomplete; KDH shall continue to monitor the zoning ordinances to enforce and amended based on community needs.
KDH2	Provide technical assistance to customers/citizens and continue to enforce current flood hazard ordinance.	Hurricanes, Nor'easters, Floods, Erosion	High	Planning Dept., Building Inspector, Board of Commissioners	General Fund	Customers provided technical assistance and flood damage prevention ordinance is enforced; BFE violations were corrected and others in process.
KDH3	Support efforts to preserve natural areas.	Hurricanes, Nor'easters, Floods, Erosion	High	Planning Dept.	General Fund	The Town took no action other than to maintain ownership of its natural areas.
KDH4	Continue to implement the stormwater management plan.	Hurricanes, Nor'easters, Floods, Erosion	Medium	Planning Dept., Public Services	General Fund	Plan was updated; concepts and Drainage projects were implemented.
KDH5	Continue mowing drainage ditches and conduct normal maintenance and storm event driven maintenance.	Hurricanes, Nor'easters, Floods, Erosion	High	Public Services, NCDOT	General Fund	Ditch maintenance schedule implemented which included pre & post storm events.
KDH6	Monitor changes to the State Building Code and modify local regulations as necessary to minimize damage.	All Hazards	High	Planning Dept., Building Inspector	General Fund	Inspectors accomplished annual training and enforced revisions to building codes.
KDH7	Expedite permitting for the relocation of repetitive loss situations.	Hurricanes, Nor'easters, Floods, Erosion	Low	Planning Dept.	General Fund	No repetitive loss relocation opportunities were present.
KDH8	Encourage repetitive loss properties to consider acquisition as a possible solution.	Hurricanes, Nor'easters, Floods, Erosion	Low	Planning Director, Board of Commissioners	Grant Funds	The Town took no action other than outreach efforts.
KDH9	Building Elevation – Continue enforcing the base flood elevation requirement of the Town's Flood Damage Prevention Ordinance.	Hurricanes, Nor'easters, Floods, Erosion	High	Asst. Planning Director, Building Inspector	General Fund	Required documentation for new construction and additions to existing structures.
KDH10	Maintain outreach efforts and continue making flood insurance available to the Town's residents.	Hurricanes, Nor'easters, Floods, Erosion	High	Planning Dept., Town Clerk	General Fund	Outreach included flood insurance and Biggert-Waters Insurance Reform and Grimm Waters Acts information.
KDH11	Continue ongoing beach nourishment efforts.	Hurricanes, Nor'easters, Floods, Erosion	High	Planning Director, Board of Commissioners	General Fund	Town contracted with a Consultant to provide permitting and offshore sand search information.
KDH12	Continue to utilize the zoning ordinance and the Land Use Plan to protect wetlands, implement and enforce CAMA AEC regulations and refer applicants to US Army Corps of Engineers for Section 404 wetlands.	Hurricanes, Nor'easters, Floods, Erosion	High	US Army Corps of Engineers, Planning Dept., NCDENR	General Fund	Continued awareness of wetland protection, but no implementation at this time.
KDH13	Continue to support coastal barrier protection efforts by the State.	Hurricanes, Nor'easters, Floods, Erosion	High	CAMA, Planning Dept.	General Fund	Continued awareness of coastal barrier, but no implementation at this time.

Action #	Description/Strategy	Hazard(s) Addressed	Relative Priority	Lead Agency / Department	Potential Funding Source	Implementation Status
KDH14	Continue to enforce local and state regulations.	Hurricanes, Nor'easters, Floods, Erosion	High	Planning Dept.	General Fund	Through plan approvals, site inspections and reporting to State.
KDH15	Support local CAMA officer with compliance efforts within the AECs.	Hurricanes, Nor'easters, Floods, Erosion	High	CAMA LPO	General Fund	Remained active with training and implemented the CAMA Local Permit Officer Program.
KDH16	Preserve surface water quality and enhance water quality through stormwater management and zoning.	Hurricanes, Nor'easters, Floods, Erosion	Medium	Planning Dept., Public Services	General Fund	Stormwater management plan was updated with a greater focus on water quality.
KDH17	Continue to enforce the Maritime Forest Environmental Zoning District.	Hurricanes, Nor'easters, Floods, Erosion, Wildfire	High	Planning Dept.	General Fund	Enforced the Maritime Forest Environmental District Ordinance.
KDH18	Facilitate a safe and efficient evacuation and where possible, reduce damage.	All Hazards	High	Dare County Control Group	General Fund	Participated with Dare County Control group for evacuation.
KDH19	Coordinate efforts to expedite reconstruction and rebuilding efforts in cooperation with Dare County Emergency Management staff.	All Hazards	High	Planning Dept.	General Fund	Participated with Dare County and Town staff for reconstruction and rebuilding efforts.
KDH20	Coordinate efforts to expedite recovery.	All Hazards	High	Planning Dept., Board of Commissioners	General Fund	Coordinated efforts within its own organization and with State and local agencies.
KDH21	Take appropriate actions to prevent and/or minimize damages to critical facilities. Use generators or other forms of redundant power to ensure that critical facilities and infrastructure remain operational.	All Hazards	High	Police, Fire & Rescue, Public Works, NC Dominion Power	General Fund	Train for preparedness, response and recovery and to protect critical facilities by utilizing shutters on windows. Accomplished scheduled maintenance of Town drainage ditches.
KDH22	Work with NCDOT Strategic Office of Planning to enhance and construct infrastructure for evacuation.	All Hazards	High	Planning Dept.	General Fund	No action at this time.
KDH23	Implement Water Systems Master Plan.	Wildfire	High	Public Services, Water Department	General Fund	No action taken.
KDH24	Develop ongoing protocols to assure the maintenance of critical public services.	All Hazards	Medium	Police, Fire & Rescue, Public Works, Dare County Emergency Management	Water Fund	Town Departments were exercised and trained for preparedness, response and recovery.
KDH25	Continue protection efforts concerning the Fresh Pond and maintain liaison with NC Division of Coastal Management concerning the development of the Kill Devil Hills Land Use Plan.	Hurricanes, Nor'easters, Flood, Winter Storm	High	Planning Dept., CAMA	General Fund	Continued awareness for Fresh Water Pond AEC, although no longer used as a potable water source.
KDH26	Continue to implement the stormwater management plan.	Hurricanes, Nor'easters, Flood, Erosion	Medium	Public Services	General Fund	Plan Updated with concepts implemented through site plan review.
KDH27	Encourage beach nourishment as a storm protection measure and search for funding.	Hurricanes, Nor'easters, Flood, Erosion	High	Board of Commissioners, Dare County Commissioners	General Fund	Contracted with Consultant to provide permitting and offshore supplementals for beach nourishment.
KDH28	Maintain updated flood map information for citizens and customers.	Hurricanes, Nor'easters, Flood, Erosion	High	NC Division of Emergency Management, Planning Dept.	NCEM	Provided information to citizens through public outreach and customers.

Action #	Description/Strategy	Hazard(s) Addressed	Relative Priority	Lead Agency / Department	Potential Funding Source	Implementation Status
KDH29	Compile and maintain current information in the Kill Devil Hills Floodplain Management Library.	Hurricanes, Nor'easters, Flood, Erosion	Medium	CRS Coordinator	General Fund	Continued awareness to maintain the Floodplain Management Library; Scanning documents to enhance digital archives.
KDH30	Continue to utilize technical assistance from state and federal agencies and private consultants to provide appropriate technical assistance to citizens and customers.	All Hazards	High	Building Inspector, Planning Dept.	General Fund	Continues to utilize outside resources.
KDH31	Initiate outreach projects to inform the public on Town and County initiatives that will reduce hazard related losses of property and life.	All Hazards	Medium	Planning Dept., Dare County Emergency Management	General Fund	Continued annual outreach projects through joint mailings, public library and Town website.
KDH32	Work with print, radio, and television media to effectuate outreach efforts in cooperation with Dare County and neighboring municipalities to educate the public on additional hazards identified in the risk assessment.	All Hazards	Medium	Planning Dept., Dare County Emergency Management	General Fund	Provided printed information and continues to air a hurricane awareness video for television and provided website updates for its citizenry.
KDH33	Develop updated floodplain map for public dissemination *(New Strategy).*	Hurricanes, Nor'easters, Flood, Erosion	Medium	Planning Dept.	General Fund	The Town continues to maintain updated flood maps and provide information to citizens through public outreach and customers *(New Strategy).*
KDH34	Continue to participate in CRS *(New Strategy).*	Hurricanes, Nor'easters, Flood, Erosion	High	Planning Dept.	General Fund	(New Strategy).
KDH35	Circulate brochure specifically on NFIP *(New Strategy).*	Hurricanes, Nor'easters, Flood, Erosion	Medium	Planning Dept.	General Fund	(New Strategy).
KDH36	Conduct contractor's meeting as a refresher to local developers and industry professionals on floodplain regulations and required documentation *(New Strategy).*	Hurricanes, Nor'easters, Flood, Erosion	Medium	Planning Dept.	General Fund	(New Strategy).

U.S. Fish & Wildlife Service

Endangered Species, Threatened Species,Federal Species of Concern, and Candidate Species,

Dare County, North Carolina



Note: Marine Threatened and Endangered Species information can be found at the National Marine Fiseries Service (NMFS) Endangered and Threatened Species website

Updated: 3-15-2016

Critical Habitat Designations:

Piping plover - *Charadrius melodus* - Critical Habitat has changed. See Federal Register for a description of the primary constituent elements essential for the conservation of wintering piping plovers within the designated units.
Federal Register Reference: October 21, 2008, Federal Register, 73:62816-62841.

Loggerhead Sea Turtle - *Caretta caretta* - See the Federal Register for a description of the primary constituent elements essential for the conservation of nesting Loggerhead sea turtles within the designated units. This document also contains a map and a description of each designated unit.
Federal Register Reference: July10, 2014, Federal Register, 79:51264-51266

Common Name	Scientific name	Federal Status	Record Status
Vertebrate:			
American alligator	*Alligator mississippiensis*	T (S/A)	Current
American eel	*Anguilla rostrata*	FSC	Current
Bald eagle	*Haliaeetus leucocephalus*	BGPA	Current
Black rail	*Laterallus jamaicensis*	FSC	Current
Black-throated green warbler	*Dendroica virens waynei*	FSC	Current
Buxton Woods white-footed mouse	*Peromyscus leucopus* ssp. *1*	FSC	Obscure
Green sea turtle	*Chelonia mydas*	T	Current
Hawksbill (=carey) sea turtle	*Eretmochelys imbricata*	E	Current
Kemp's (=Atlantic) ridley sea turtle	*Lepidochelys kempii*	E	Current

Leatherback sea turtle	*Dermochelys coriacea*	E	Current
Loggerhead sea turtle	*Caretta caretta*	T	Current
Northern diamondback terrapin	*Malaclemys terrapin terrapin*	FSC	Historic
Northern long-eared bat	*Myotis septentrionalis*	T	Current
Piping plover	*Charadrius melodus*	T	Current
Rafinesque's big-eared bat	*Corynorhinus rafinesquii*	FSC	Current
Red knot	*Calidris canutus rufa*	T	Current
Red wolf	*Canis rufus*	EXP	Current
Red-cockaded woodpecker	*Picoides borealis*	E	Current
Roseate tern	*Sterna dougallii dougallii*	T	Current
West Indian manatee	*Trichechus manatus*	E	Current
Invertebrate:			
Vascular Plant:			
Dune blue curls	*Trichostema* sp. *1*	FSC	Current
Seabeach amaranth	*Amaranthus pumilus*	T	Current
Nonvascular Plant:			
Lichen:			

Definitions of Federal Status Codes:
E = endangered. A taxon "in danger of extinction throughout all or a significant portion of its range."
T = threatened. A taxon "likely to become endangered within the foreseeable future throughout all or a significant portion of its range."
C = candidate. A taxon under consideration for official listing for which there is sufficient information to support listing. (Formerly "C1" candidate species.)
BGPA =Bald and Golden Eagle Protection Act. See below.
FSC=Federal Species of Concern. FSC is an informal term. It is not defined in the federal Endangered Species Act. In North Carolina, the Asheville and Raleigh Field Offices of the US Fish and Wildlife Service (Service) define Federal Species of Concern as those species that appear to be in decline or otherwise in need of conservation and are under consideration for listing or for which there is insufficient information to support listing at this time.Subsumed under the term "FSC" are all species petitioned by outside parties and other selected focal species identified in Service strategic plans, State Wildlife Action Plans, or Natural Heritage Program Lists.
T(S/A) = threatened due to similarity of appearance. A taxon that is threatened due to similarity of appearance with another listed species and is listed for its protection. Taxa listed as T(S/A) are not biologically endangered or threatened and are not subject to Section 7 consultation. See below.
EXP = experimental population. A taxon listed as experimental (either essential or nonessential). Experimental, nonessential populations of endangered species (e.g., red wolf) are treated as threatened species on public land, for consultation purposes, and as species proposed for listing on private land.
P = proposed. Taxa proposed for official listing as endangered or threatened will be noted as "PE" or "PT", respectively.

Bald and Golden Eagle Protection Act (BGPA):

In the July 9, 2007 Federal Register(72:37346-37372), the bald eagle was declared recovered, and removed (de-listed) from the Federal List of Threatened and Endangered wildlife. This delisting took effect August 8,2007. After delisting, the Bald and Golden Eagle Protection Act (Eagle Act) (16 U.S.C. 668-668d) becomes the primary law protecting bald eagles. The Eagle Act prohibits take of bald and golden eagles and provides a statutory definition of "take" that includes "disturb". The USFWS has developed National Bald Eagle Management Guidelines to provide guidance to land managers, landowners, and others as to how to avoid disturbing bald eagles. For mor information, visit http://www.fws.gov/migratorybirds/baldeagle.htm

Threatened due to similarity of appearance(T(S/A)):

In the November 4, 1997 Federal Register (55822-55825), the northern population of the bog turtle (from New York south to Maryland) was listed as T (threatened), and the southern population (from Virginia south to Georgia) was listed as T(S/A) (threatened due to similarity of appearance). The T(S/A) designation bans the collection and interstate and international commercial trade of bog turtles from the southern population. The T(S/A) designation has no effect on land management activities by private landowners in North Carolina, part of the southern population of the species. In addition to its official status as T(S/A), the U.S. Fish and Wildlife Service considers the southern population of the bog turtle as a Federal species of concern due to habitat loss.

Definitions of Record Status:

Current - the species has been observed in the county within the last 50 years.
Historic - the species was last observed in the county more than 50 years ago.
Obscure - the date and/or location of observation is uncertain.
Incidental/migrant - the species was observed outside of its normal range or habitat.
Probable/potential - the species is considered likely to occur in this county based on the proximity of known records (in adjacent counties), the presence of potentially suitable habitat, or both.

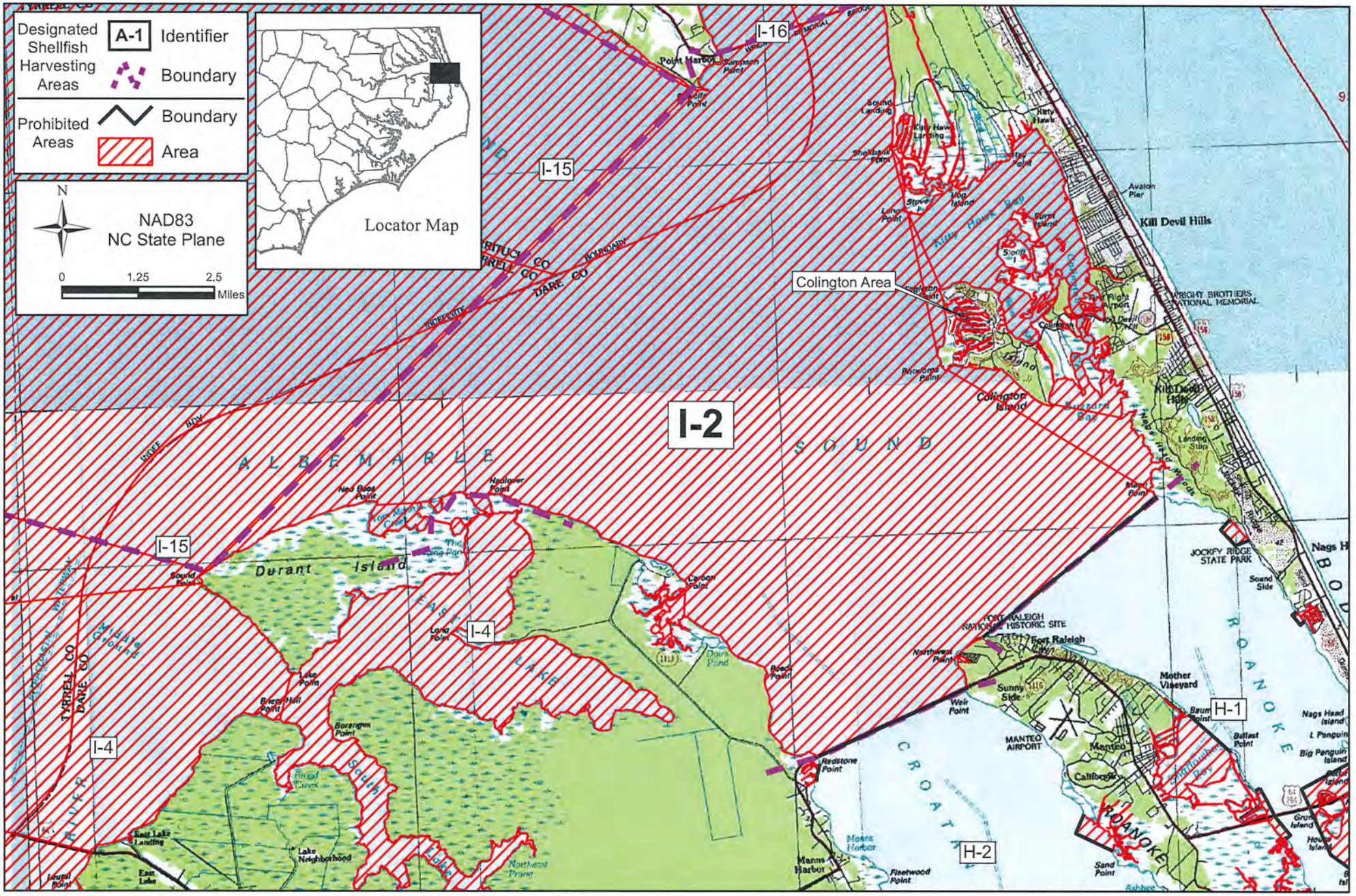
ALBEMARLE SOUND-COLLINGTON AREA

Area I-2

APPENDIX D. PROHIBITED TERRITORY

(Prohibited areas are hatched)

COUNTIES: CURRITUCK, CAMDEN, DARE, TYRELL



(SEE NEXT PAGE FOR AREA DESCRIPTIONS.)

ALBEMARLE SOUND - COLLINGTON AREA PROHIBITED **CURRITUCK, CAMDEN, DARE, TYRRELL COUNTIES**
Area I-2 (Map 3) (Prohibited Areas are Hatched)

(a) **Albemarle Sound** – All those waters north of a line beginning at a point 35° 54.7283' N -75° 46.0781' W near Redstone Point; running northeasterly following the William B. Umstead Memorial Bridge across Croatan Sound to a point 35° 55.6360' N -75° 43.4169' W on Roanoke Island; running northerly following the shoreline to a point 35° 56.3553' N -75° 43.1208' W near the Fort Raleigh National Historic Site; running northeasterly across Roanoke Sound to a point 35° 58.2858' N -75° 40.0005' W near Manns Point and Nags Head Woods on Bodie Island, to include all of Albemarle Sound, Currituck Sound, North River, Pasquotank River, Little River, Perquimans River, Bull Bay and Alligator River.

KILL DEVIL HILLS -- Street And Drainage Improvements Recommendations

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FY 2018-19 Project

	Condition	Rating	Length	Remarks	Preliminary Cost (Including design and construction administration. All costs in $000.) Street	Drainage	WM	Total
Whispering Pines; sock drain tying into adjacent systems; overlay all streets								
Pine Gove Trail	Poor	46.3	2,170	50% drainage	$167	$87	$10	$264
Quail Lane	Poor	42.0	3,160	65% drainage	$243	$164	$15	$423
Goldie Street	Fair3	56.4	150		$12	$0		$12
Harrington Lane (Burns to Pine Grove)	Poor	38.3	510	100% drainage	$39	$41	$15	$95
Shay Street (Quail to Dean)	Poor	41.0	320	100% drainage	$25	$26		$50
Pine Cone Court	Fair3	54.0	180		$14	$0		$14
Pine Needle Court	Poor	42.3	180		$14	$0		$14
Heather Lane	Poor	46.0	320	100% drainage	$25	$26		$50
			6,990		**$538**	**$343**	**$40**	**$921**
			6,160	1.17 miles Poor				

FY 2019-20 Project

	Condition	Rating	Length	Remarks	Preliminary Cost (Including design and construction administration. All costs in $000.) Street	Drainage	WM	Total
Hayman Blvd & Plymouth Ave					**$278**	**$143**	**$30**	**$451**
Hayman Cir W to Bay; extend drainage; 1.5" overlay	Poor	43.0	3,260		$179	$130	$25	
Plymouth Ave, overlay	Poor	39.4	180		$99	$13	$5	
Sixth Avenue &Town Hall Drive	Poor		2,370		**$341**	**$95**	**$50**	**$486**
Town Hall Dr, overlay; drain	Poor	45.4	1,030		$113	$41	$25	
Sixth Av (Airstrip to Baum), overlay & drain	Poor	46.6	1,340		$228	$54	$25	

FY 2020-21

FALL Project

	Condition	Rating	Length	Remarks	(Including design and construction) Street	Drainage	WM	Total
First Flight Village 3 / Landings 3	F3-Poor	48±	3,460		**$242**	**$138**	**$50**	**$431**
Cedar Dr, Captains Ln, Teakwood Ln, Captains Cir; ex WM is PVC; overlay & drainage								

SPRING Project

	Condition	Rating	Length	Remarks				
Between the Highways			2,264		**$283**	**$91**	**$103**	**$477**
Overlay E Helga, E Fourth w Drainage	Poor	41±	1,130		$90	$45	$25	
Build Briggs w Drainage	Poor	26	234		$40	$9	$25	
E Dean St, overlay	Poor	50	300		$51	$12	$26	
E Martin St, overlay	Poor	51	600		$102	$24	$27	
						Total for FY 2020-21:		**$907**

FY 2021-22 and beyond

(provided not as a formal recommendation, just to stimulate future thinking)

	Condition	Rating	Length	Remarks	Preliminary Cost (Including design and construction administration. All costs in $000.) Street	Drainage	WM	Total
Memorial Blvd Drainage Trunk, Phase 2			3,250		**$260**	**$445**	**$50**	**$755**
Carlton, Corrigan, Clark, DW's, "SOD"; overlay Mem.	F1, F2, P							
Memorial Blvd Drainage Trunk, Phase 3			3,300			**$330**	**$150**	**$480**
Martin thru Carolyn; parallel 30", WM adjustments								
Wrightsville Blvd	Poor	46	5,340		**$427**	**$214**	**$299**	**$940**
Goddard to Carolyn; overlay, sock drain; upgrade 60% of WM								
W Third St (US 158 to Creek; extend drainage);					**$169**	**$223**	**$146**	**$538**
W Third: extend drainage 1.5" overlay	Poor	43.3	1,194		$72	$186	$121	

KILL DEVIL HILLS -- Street And Drainage Improvements Recommendations

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Blocks Below Summarize Previous Years' Projects

Note: Older project printed small to save space; more recent ones larger on next page.

2005 Fall Project	(May 2003)		Poor Streets Fixed This Season: 400 ft	Cumulative Length, Poor Streets Fixed
Street	**Street Condition**	**Length**	**Status**	
Eighth Ave (Martin to Airstrip)	Semi-improved	450	Completed	
Ninth Ave (Martin to Airstrip)	**Poor**	**400**	Completed	400
Culvert repairs	Not applicable		Completed	

2006 Spring Project	(May 2003)		Poor Streets Fixed This Season: 380 ft	Cumulative Length, Poor Streets Fixed
Street	**Street Condition**	**Length**	**Comments**	
West Baum St	Unimproved	600	No Award Spring 05, Fall 05, Spring 06	
W. Fresh Pond/ W. Lake Drive Connector	**Poor**	**380**	Completed	780
Creek St (Third to Indian)	Drainage	600	Completed	
Cardinal St (800 Block)	Drainage	425	Completed	

2006 Fall Project	(May 2003)	3,650	Poor Streets Fixed This Season: 3,650 ft	Cumulative Length, Poor Streets Fixed
Street	**Street Condition**	**Length**	**Comments**	
Sir Walter Rd	**Poor**	**1,920**	Completed	2,700
Princess Anne Dr (Camellia to First)	**Poor**	**720**	Completed	3,420
Camellia Dr (Sir Walter to Princess Anne)	**Poor**	**350**	Completed	3,770
East Landing Dr (Cove to US 158)	**Poor**	**660**	Completed; overlay	4,430

2007 Spring Project	(2007 rating)	3,520	Poor Streets Fixed This Season: 3,520 ft	Cumulative Length, Poor Streets Fixed
Street	**Street Condition**	**Length**	**Comments**	
Seagate Ct	**Poor**	**100**	Completed	4,530
Sea Village La	**Poor**	**500**	Completed	5,030
Sea Wing Ct	**Poor**	**100**	Completed	5,130
Raymond Ave (Wilkinson to Arch)	**Poor**	**1,625**	Completed	6,755
Raymond Ave (Arch to Town Line)	Fair 3	600	No Award Spring 07, built 2013	
E. Chowan St (NC 12 to Raymond)	**Poor**	**595**	Completed	7,350
E. Bothel St (NC 12 to Raymond)	**Poor**	**600**	Completed	7,950

2007-08 Project	(2007 rating)	3,650	Poor Streets Fixed This Season: 2,350 ft	Cumulative Length, Poor Streets Fixed
Street	**Street Condition**	**Length**	**Comments**	
Bay Dr (Nixonton to Town Line)	**Poor**	**2,350**	Includes Multi-Purpose Trail	10,300
Bay Dr (Hayman to Nixonton)(Drainage)	Good	1,300	Drainage only; future trail	
Various Drainage Projects	(also listed Drainage Only below)			

2008-09 Project	(2007 rating)		6,482	Poor Streets Fixed This Season: 4,140 ft		Cumulative Length, Poor Streets Fixed
Street	**Street Condition**		**Length**	**Comments**		
St. Louis St (Susan to Bay)	**Poor**	41.4	**1,426**	Completed		11,726
Wallace St (Susan to Lee)	**Poor**	22.6	**717**	Completed		12,443
Truxton St (Lee to Bay)	**Poor**	43.8	**744**	Completed		13,187
Wilkinson St (Lee to Bay)	**Poor**	44.4	**1,253**	Completed	2.73	14,440
Lee Ave (Wilkinson to Cameron)	Fair3	54.0	2,342	Completed		
Palmetto St (Lee to Bath)	Poor	22.0	529	No Award Winter 08, built 2014		
E Avalon Drainage, Phase 3	(also listed Drainage Only below)			Complete; New Bern Street portion not awarded Winter 08		

2009-10 Project	(2007 rating)		4,126	Poor Streets Fixed This Season: 2,362 ft	Cumulative Length, Poor Streets Fixed
Street	**Street Condition**		**Length**	**Comments**	
W First St (Canal to Ketch)	**Poor**	50.6	**566**	w/MP Trail; Completed	15,006
W First St (Ketch to Landing)	**Excellent**	97.1	1,764	w/MP Trail; Completed	
W First St (Landing to south end)	**Poor**	46.1	**1,796**	w/MP Trail; Completed	16,802

2010-11 Project	(2007 rating)			Poor Streets Fixed This Season: 0 ft	Cumulative Length, Poor Streets Fixed
Phase 1A completed, stormwater only, on urgent basis			3,655		
Street	**Street Condition**		**Length**	**Comments**	
Ocean Acres Dr (158 to Copley W)	Fair3	59.0	2,800	Stormwater infiltration only	16,802
Harrington Lane (OA to Burns)	Good	89.0	250	Stormwater infiltration only	
Bell Avenue (OA to Burns)	Fair1	71.0	250	Stormwater infiltration only	
Gunas Dr (portion n of OA)	Fair1	75.0	135	Stormwater infiltration only	
Burns Dr (short portions)	Fair3	59.0	220	Stormwater infiltration only	

Fall FY 2011-2012 Project				Poor Streets Fixed This Season: 950 ft	Cumulative Length, Poor Streets Fixed
SW AREA (Ocean Acres) Stormwater, Phase 2	**Street Condition**		**Length**	**Comments**	
Ocean Acres Drive	Fair3	59.0	3,050	1.5" Overlay only	
Ocean Acres Drive	Poor	49.0	800	2" Overlay only	17,602
Burns Drive	Fair3	60.4	900	stormwater only	
Harrington Ave (Burns-Gunas)	Fair2	67.0	250	stormwater only	
Gunas Drive	Fair1	75.0	700	stormwater only	
Copley Drive	Fair1	77.0	400	stormwater only	
Jones Court	Poor	43.0	150	2" Overlay only	17,752
Adjust WM and remove 9 "jumpers"			6,250		

Spring FY 2011-12 Project	Condition		Length	Remarks	Cumulative Length, Poor Streets Fixed
				Poor Streets Fixed This Season: 1,252 ft	
Pirates Loop	Poor	**47.0**	709	full reconstruction; grade change	18,461
Coral Drive	Poor	**48.4**	302	full reconstruction	18,763
Harpoon Drive	Poor	**48.4**	241	overlay	19,004
			1,252		

Fall FY 2012-13 Project	Condition		Length	Remarks	Cumulative Length, Poor Streets Fixed
Parkwood Area (road reconstruction & drainage)				Poor Streets Fixed This Season: 1,579 ft	
Parkwood Dr	Poor	**50.4**	1,352	full reconstruction	20,356
Maple Ct	Fair 2	**70.0**	223	overlay	
Myrtle Ct	Poor	**48.4**	227	overlay	20,583
Elm Ct	Fair 3	**52.4**	245	overlay	
Telegraph Ct	Fair 3	**52.4**	400	overlay	
			4,951		

KILL DEVIL HILLS -- Street And Drainage Improvements Recommendations

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Previous Years' Projects (continued from previous page)

FY 2013-14 Project: NW Area 2	Condition		Length	Remarks	Cumulative Length, Poor Streets Fixed
Nixonton Street	Poor	**42.0**	1,039		
Bath Street	Poor	**40.4**	948		
Mary Hill Court	Poor	**46.0**	367		26,666
Columbia Avenue	Poor	**37.4**	777		5.05 miles
Jean Court	Poor	**46.0**	374		
Shiloh Street	Poor	**42.0**	1,159		
Truxton Street	Poor	**50.0**	890		
Wilkinson St (Columbia to 158)	Fair1	**73.0**	725		
Palmetto St (Lee to Bath)(Alternate?)	Poor	**22.0**	529		
			6,808	6,083 ft poor	

FY 2014-15 Project: N KHShores	Condition		Length	Remarks	Cumulative Length, Poor Streets Fixed
Memorial Blvd. (Wright-Woodmere)	Poor	**29.2**	1,965		
Memorial Blvd. (48" pipe replacing ex. culverts)			*1,080*	1,080' is part of 1,965'	
Aviation Avenue	Excellent	**95.6**	550		28,631
Pinehurst Avenue	Fair1	**73.6**	550		5.42 miles
Sutton Avenue	Good	**81.4**	550		
Carlow Avenue	Good	**90.8**	550		
Raleigh Avenue	Fair2	**68.4**	945	158 to NC12	
Baker Avenue	Excellent	**95.6**	550		
Ferris Avenue	Fair1	**71.2**	550		
			2,910	1,965 ft poor	

FY 2015-16: Northwest Area, Phase 3, Wrightsville, Memorial, Sioux Drainage and E & W Eighth	Condition		Length	Remarks	Cumulative Length, Poor Streets Fixed
Memorial Blvd. (Baum - halfway to Corrigan)	Poor	**37.4**	200	bid Sep 14; not awarded	
Wrightsville Blvd (Eighth to north end)	Poor	**38.6**	738	bid Sep 14; not awarded	32,596
Cameron Street	Poor	**45.4**	1,865		6.17 miles
Susan Drive	Poor	**48.4**	1,160		
E Eighth Street	Fair3	**54.6**	1,025	Nags Head 50% share: $0	
W Eighth St	Fair2	**67.0**	1,417	Nags Head 50% share: $100	
			6,405	3,965 ft poor	

FY 2016-17: Clark/Blue Jay St, Mustian St, Carlton Ave, Cooke Pl, Anchor Ct, Schooner Ct	Condition		Length	Remarks		Cumulative Length, Poor Streets Fixed
W Clark Street	Poor	**48.0**	1,396		begin Dec 16, complete Apr 17	
Blue Jay Street					begin Dec 16, complete Apr 17	36,561
Mustian Street	Poor	**43.8**	1,625		begin Dec 16, complete Apr 17	6.92 miles
W Carlton Ave	Poor	**43.8**	401			
Cooke Place	Poor	**42.0**	262		begin Dec 16, complete Apr 17	
Anchor Court	Poor	**44.4**	79		begin Dec 16, complete Apr 17	
Schooner Court	Fair2	**56.4**	200		begin Dec 16, complete Apr 17	
			3,963	3,965 ft poor		

FY 2017-87: Bay Drive Multi-Use Path, Phases 3 & 4	Condition		Length	Remarks	(completion expected June 2018)	Cumulative Length, Poor Streets Fixed
Canal Dr, W First to Indian	Good	**81.0**	1,325			36,561
Bay, Indian to Avalon	Fair3	**58.2**	4,275			6.92 miles
			5,600	0 ft poor		

Drainage Only Areas Completed

(per Albemarle & Associates 2005 Multiyear Drainage Plan)

Street or Area	Nature of Problem	Comments
06-07, East Avalon, Phase 1	Residential property Flooding	Avalon Street ONLY, not whole project; Completed Fall 04
07-08, Cardinal St	Residential property Flooding	Completed Spring 06
07-08, Creek St	Residential property Flooding	Completed Spring 06
07-08, Cedar Dr	Residential property Flooding	Completed Spring 06
06-07, East Avalon, Phase 2	Residential property Flooding	Completed Winter 07-08
Second St / Princess Anne Dr	Residential property Flooding	Completed Winter 07-08
Martin St / Blue Jay St	Commercial property flooding	Completed Winter 07-08
Baum St / Memorial Ave	Failing CMP, roadway damage	Completed Winter 07-08

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POOR Streets Remaining

(after completion of 2017/18 projects; 2017 rating, **bold** dropped to **Poor** in 2017)

In "Poor Streets Remaining," streets highlighted with the following colors of shading are recommended on the first page for the following Fiscal Year:

FY 2018-2019
FY 2019-2020

				Type (Collector or Local Access)
E. HELGA ST	**Poor**	900		LA
BRIGGS ST (South of Arch)	Poor	234		LA
PLYMOUTH AVE	**Poor**	180		LA
W. HAYMAN BLVD. (Including Circle, to Bay)	Poor	3,260		LA
RANDOM ST (Concrete)	Poor	512		LA
W. SPORTSMAN DR	Poor	2,997		LA
DOCK ST (Concrete)	Poor	549		LA
E. FOURTH ST	**Poor**	230		LA
SEMINOLE ST (W Third to Indian)	**Poor**	930		LA
W. THIRD ST (US 158 to Creek)	Poor	1,194		LA
CAPTAIN'S CIR	**Poor**	410		LA
TEAKWOOD LN	**Poor**	320		LA
CEDAR DR (W First to W First)	**Poor**	1,890		LA
TOWN HALL DR	**Poor**	1,030		LA
WRIGHTSVILLE BLVD (Goddard to Carolyn)	**Poor**	5,340		LA
MEMORIAL BLVD (1228 S to Martin)	**Poor**	1,540		C
SIXTH AVE (Baum to Airstrip)	**Poor**	1,340		LA
E. MARTIN ST	**Poor**	600		LA
E. DEAN ST	**Poor**	300		LA
SHAY ST (Dean to Quail)	Poor	428		LA
PINE GROVE TR (Quail to Goldie)	Poor	1,607		LA
QUAIL LN (Pine Grove to Heather+)	Poor	2,814		LA
PINE NEEDLE CT	Poor	157		LA
HARRINGTON AVE Ocean Acres to Pine Grove)	**Poor**	900		LA
HEATHER LN	**Poor**	320		LA
BURNS DR	**Poor**	3,660		LA
POND ST	**Poor**	152		LA
Total miles falling to Poor w/2017 Street Rating:	3.77 miles	19,890		
Poor (2017) Streets After **17-18 Project**	**6.40 miles**	33,794 ft	Up from 2.63 miles in January, 2017 Recommendation, due to re-rating	

LEVEL OF SERVICE TARGETS

The North Carolina Department of Transportation (NCDOT) has developed a grading system for each transportation mode that defines how well that mode meets public needs. The level of performance of each mode is ranked from LOS A to LOS F. Generally, a modal network rated at an optimum **LOS A** would provide excellent quality conditions, very convenient service, and wide availability of service, but possibly at an unattainable cost to build, maintain, and operate. An improved, above average system, with **LOS B** rating, would provide good quality conditions, convenient service, and good availability of service, and with a higher return on investment than could be obtained for **LOS A** investment. A transportation system at **LOS C** is veering toward broader safety concerns, deferred maintenance, and congestion and land access issues that constrain economic opportunity. On a system-wide basis, the existing quality of North Carolina's transportation system is **LOS C**.

In addition to providing context, the table on the next page identifies:

- Average **optimal** overall LOS A for each mode.
- Average **desired** overall Target LOS for each mode.
- Average **current** overall LOS for each mode.

APPENDIX F. NCDOT LEVEL OF SERVICE

LOS Targets								
Level of Service	General Condition	Highways	Public Transportation	Aviation	Bicycle/ Pedestrian	Ferries	Passenger Rail	Ports*
A EXCELLENT	High quality conditions, very convenient service, widely available	Very smooth roads, minimum congestion	Frequent service and good geographic coverage	No safety issues	Many and varied bike and pedestrian routes	No ferry delays	Good cross-state rail service	No safety issues
B ABOVE AVERAGE	Good quality conditions, convenient service, good availability	Generally smooth roads, some congestion	Good bus service	Some safety issues	Some bike routes	Periodic ferry delays	Decent state rail service	Some safety issues
C AVERAGE	Minimally acceptable conditions, minimally convenient service, moderate availability	More rough roads, potholes & deficient bridges, common congestion	Infrequent service and limited geographic coverage	Many safety issues	Scattered bike routes	Frequent ferry delays	Limited state rail service	Many safety issues
D BELOW AVERAGE	Poor facility conditions, very minimal service, limited availability	Many rough roads, broad congestion	Barebones service	Many safety issues	Few bike routes	Frequent ferry delays	Poor state rail service	Many safety issues
F FAILING	Deteriorated facility conditions, spotty and irregular services, very limited availability	Widespread rough roads, potholes & deficient bridges, widespread congestion	Very restricted service	Widespread safety issues	No bike routes	Regular and long ferry delays	No state rail service	Widespread safety issues

Shaded cells denote optimal overall modal level of service (LOS A), based on degree to which modal systems would provide the best possible quality of service, as defined by performance standards.

Shaded cells denote current overall modal level of service, as determined by NCDOT as part of its 10-Year Project Prioritization process, based on degree to which modal systems meet defined performance standards.

Shaded cells denote current overall modal level of service, as determined by NCDOT as part of its 10-Year Project Prioritization process, based on degree to which modal systems meet defined performance standards.

* Ports came under NCDOT management in 2012, and LOS has not yet been rated.

Land Use Plan Survey
2007/2017 Comparative Tables on Identical Questions
1997 Questions/Answers Included for Similar Questions highlighted in this color

Attribute	*Very Important*	*Important*	*Slightly Important*	*Not Important*	*Not Sure*	*Total # Responding to Q1*
Q1 – Please indicate the number which best reflects your opinion regarding the importance of the following attributes.	%	%	%	%	%	#
Recreational water quality						
2007	71.00	23.00	4.00	1.00	1.00	1,468
2017	77.24	19.15	2.30	0.87	0.44	1,608
Open spaces						
2007	47.00	40.00	10.00	2.00	1.00	1,464
2017	56.39	33.75	7.82	1.74	0.31	1,612
Public beach accesses						
2007	63.00	29.00	6.00	2.00	1.00	1,473
2017	69.92	22.62	6.34	0.99	0.12	1,609
Parks/recreation areas						
2007	39.00	42.00	17.00	3.00	1.00	1,474
2017	45.71	39.99	12.50	1.74	0.06	1,608
Cultural activities						
2007	20.00	40.00	31.00	9.00	1.00	1,460
2017	24.31	38.78	29.05	7.36	0.50	1,604
Wide beaches						
2007	46.00	32.00	15.00	6.00	1.00	1,472
2017	49.26	35.50	11.77	3.22	0.25	1,614
Historic Landmarks						
2007	37.00	40.00	19.00	4.00	1.00	1,463
2017	44.95	38.03	14.84	2.12	0.06	1,604
Sidewalks/multi-use paths						
2007	31.00	38.00	23.00	8.00	1.00	1,463
2017	47.23	33.31	15.79	3.48	0.19	1,609

Q1 Continued

Attribute	*Very Important*	*Important*	*Slightly Important*	*Not Important*	*Not Sure*	*Total # Responding to Q1*
Q1 – Please indicate the number which best reflects your opinion regarding the importance of the following attributes.	%	%	%	%	%	#
Chain restaurants/retail						
2007	6.00	19.00	31.00	43.00	2.00	1,466
2017	3.32	13.35	30.20	51.88	1.25	1,596
Locally owned restaurants/retail						
2007	33.00	44.00	17.00	6.00	1.00	1,472
2017	53.47	35.21	9.53	1.73	0.06	1,616
Night life/night clubs						
2007	7.00	19.00	34.00	39.00	2.00	1,477
2017	4.86	17.08	39.09	37.59	1.37	1,604
Entertainment/amusements						
2007	13.00	33.00	36.00	17.00	1.00	1,472
2017	9.74	33.92	39.29	16.49	0.56	1,601
Outer Banks architecture						
2007	24.00	39.00	28.00	8.00	2.00	1,466
2017	33.81	36.99	20.73	6.91	1.56	1,606
Commercial businesses						
2007	9.00	37.00	39.00	13.00	2.00	1,422
2017	8.32	38.32	36.83	15.16	1.37	1,610
Piers and ocean fishing						
2007	42.00	39.00	15.00	4.00	1.00	1,479
2017	49.75	36.63	10.58	2.91	0.12	1,616

Statements	*Strongly Agree*	*Agree*	*Disagree*	*Strongly Disagree*	*Not Sure*	*Total # Responding to Q2*
Q2 – Please indicate which best reflects your opinion regarding these statements.	%	%	%	%	%	#
My overall opinion of services offered by the Town is satisfactory						
2007	17.00	72.00	8.0	1.00	3.00	1,466
2017	17.24	72.43	5.86	0.99	3.49	1,520
Town streets are properly maintained						
2007	11.00	65.00	19.00	4.00	2.00	1,475
2017	13.68	69.34	12.50	2.04	2.43	1,520
Roadside ditches are properly maintained						
2007	7.00	50.00	28.00	8.00	7.00	1,476
2017	9.10	56.95	20.30	6.33	7.32	1,517
Open spaces are properly preserved						
2007	7.00	58.00	20.00	5.00	11.00	1,473
2017	8.45	59.91	18.89	5.48	7.27	1,514
The Town provides good public beach accesses						
2007	23.00	62.00	10.00	2.00	2.00	1,476
2017	30.63	62.52	4.74	0.99	1.12	1,518
Parks/recreation areas are adequate						
2007	11.00	64.00	15.00	2.00	7.00	1,472
2017	13.02	66.40	13.54	1.91	5.13	1,521
Sidewalks/multi-use paths are adequate						
2007	6.00	47.00	32.00	10.00	6.00	1,481
2017	8.76	49.18	29.23	8.89	3.95	1,519

Statements	*Strongly Disagree*	*2*	*3*	*4*	*Strongly Agree*	*Total # Responding*
My overall opinion of services offered by the Town is satisfactory	%	%	%	%	%	
1997	22.80	42.70	29.60	2.90	2.10	1,500

Please note that the survey does not list the number of respondents to each question. There were 1,500 responses to the 1997 survey so for the purposes of this comparison we will assume all 1,500 responded to all question from 1997. Please note, in the 1997 tables the disapproval/approval ratings flow left to right; in the 2007 and 2017 tables approval/disapproval ratings flow right to left. Also, we have included statements/questions on the same subject/issue although the actual text may be only similar and not an exact match.

Statements	*Need More*	*About Right*	*Need Less*	*Not Sure*	*Total # Responding to Q4*
Q4 Regarding our ocean beach accesses, please indicate your opinion regarding the availability of the following	%	%	%	%	#
Ocean beach accesses with parking and more amenities					
2007	43.00	52.00	2.00	3.00	1,466
2017	37.48	59.03	1.45	2.04	1,518
Ocean beach accesses without parking and fewer amenities					
2007	14.00	60.00	13.00	14.00	1,421
2017	9.96	65.04	13.50	11.50	1,496
Lifeguard stands					
2007	19.00	72.00	2.00	7.00	1,448
2017	19.76	74.65	1.13	4.46	1,503
Sidewalks to the beach accesses					
2007	37.00	50.00	5.00	9.00	1,449
2017	40.86	48.84	3.85	6.45	1,505
Public restrooms					
2007	56.00	35.00	3.00	7.00	1,460
2017	57.00	36.43	1.26	5.31	1,507
Showers					
2007	35.00	52.00	4.00	10.00	1,455
2017	38.30	51.66	2.53	7.51	1,504
Bicycle racks					
2007	27.00	52.00	3.00	18.00	1,456
2017	35.96	49.17	1.72	13.15	1,513

Opinion	Too Much	About Right	Not Enough	Not Sure	Total # Responding to Q5
Q5 – Which term best reflects your opinion of commercial development in Kill Devil Hills	%	%	%	%	#
2007	49.00	44.00	2.00	4.00	1,458
2017	46.17	47.92	3.56	2.35	1,488

Opinion	Strongly Disagree	2	3	4	Strongly Agree	Total # Responding
	%	%	%	%	%	
1997 The Town should become more residential, less commercial	4.10	3.50	23.80	19.70	48.90	1,500
1997 The Town should become more commercial, less residential	61.20	13.40	19.60	1.70	4.10	1,500

Please note that the survey does not list the number of respondents to each question. There were 1,500 responses to the 1997 survey so for the purposes of this comparison we will assume all 1,500 responded to all question from 1997.

Opinion	*Too Much*	*About Right*	*Not Enough*	*Not Sure*	*Total # Responding to Q6*
Q6 – Which term best reflects your opinion of residential development in Kill Devil Hills	%	%	%	%	#
2007	42.00	51.00	4.00	4.00	1,460
2017	33.20	59.06	6.40	1.35	1,485

Opinion	*Too Much*	*About Right*	*Not Enough*	*Not Sure*	*Total # Responding to Q7*
Q7 – Which term best reflects your opinion of the Town's regulations for commercial development	%	%	%	%	#
2007	4.00	32.00	36.00	28.00	1,456
2017	5.65	30.24	41.73	22.38	1,488

Opinion	*Too Restrict*	*About Right*	*Not Restrictive Enough*	*Not Sure*	*Total # Responding to Q8*
Q8 – Which term best reflects your opinion of the Town's regulations for residential development	%	%	%	%	%
2007	7.00	42.00	28.00	23.00	1,453
2017	10.54	39.80	33.56	16.11	1,490

Statements	Too Tall	About Right	Too Low	Not Sure	Total # Responding to Q13
Q13 – Please indicate which option best reflects your opinion regarding height limits of buildings in Kill Devil Hills	%	%	%	%	#
2007					
Hotels	23.00	66.00	4.00	7.00	1,463
Commercial	16.00	73.00	3.00	8.00	1,461
Residential	23.00	69.00	2.00	6.00	1,462
2017					
Hotels	31.61	61.30	4.04	3.05	1,411
Commercial	17.82	74.30	2.43	5.44	1,397
Residential	28.03	65.62	2.57	3.78	1,402

Opinion	Yes	No	No Opinion	Total # Responding
1997 Special Issues	% / #	% / #	% / #	
1997 Buildings of 5 or more stories should be allowed in				
a. Ocean front area	10.70	86.70	2.60	1500
b. Commercial zone between US 158 and NC 12	12.80	77.60	4.70	
c. Residential area (West of US 158)	12.60	79.90	3.20	
d. Light Industrial area (West of US 158)	18.30	71.50	5.50	
1997 Buildings of 5 or more stories on a site that allows the remaining open space to be proportional with the structure should be allowed in the				
a. Ocean front area	11.80	78.0	4.50	1500
b. Commercial zone between US 158 and NC 12	12.30	74.90	6.30	
c. Residential area (West of US 158)	10.20	78.30	5.10	
d. Light Industrial area (West of US 158)	17.80	69.00	6.10	
1997 Existing height limitations in each zone should be maintained	80.50	5.40	6.80	

Please note that the survey does not list the number of respondents to each question. There were 1,500 responses to the 1997 survey so for the purposes of this comparison we will assume all 1,500 responded to all question from 1997.

Statements	*Strongly Agree*	*Agree*	*Disagree*	*Strongly Disagree*	*Not Sure*	*Total # Responding to Q14*
Q14 – Please indicate which option best reflects your opinion regarding the following statements.	%	%	%	%	%	#
The Town should strengthen standards of appearance for new commercial development						
2007	42.00	44.00	8.00	1.00	6.00	1,448
2017	42.14	42.64	8.74	1.20	5.29	1,419
Appearance standards should only be applied to development in the commercial zone						
2007	10.00	20.00	47.00	17.00	7.00	1,434
2017	9.23	20.01	49.47	14.69	6.60	1,409
Appearance standards should be applied to all commercial developments regardless of zone						
2007	41.00	49.00	5.00	1.00	4.00	1,449
2017	41.03	46.26	6.64	1.06	5.01	1,416
I like the appearance of US 158						
2007	3.00	46.00	33.00	12.00	6.00	1,442
2017	4.56	38.73	36.38	13.55	6.78	1,402
I like the appearance of NC 12						
2007	8.00	61.00	19.00	5.00	7.00	1,435
2017	11.84	59.39	19.56	4.54	4.68	1,411
The power lines in Town should be placed underground						
2007	46.00	30.00	10.00	4.00	11.00	1,447
2017	46.05	28.12	9.87	3.24	12.69	1,418

Statement	Strongly Disagree	2	3	4	Strongly Agree	Total # Responding
1997 Relocation of overhead utilities should be funded by	%	%	%	%	%	
a. ad valorem taxes	39.80	7.60	25.50	16.10	11.00	1500
b. contributions from affected individuals	26.60	11.60	22.90	17.50	21.40	1500
c. grants	9.10	2.50	19.30	26.20	42.90	1500
d. other	12.50	3.20	19.30	12.20	52.70	1500

Please note that the survey does not list the number of respondents to each question. There were 1,500 responses to the 1997 survey so for the purposes of this comparison we will assume all 1,500 responded to all question from 1997.

Statements	*Strongly Agree*	*Agree*	*Disagree*	*Strongly Disagree*	*Not Sure*	*Total # Responding to Q16*
Q16 – Please indicate which option best reflects your opinion regarding the following statements.	%	%	%	%	%	#
US 158 (Croatan Highway) should not be widened						
2007	27.00	39.00	20.00	7.00	7.00	1,452
2017	39.14	33.36	15.36	4.07	8.07	1,400
US 158 (Croatan Highway) should be widened to the extent necessary and the center turn lane converted to a landscaped median						
2007	13.00	17.00	37.00	25.00	8.00	1,451
2017	12.55	14.33	34.04	30.64	8.44	1,410
[2017] Additional Bicycle and pedestrian crossings should be provided on US 158						
2007	36.00	45.00	11.00	4.00	4.00	1,455
2017	38.18	34.09	15.95	6.07	5.72	1,417

Statements	*Strongly Disagree*	*2*	*3*	*4*	*Strongly Agree*	*Total # Responding*
1997 US 158 should be widened to have a total of seven lanes (3 northbound, 3 southbound, one center turn lane)	%	%	%	%	%	
	48.10	14.10	13.00	10.60	14.20	1,500
1997 US 158 should be widened to have six lanes and a divided, limited access, landscaped median	44.80	14.30	13.70	12.40	14.90	1,500

Please note that the survey does not list the number of respondents to each question. There were 1,500 responses to the 1997 survey so for the purposes of this comparison we will assume all 1,500 responded to all question from 1997.

Statements	*Strongly Agree*	*Agree*	*Disagree*	*Strongly Disagree*	*Not Sure*	*Total # Responding to Q17*
Q17 – Please indicate which option best reflects your opinion regarding the following statements.	%	%	%	%	%	#
There should be a mix of commercial and residential uses along NC 12						
2007	11.00	57.00	17.00	8.00	7.00	1,420
2017	11.66	58.16	17.10	7.35	5.72	1,415
[2017]Additional Bicycle and pedestrian crossings should be provided on NC 12						
2007	35.00	51.00	7.00	2.00	72.00	1,434
2017	25.30	40.82	23.67	5.32	4.89	1,411
Sidewalks along NC 12 should be provided for the entire length of the Town						
2007	32.00	37.00	17.00	5.00	8.00	1,421
2017	37.35	38.55	14.87	4.09	5.14	1,419

Statements	*Strongly Agree*	*Agree*	*Disagree*	*Strongly Disagree*	*Not Sure*	*Total # Responding to Q18*
Q18 – Please indicate which option best reflects your opinion regarding the following statements.	%	%	%	%	%	#
Stormwater quality draining to the ocean should be improved						
2007	27.00	42.00	8.00	3.00	20.00	1,412
2017	35.54	41.51	6.55	1.29	15.11	1,390
Residential lots should be required to maintain stormwater on-site						
2007	6.00	18.00	34.00	14.00	28.00	1,410
2017	7.77	18.71	31.44	11.73	30.36	1,390
Standards for maintaining commercial stormwater on-site are adequate						
2007	2.00	23.00	23.00	8.00	45.00	1,410
2017	2.45	22.05	26.37	7.56	41.57	1,388
I would be willing to pay the higher costs associated with improving water flowing to the ocean						
2007	5.00	23.00	30.00	18.00	24.00	1,412
2017	9.13	28.11	23.58	17.61	21.57	1,391
I would be willing to pay the higher costs associated a Town-wide stormwater management system						
2007	6.00	27.00	26.00	17.00	24.00	1,410
2017	10.55	32.59	18.88	15.94	22.04	1,392

Question	Frequently	Occasionally	Rarely	No	Not sure	Total # Responding to Q10
Q19 – Do you have a flooding problem at your property	%	%	%	%	%	#
2007	5.00	20.00	22.00	51.00	2.00	1,420
2017	6.97	23.65	20.49	47.02	1.87	1,391

Statements	*Strongly Agree*	*Agree*	*Disagree*	*Strongly Disagree*	*Not Sure*	*Total # Responding to Q20*
Q20 – Please indicate which option best reflects your opinion regarding the following statements	%	%	%	%	%	#
Offshore oil and natural gas exploration should be supported						
2007	21.00	29.00	14.00	21.00	15.00	1,419
2017	6.73	18.04	15.53	52.25	7.44	1,397

Statement	*Strongly Disagree*	*2*	*3*	*4*	*Strongly Agree*	*Total # Responding*
1997 Off-shore oil and natural gas exploration should be supported	%	%	%	%	%	
	55.50	12.00	14.60	7.80	10.20	1,500

Please note that the survey does not list the number of respondents to each question. There were 1,500 responses to the 1997 survey so for the purposes of this comparison we will assume all 1,500 responded to all question from 1997.

Demographics	*19 years or younger*	*20-29*	*30-39*	*40-49*	*50-59*	*60-64*	*65 and over*	*Total # Responding to Q21*
Q21 - What is your age group	%	%	%	%	%	%	%	#
2007	1.00	2.00	8.00	17.00	30.00	14.00	30.00	1,468
2017	0	3.19	10.38	16.47	24.89	16.69	28.37	1,378
1997 Please check your age group category	0.10	3.00	9.90	18.80	26.30	12.30	28.60	1,500

Please note that the survey does not list the number of respondents to each question. There were 1,500 responses to the 1997 survey so for the purposes of this comparison we will assume all 1,500 responded to all question from 1997.

Demographics Continued	*Year round*	*Part time resident/ home-owner*	*Non-resident owner*	*Total # Responding to Q22*
Q22 - Which residency group best describes you	%	%	%	#
2007	41.00	36.00	24.00	1,459
2017	51.86	34.14	14.00	1,371

Demographics	*Other City in North Carolina*	*Virginia*	*New York, New Jersey, or Pennsylvania*	*Other*	*Total # Responding*
Where is your permanent residence?	%	%	%	%	
1997	13.00	66.30	8.00	12.70	1,500

Please note that the survey does not list the number of respondents to each question. There were 1,500 responses to the 1997 survey so for the purposes of this comparison we will assume all 1,500 responded to all question from 1997.

Demographics Continued	*Yes*	*No*	*Total # Responding to Q23*
Q23 – Do you own multiple properties in KDH	%	%	#
2007	17.00	84.00	1,459
2017	10.44	89.56	1,379

Demographics	*Yes*	*No*	*Total # Responding*
1997 Do you own multiple properties in KDH	%	%	
	49.30	50.70	1,500

Please note that the survey does not list the number of respondents to each question. There were 1,500 responses to the 1997 survey so for the purposes of this comparison we will assume all 1,500 responded to all question from 1997.

Demographics Continued	*Oceanfront*	*Between the Highways*	*West of US 158*	*Other*	*Total # Responding to Q24*
Q24 – Where is your property	%	%	%	%	#
2007	8.00	31.00	61.00	3.00	1,527
2017	8.33	25.36	63.84	6.38	1,380

Demographics	*Oceanfront*	*Between the Highways*	*West of US 158*	*North of Colington Road*	*South of Colington Road*	*Out of Town*	*Total # Responding*
Where is your primary residence	%	%	%	%	%	%	
1997	5.60	25.60	68.80	79.30	20.70	27.80	1,500

Please note that the survey does not list the number of respondents to each question. There were 1,500 responses to the 1997 survey so for the purposes of this comparison we will assume all 1,500 responded to all question from 1997.

Demographics Continued	*Weekly Rental*	*Monthly Rental*	*Private Use*	*Commercial Business*	*Other*	*Total # Responding to Q25*
Q25 - Which category of use best describes your property	%	%	%	%	%	#
2007	18.00	9.00	76.00	2.00	6.00	1,649
2017	14.15	4.57	79.97	2.90	5.59	1,378

Demographics Continued	*Less than 5 years*	*5-10 years*	*10-20 years*	*More than 20 years*	*Total # Responding to Q26*
Q26 – Which of the following best describes how long you have lived in or owned property in KDH	%	%	%	%	#
2007	17.00	22.00	28.00	33.00	1,465
2017	22.23	20.63	24.20	32.94	1,372

Demographics	*Less than 5 years*	*5-10 years*	*10-20 years*	*More than 20 years*	*Total # Responding*
Which of the following best describes how long you have lived in or owned property in KDH	%	%	%	%	
1997	12.70	21.30	38.90	27.00	1,500

Please note that the survey does not list the number of respondents to each question. There were 1,500 responses to the 1997 survey so for the purposes of this comparison we will assume all 1,500 responded to all question from 1997.

Demographics Continued	*Employed Full Time*	*Employed Part Time All Year*	*Seasonally Employed*	*Unemployed*	*Retired*	*Total # Responding to Q27*
Q27 - Which category best describes your employment status	%	%	%	%	%	#
2007	57.00	5.00	1.00	1.00	36.00	1,447
2017	59.04	5.14	1.37	0.65	33.79	1,382

Demographics	*Employed Full Time*	*Employed Part Time All Year*	*Seasonally Employed*	*Unemployed*	*Retired*	*Total # Responding*
Which category best describes your employment status	%	%	%	%	%	
1997	53.70	5.30	2.20	0.9	37.80	1,500

Please note that the survey does not list the number of respondents to each question. There were 1,500 responses to the 1997 survey so for the purposes of this comparison we will assume all 1,500 responded to all question from 1997.

Demographics continued	*Gov/ Military*	*Education*	*Prof/ Tech*	*Const*	*Sales, Real Estate (2007)* *Real Estate (2017)*	*Service/ Hospitality (2017)* *Restaurant (2007)*	*Hotel/ Motel*	*Other*	*Total # Responding to Q28*
Q28 - Which category best describes your employment type	%	%	%	%	%	%	%	%	#
2007	12.00	8.00	35.00	12.00	13.00	3.00	2.00	14.00	911
2017	14.21	9.06	35.68	5.93	9.73	12.75	0.78	11.86	894

Demographics	*Government/ Military*	*Education*	*Pro/ Technical*	*Construction*	*Sales/ Real Estate*	*Housewife*	*Restaurant*	*Hotel/ Motel*	*Other*	*Total # Respond*
Which category best describes your employment status	%	%	%	%	%	%	%	%	%	
1997	14.00	8.20	28.30	5.60	7.50	3.60	2.00	1.30	9.30	1500

Please note that the survey does not list the number of respondents to each question. There were 1,500 responses to the 1997 survey so for the purposes of this comparison we will assume all 1,500 responded to all question from 1997.

Appendix H.
Future Land Use Vacant Parcels

