COMPREHENSIVE PLAN

City of Havelock

Growing With Our Future in Mind

URBAN RESOURCE GROUP

A DIVISION OF KIMLEY-HORN AND ASSOCIATES, INC.

The City of Havelock

2030 Comprehensive Plan

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Chapter 1

Introduction

Nothing great was ever achieved without enthusiasm.

- Ralph Waldo Emerson

The City of Havelock Comprehensive Plan serves as the official adopted statement of the Board of Commissioners and a blueprint for long-term, sustainable growth in the community. It is the culmination of a comprehensive and collaborative planning process that included local residents, business owners, property owners, and representatives from state agencies, City staff, and the Marine Corps Air Station – Cherry Point. Central to the Comprehensive Plan is its ability to guide both public and private interests as changes are considered that will impact the natural and built environments as well as residents' overall quality of life.

The Comprehensive Plan includes seven components:

1. An introduction to the Comprehensive Plan including planning context, history, community concerns and aspirations, and future vision (see **Chapter 1**).

2. A community profile that estimates population, housing, and employment characteristics for the planning jurisdiction and forecasts new growth for the 25-year planning horizon (see **Chapter 2**).

3. A comprehensive inventory and assessment of conditions and community features noted within the planning jurisdiction (see **Chapter 3**).

4. An assessment of available land most suitable for accommodating anticipated growth projections (see **Chapter 4**).

5. Enumeration of future year impacts to community facilities and services supportive of the magnitude and timing of anticipated development depicted in the Future Land Use Map (see **Chapter 5**).

6. Goals, objectives, and policies that provide an overall framework to ensure future land uses and development patterns match the community's vision for more sustainable development within the planning jurisdiction (see **Chapter 6**).

7. A brief assessment of policies and strategies currently administered within the planning jurisdiction. An action plan full of recommendations, responsible agencies, and a timeline for inviting success through implementation of the Comprehensive Plan (see **Chapter 7**).

The *City of Havelock Comprehensive Plan* was developed to comply with minimum rules and requirements of the Coastal Area Management Act (CAMA) for preparing a Core Land Use Plan (see Plan Consistency Review Matrix, Appendix F). The subject matter presented in this document was developed to exceed the minimum requirements set forth by the State for preparing a local comprehensive plan.

Function & Utility of the Plan

The City's Comprehensive Plan provides a detailed inventory and analysis for evaluating development trends and their impacts to surrounding infrastructure. This information also becomes the foundation for establishing a desired future land use pattern and accompanying infrastructure that best optimizes tax base growth, enhances community integrity, and provides a quality-of-life that citizens have come to desire and expect.

Goals, objectives, and policies (GOPs) contained in the document are organized into 10 plan elements. Each element addresses an important aspect of growth and development in Havelock — including land use, community design, housing, transportation, community facilities and services, parks and recreation, environment and natural resources, historic and cultural resources, economic development, and capital improvements. A future land use map (FLUM) included in the comprehensive plan illustrates the land uses and development patterns desired for the City into the long-range planning horizon (2030).

The intent of the future land use map and goals, objectives, and policies is to provide an overall policy framework from which zoning and subdivision decisions are made and to influence the type and sequencing of capital improvements in the City's Capital Improvement Plan. Together, the plan and implementing tools ensure that future land uses and development patterns in the planning jurisdiction match the community's vision and its residents' quality-of-life expectations.

Further, once a comprehensive plan is certified by the North Carolina Coastal Resource Commission, the State's Division of Coastal Management uses this plan in making CAMA permit decisions and federal consistency determinations. Proposed projects and/or activities that are not consistent with the goals, objectives, or policies set forth in the comprehensive plan are prohibited from securing state permits for construction, as state law may require.

Amendments to the City's Comprehensive Plan must follow a formal process, which includes staff review and comment, a public workshop, a public hearing, and re-certification of the amended plan elements by the North Carolina Coastal Resources Commission. Details on the amendment process can be found in the Evaluation and Monitoring section of the plan on page 7-43.

Planning Context

Havelock is a city of 24,000 in Craven County, located in eastern North Carolina. It is located approximately 97 miles north of Wilmington and 130 miles east of Raleigh. Havelock's closest neighboring communities are New Bern and Morehead City, both of which are approximately

a 30-minute drive via US 70. The city lies entirely within the Crystal Coast, and is bordered by the lower Neuse River and portions of the Croatan National Forest.

Havelock sits on what was once swampland, and active drainage ditches and canals continue to cross the city. The land here is generally flat, with trees and soil conditions typical for a coastal area. The built environment is oriented toward US 70, which traverses across the entire state of North Carolina. This corridor serves as the primary center for commerce of a community that is also home to Marine Corps Air Station (MCAS) — Cherry Point.

The planning jurisdiction assumed for preparing the City's Comprehensive Plan includes the following: areas within city limits, areas within the existing extraterritorial jurisdiction (ETJ), areas within a larger proposed ETJ, and areas within a designated future urban service area. The proposed ETJ represents the boundary generally proposed in the *Eastern Carolina Joint Land Use Study,* for which the City of Havelock was a participant in 2002. The future urban service area represents properties (approximately 484 acres) that could receive City utilities in the near future. The planning jurisdiction for the Comprehensive Plan is illustrated in Figure 1-1.

Craven County does not maintain zoning controls for the area included in the proposed ETJ. It is assumed that the City will enforce all powers in the expanded ETJ granted under Section 160A-360, N.C.G.S., including zoning, subdivision regulations, enforcement of State building codes, acquisition of open space, and a minimum housing code, among others within the lifetime of this Plan. The future urban service area represents an area likely to be annexed by the City within the lifetime of this Plan.

All data, inventory, and analysis completed for this Comprehensive Plan represent conditions for the expanded planning jurisdiction. Upon completion of this planning process, City officials will move forward with formalizing the new extraterritorial jurisdiction line and discussing annexation agreements within

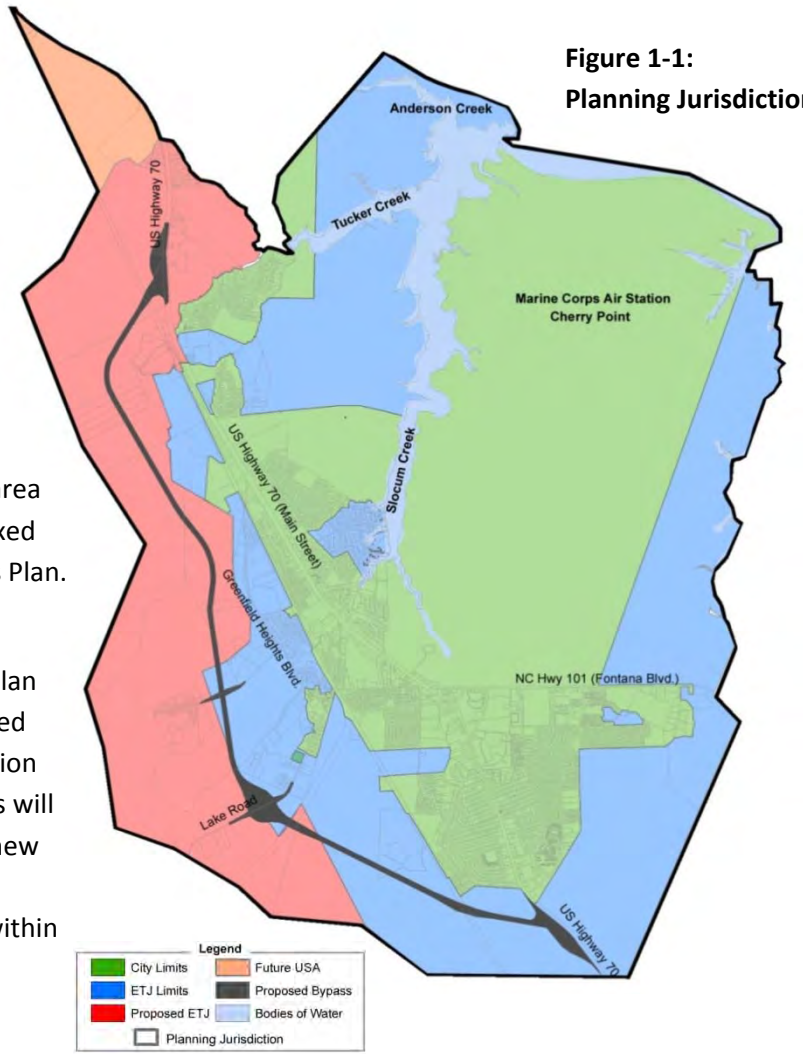


Figure 1-1: Planning Jurisdiction

the future urban service area.

Planning Process

Preparation of the City's Comprehensive Plan was guided by a *Citizen Participation Plan* (CPP) adopted by the Board of Commissioners on July 24, 2006, and amended in 2008 (see Appendix A). The CPP provided a framework for maintaining significant opportunities for public involvement throughout the planning process. These opportunities included three citizen workshops, three formal presentations to the legislative body, ten meetings with a plan advisory committee (open to the public), 12 stakeholder interviews, a project website, a mail-out citizen survey, and several articles in locally circulated newspapers. Routine public outreach facilitated through the CPP was used to document community concerns and aspirations for the Plan, present key findings, elicit reactions to key policy statements, and develop the long-term vision of the community.

An advisory committee of citizen volunteers was established to serve as the lead planning group for the comprehensive plan. This committee provided overall leadership and guidance as the document was prepared. The broad base of local interests, viewpoints, and concerns represented on the committee were invaluable for building consensus among residents and business owners to establish a plan for a more sustainable future. Meeting on a regular basis, the committee's primary objective was to safeguard community interests throughout the planning process, while not submitting a plan that would overburden the City government.

The planning process used for developing the Comprehensive Plan validates the document. It provided a direct conduit between City staff, elected officials, and the general citizenry to establish consensus for a successful long-term vision. The conclusions and recommendations from the *City of Havelock Comprehensive Plan* were reviewed by the general public and formally received by the Board of Commissioners. A full draft document was available at City Hall for public inspection prior to beginning the transmittal process for certifying the plan with the North Carolina Coastal Resource Commission.

Community History[1]

Early Beginnings

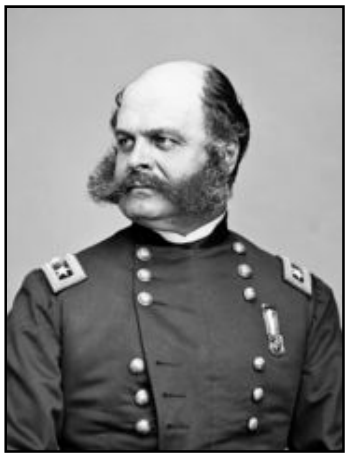
Land occupied by the City of Havelock is part of a larger region in eastern North Carolina that George Washington once referred to as the "most barren country he had ever beheld." Unlike other seaward locations, settlers were slow to migrate to this region from the coast due to the string of barrier islands — known today as the "Outer Banks"— and the relatively shallow water depths along inland waterways that made it difficult to travel by large boat.

[1] History derived from *In This Small Place* by Edward Barnes Ellis, Jr., 2005

Archeologists trace the first evidence of settlers to the Nuesiok Indian Tribe, which discovered the land approximately 400 years ago. These people led a sustainable lifestyle, navigating local waterways and relying on natural resources and vegetation for survival until 1690, when the first settlers arrived from Europe.

The French Huguenots, seeking religious and political freedom, were the first Europeans to arrive in the area and assembled as a settlement near present-day Havelock in 1710. Tensions between the new settlers and the Nuesiok Indian Tribe led to the Tuscarora War in 1711. Three years of bloodshed reduced the size of the European settlement by one-third, and nearly eliminated the Indian tribe. Without competition for the local resources, the French Huguenots would prosper off this land for the next 150 years.

Birth of a Local Economy



During the era of French Huguenot settlements, the natural resources instigated a thriving local economy. The eastern white pine tree is indigenous to the area and became the foundation for an economy that produced tar, pitch, and turpentine for trade, quickly reaching locations worldwide via the shipping industry. These products were used extensively on sailing ships to caulk seams and protect ropes. No ship left port without an essential store of tar and pitch, and these pine products together became known as "naval stores." Output of these materials grew sharply and, at one time, this area of North Carolina supplied nearly all of the naval stores for ships leaving the United States.

Continued growth and prosperity brought settlers, and in 1857 the thriving local community was officially named after Major-General Sir Henry Havelock, a respected leader and general serving interests in Colonial India. The City of Havelock flourished as demand for its exports continued. Demand ultimately reached critical mass, and infrastructure improvements were warranted to keep pace for supplying the pine products.

The railroad came to Havelock in 1858 and was first referred to as the "Old Mullet Line" because of the amount of seafood shipped to points west from Morehead City. Originally built for commerce, residents soon began using the railroad for day trips to the Cities of New Bern and Goldsboro. This newfound mobility and access to nearby markets bolstered Havelock's economy. However, technological advancements in shipping led to the widespread use of iron hulls, which greatly reduced demand for naval stores. Before long, the local economy was diminished as the Civil War occupied the citizens of Havelock.

Civil War

The Civil War reached Havelock on March 11, 1862 when Brigadier General Burnside (picture to the right) arrived with his troops near Slocum Creek, coming ashore where the Carolina Pines community exists today. The Union Army occupied the Havelock train depot and would later take control of the City of New Bern and Fort Macon. During the Civil War, many land owners left their homes to search for a better life. Migration took its total on the spirit of the community, and by the Civil War's conclusion, Havelock was a quiet city with no significant industry.

Moonshine Era

Searching for new means for commerce and income, many citizens who remained in Havelock turned to moonshine and the riches brought by the production of homemade alcohol. In its heyday, the City of Havelock earned a reputation for its moonshine and its "Craven County Corn" whisky. Reliance on the illegal moonshine industry carried the community economically through Prohibition and the Great Depression eras.

The moonshine industry also created a number of legal problems for residents, as state and federal "revenuers" worked to eliminate illegal alcohol production in eastern North Carolina. Local newspaper reporter Reuel Henry Pietz once wrote:

"…the attempts by authorities to stop the practice of illegal liquor manufacturing [in Havelock] helped develop a close-knit community, distrustful of strangers and making them loyal to their own people, even when they did not agree that whisky-making was proper. Local people were assumed to be good while outsiders were believed to be bad."

The community continued to grow and prosper within the strong conviction for local values and kinship through the years until 1941, when plans to establish the Marine Corps Air Station at Cherry Point would forever change the landscape, economy, and community that defined Havelock.

A New Military Town

Through the federal court system, the United States began condemning land in 1939 near the "point" on the Neuse River. Once known for its beautiful cherry trees, this area was identified to become the new Marine Corps Air Station at Cherry Point. Construction of the base started in

1941 and would later become known as one of the most “colossal building programs” during World War II.

This massive construction project provided the community with significant employment opportunities and initiated expansive growth and development within the surrounding environments. Residential growth around the base grew so rapidly that the market could not keep up, and mobile home parks became prevalent throughout the community to meet new demand. The population of Havelock was recorded at 723 in 1940, and soared to 11,695 in 1950 and to 18,083 in 1960.

Looking Forward to Havelock’s Future

The settlers of Havelock originally built a thriving industry from the resources of George Washington’s “barren country,” and then reinvented themselves repeatedly to continue building the foundation for a successful community. Through the years, a spirit among the people and loyalty to the area spread from generation to generation that today charges current residents and business owners with determining how to grow Havelock responsibly. In recent history, a partnership with the U.S. Marine Corps generated a boom to the local economy that greatly influenced the current urban form and market for development.

By understanding the series of historical events that defined the community and the relationships that keep it going, those responsible for the process to develop the City’s Comprehensive Plan have created recommendations for growth, development, and infrastructure that celebrate the uniqueness of Havelock and direct its citizens toward a common vision.

Community Concerns and Aspirations

The topics included in comprehensive plans are as diverse as the communities that create them. Citizens’ concerns and aspirations unique to the City of Havelock were identified early in the planning process and referenced often, helping ensure the document remains specific to the community’s expectations and needs. The initial list of critical concerns and aspirations to be addressed in this planning process was developed by the advisory committee. This list was presented to the entire community during a public kick-off meeting held on August 17, 2006, and then revised to reflect comments expressed during the event. Final revisions to the list were made after responses were received from a citizen survey included in the City’s water and sewer utility bills mailed to customers on November 30, 2006 (See Appendix B).

Clearly, the citizens of Havelock want their City to be a special kind of place, a close-knit community that celebrates the character and local values that make it unique. The following principles established from the final list of community concerns and aspirations would guide future decisions in the planning process:

- Focus future land use decisions on sustainable development — measured by environmental stewardship, economic prosperity, and equitable distribution of community resources — that reflect the community's unique character and local values.
- Increase in-town retail, dining, and employment options.
- Develop a city center, identifiable to the community as the heart of Havelock.
- Offer strategic locations for public facilities and services.
- Provide a range of housing opportunities.
- Ensure local and regional transportation mobility.
- Transform Havelock into a vibrant, walkable community.
- Protect and preserve natural resources
- Increase community amenities, especially active and passive recreation opportunities.
- Improve the delivery of government services.
- Encourage redevelopment of uses in the urban core that have purpose, value, and identity.

Havelock's 2030 Land Use Vision

The long-term vision for land use in the City of Havelock focuses on sustainable development — measured by environmental stewardship, economic prosperity, and an equitable distribution of community resources — that reflects the community's unique character and local values. Commitment to sustainable development will be tested in the coming years, as population forecasts anticipate up to 33,347 people will call Havelock home by the year 2030.

Accommodating these new residents will require redevelopment of existing underutilized parcels within city limits and purposeful expansion into currently undeveloped areas. In addition, widespread community support exists for preserving the integrity of established neighborhoods. This momentum allows City officials opportunities to promote Havelock as a vibrant urban landscape with an identifiable city center, establish land use controls for protecting investment in the proposed bypass, and set a new vision for the US 70 Corridor that will transform Main Street back into a community asset once the proposed bypass is completed.

In fulfilling the City's land use vision, community leaders will need to rethink the components of the city as well as the spatial relationships between them. By making changes to better integrate land use, urban form, and transportation, the City of Havelock will develop in a manner that successfully balances continued growth with livability.

Chapter 2

Demographic Profile

When it comes to understanding community, people, housing and employment are as simple as it gets.

- Anonymous

Demographic Profile

Housing Units

Building Permit Trends

A total of 6,573 residential building permits were issued in Craven County between 2000 and 2007. The number of permits issued increased every year from 2000 to 2005, illustrating the County's accelerating housing market during this time. The number of building permits decreased slightly from 2005 to 2006, from 1,136 to 1,021. This trend continued from 2006 to 2007, when the number of permits decreased substantially from 1,021 to 607.

The annual average was 822 permits. Single family permits represented 90% of the eight-year total, with multi-family permits comprising 10%.

Table 2-1

Building Permit Trends Craven County, 2000-2007			
Year	Single Family	Multi-Family	Total
2000	442	48	490
2001	449	181	630
2002	620	50	670
2003	664	101	765
2004	998	34	1,032
2005	1,136	149	1,285
2006	1,021	36	1,057
2007	607	37	644
Total	5,937	636	6,573
Annual Average	742	80	822

Source: U.S. Census Bureau

A total of 1,058 residential building permits were issued in Havelock between 2000 and 2007, representing 16% of the Craven County's total of 6,573 permits. Annual totals for Havelock ranged between 39 units in 2007 to 226 units in 2001. The annual average was 132 units. Similar to Craven County, Havelock's permits were predominantly single family. However, reflecting Havelock's more urban development pattern, the 79% single family share was lower than 90% for Craven County. The number of single family permits issued by the City of Havelock increased each year between 2000 and 2004, and then began declining every year between 2005 and 2007. The decrease could be attributable in part to constraints

on the City's waste water treatment capacity. It should be noted that building permit trends do not include residential development at Marine Corps Air Station – Cherry Point.

Table 2-2

Building Permit Trends City of Havelock, 2000-2007			
Year	Single Family	Multi-Family	Total
2000	54	0	54
2001	66	160	226
2002	97	28	125
2003	105	26	131
2004	202	0	202
2005	153	7	160
2006	121	0	121
2007	39	0	39
Total	837	221	1,058
Annual Average	105	28	132

Source: U.S. Census Bureau

Unit Trends By Type

According to the 2000 U.S. Census, 72.5% of Havelock's 6,783 total units were single family houses, fairly consistent with the share of the City's 2000-2005 permits. Craven County and North Carolina had lower single family shares of 68% and 67%, respectively. Havelock's 7.3% mobile home share in 2000 was also much less than 18% for Craven County and 16% for North Carolina.

Table 2-3

Housing Units by Type, 2000				
Area	Single Family	Multi-Family	Mobile Homes	Total
City of Havelock	4,918	1,370	495	6,783
Craven County	25,950	5,346	6,854	38,150
North Carolina	2,373,956	572,665	577,323	3,523,944

Source: U.S. Census Bureau

Occupied/Vacant Units

In 1990, Havelock had 6,096 housing units. This number represented 18.9% of the 32,293 units in Craven County. Approximately 93% of Havelock's housing units were occupied, compared to 91.5% in Craven County and 89.3% in North Carolina. For the purposes of this analysis, only occupied units were considered as permanent.

Table 2-4

Housing Units, 1990			
Area	Occupied	Vacant	Total
City of Havelock	5,661	435	6,096
Craven County	29,542	2,751	32,293
North Carolina	2,517,026	301,167	2,818,193

Source: U.S. Census Bureau

Seasonal housing units are vacant units used or intended for use only in certain seasons or for the weekend or other occasional use throughout the year. Of the 435 total vacant housing units in Havelock in 1990, 18 were considered seasonal. Over 50% of the vacant units were either for sale or for rent.

Table 2-5

Havelock Vacant Housing Units, 1990		
Type	Units	Percent of Total
For Rent	159	36.6%
For Sale	69	15.9%
Rented or Sold	29	6.7%
Seasonal	18	4.1%
Migrant Workers	1	0.2%
Other	159	36.6%
Total	435	100.0%

Source: U.S. Census Bureau

In 2000, 6,783 housing units were located in Havelock, an increase of 11.3% from 1990. Comparatively, Craven County added 5,857 units (18.1%) between 1990 and 2000 to reach a total of 38,150 units. The percent of occupied units in Havelock increased from 93% in 1990 to 94.5% in 2000.

Table 2-6

Housing Units, 2000			
Area	Occupied	Vacant	Total
City of Havelock	6,411	372	6,783
Craven County	34,582	3,568	38,150
North Carolina	3,132,013	391,931	3,523,944

Source: U.S. Census Bureau

Total vacant housing units in Havelock decreased from 435 in 1990 to 372 in 2000. The total number of seasonal units decreased by 22.2%; from 18 to 14 during the ten-year period. Similar to 1990, the majority of vacant housing units were for rent.

Table 2-7

Havelock Vacant Housing Units, 2000		
Type	Units	Percent of Total
For Rent	170	39.1%
For Sale	59	13.6%
Rented or Sold	70	16.1%
Seasonal	14	3.2%
Migrant Workers	0	0.0%
Other	59	13.6%
Total	372	100.0%

Source: U.S. Census Bureau

Based on data provided by the City of Havelock, the housing unit supply increased from 6,783 in 2000 to 7,732 in 2005, a growth rate of 14%. The percent of occupied housing units in Havelock was estimated at 94.5% in 2005, consistent with the occupancy level in 2000. The 7,732 units in Havelock represented 18.5% of Craven County's 41,843 units, which were derived by compiling building permit data between 1999 and 2004. This share was down slightly from the 18.9% in 1990, but up from the 17.8% in 2000. A breakdown of vacant units by category was not provided for 2005.

Table 2-8

Housing Units, 2005			
Area	Occupied	Vacant	Total
City of Havelock	7,307	425	7,732
Craven County	37,928	3,915	41,843
North Carolina	2,517,026	301,167	2,818,193

Source: U.S. Census Bureau, ESRI, and Warren & Associates

Tenure

Based on estimates provided by Economic Systems Research Institute (ESRI), the City of Havelock has a 59% renter-occupied housing share, which is well above 32% for Craven County and 30% for North Carolina. These housing unit shares include nearly 1,600 military units on base that are not included under group quarters (i.e., single-family homes, apartments). Group quarters are defined by the U.S. Census Bureau as a place where people live or stay that is normally owned or managed by an entity or organization providing housing and/or services for the residents. People living in group quarters are usually not related to each other. Military barracks are included in the U.S. Census Bureau definition of group quarters.

The higher renter share in Havelock is due in large part to MCAS - Cherry Point and its comparatively transient military population.

Table 2-9

Rental and Owner-Occupied Housing Unit Shares, 2005		
Area	Rental	Owner-Occupied
City of Havelock	59.4%	40.6%
Craven County	32.0%	68.0%
North Carolina	29.7%	70.3%

Source: ESRI

Households

Trends

According to the U.S. Census, 750 households were added within the City of Havelock between 1990 and 2000, equating to a growth rate of 13.2%. This rate is lower than 17.1% for Craven County and 24.4% for North Carolina. As a result, Havelock's share of Craven County households decreased from 21.2% in 1990 to 18.5% in 2000.

Table 2-10

Household Trends, 1990-2000				
			1990-2000 Change	
Area	1990	2000	Number	Percent
City of Havelock	5,661	6,411	750	13.2%
Craven County	29,542	34,582	5,040	17.1%
North Carolina	2,517,026	3,132,013	614,987	24.4%

Source: U.S. Census Bureau

According to housing unit data provided by the City of Havelock and an estimated 94.5% occupancy level, a total of 896 households were added in Havelock between 2000 and 2005. The resulting 14.0% growth rate was higher than the 13.2% growth rate for the decade between 1990 and 2000, indicating accelerated growth since 2000. Unlike the trend between 1990 and 2000, Havelock households grew at a more rapid pace than Craven County between 2000 and 2005, which added 3,346 households for a growth rate of 9.7%.

Table 2-11

Household Trends, 2000-2005				
			2000-2005 Change	
Area	2000	2005	Number	Percent
City of Havelock	6,411	7,307	896	14.0%
Craven County	34,582	37,928	3,346	9.7%
North Carolina	3,132,013	3,615,722	483,709	15.4%

Source: U.S. Census Bureau and Warren & Associates

Income

According to ESRI, almost 41% of households in Havelock earned between $25,000 and $49,999 in 2005. This 41% share was significantly higher than 31.6% for Craven County and 29.2% for North Carolina. In addition, a total of 16.1% of Havelock households earned $75,000 or more in 2005, much less than the 20% for Craven County and 25% for North Carolina.

Table 2-12

Household Shares by Income Cohort, 2005						
Area	<$25,000	$25,000-$49,999	$50,000-$74,999	$75,000-$99,999	>$100,000	Total
City of Havelock	23.6%	40.8%	19.5%	9.0%	7.1%	100.0%
Craven County	28.6%	31.6%	20.0%	10.0%	9.8%	100.0%
North Carolina	26.4%	29.2%	19.8%	10.6%	14.0%	100.0%

Source: ESRI

Potential factors influencing Havelock's income distribution include a predominance of public sector and military employment, and a service-based economy void of major manufacturers. MCAS - Cherry Point employees also reside in a broad geographic area, including but not limited to Craven, Carteret, Pamlico, and Jones counties.

Population

Trends

Based on U.S. Census data, the City of Havelock contained 22,442 residents in 2000, up 10.7% from 20,268 residents in 1990. Similar to households, this growth rate was less than the 12.0% for Craven County and the 21.4% for North Carolina. In 2000, Havelock's 22,442 residents represented a 24.5% share of Craven County's population of 91,436 persons. This share was relatively unchanged from 1990.

Table 2-13

Population Trends, 1990- 2000				
			1990-2000 Change	
Area	1990	2000	Number	Percent
City of Havelock	20,268	22,442	2,174	10.7%
Craven County	81,613	91,436	9,823	12.0%
North Carolina	6,628,637	8,049,313	1,420,676	21.4%

Source: U.S. Census Bureau

It was determined earlier in the report that an estimated 896 households were added in Havelock and 3,346 households were added in Craven County between 2000 and 2005. These households were converted into population in households by applying an average household size based on 1990 to 2000 trends. Group quarters data, based predominantly on MCAS - Cherry Point trends, were then added to the population in households in order to determine population for 2005.

Table 2-14

Population Trends, 2000-2005				
			2000-2005 Change	
Area	2000	2005	Number	Percent
City of Havelock	22,442	24,393	1,951	8.7%
Craven County	91,436	96,730	5,294	5.8%
North Carolina	8,049,313	9,184,356	1,135,043	14.1%

Source: ESRI and Warren & Associates

Resulting numbers indicate that the City of Havelock grew by 1,951 people between 2000 and 2005, representing an 8.7% growth rate. Craven County's population grew at a slower rate of 5.8%, going from 91,436 residents in 2000 to 96,730 in 2005. Havelock's share of Craven County population growth during the five-year period was 36.8%, significantly up from its 22.1% share of 1990 to 2000 growth.

Craven County

Because Craven County is home to MCAS - Cherry Point, it has a significant group quarters population. As of 1990, the 3,599 persons in group quarters comprised 4.4% of the county, increasing to 5.6% in 2000. The group quarters population growth of 1,538 persons (43%) resulted in a 2000 count of 5,137 persons. Of the 9,823 residents added to the county between 1990 and 2000, 30% lived in group quarters.

Table 2-15

Craven County Population Trends, 1990-2000				
			1990- 2000 Change	
Area	1990	2000	Number	Percent
Population in HHs	78,014	86,299	8,285	10.6%
Group Quarters	3,599	5,137	1,538	42.7%
Total	81,613	91,436	9,823	12.0%

Note: Permanent population only; excludes seasonal
Source: U.S. Census Bureau

The 2005 population estimate for Craven County was 96,730, up 5.8% from 91,436 in 2000. Whereas population in households increased by 6.4% during the five-year period, group quarters decreased by 3.7%, predominantly a result of a reduction in military personnel housed in barracks at MCAS - Cherry Point.

Table 2-16

Craven County Population Trends, 2000-2005				
			2000-2005 Change	
Area	2000	2005	Number	Percent
Population in HHs	86,299	91,785	5,486	6.4%
Group Quarters	5,137	4,945	-192	-3.7%
Total	91,436	96,730	5,294	5.8%

Note: Permanent population only; excludes seasonal
Source: U.S. Census Bureau and Warren & Associates

Havelock

Havelock's population increased 10.7% from 20,268 persons in 1990 to 22,442 persons in 2000. As a result of the presence of MCAS - Cherry Point, the percent of Havelock's population residing in group

quarters in 2000 was 16.8%, up from 13.4% in 1990. The 1,042-person increase in the group quarters population was almost equivalent to the 1,132-person increase in the population in households.

T able 2-17

Havelock Population Trends 1990-2000				
			1990-2000 Change	
Area	1990	2000	Number	Percent
Population in HHs	17,550	18,682	1,132	6.5%
Group Quarters	2,718	3,760	1,042	38.3%
Total	20,268	22,442	2,174	10.7%

Note: Permanent population only; excludes seasonal
Source: U.S. Census Bureau

It is estimated that Havelock contained 24,393 people in 2005, an increase of 1,951 (8.7%) from 2000. The 2005 population in households and group quarters estimates were derived in the same manner as those for Craven County. The results indicate that Havelock added significantly more population in households between 2000 and 2005 than it did during the 10-year period between 1990 and 2000. However, group quarters population experienced a 5.1% decline between 2000 and 2005, a reversal from 38.3% growth from 1990 to 2000.

Table 2-18

Havelock Population Trends, 2000-2005				
			2000-2005 Change	
Area	2000	2005	Number	Percent
Population in HHs	18,682	20,825	2,143	11.5%
Group Quarters	3,760	3,568	-192	-5.1%
Total	22,442	24,393	1,951	8.7%

Note: Permanent population only; excludes seasonal
Source: U.S. Census Bureau

There were 5,759 military personnel and dependents living on base at MCAS - Cherry Point in 2005 that resided in single-family homes and apartments rather than in barracks. They are omitted from the group quarters population.

The only noticeable shift in the age distribution of Havelock residents between 2000 and 2005 was an increase in the 45 and older cohort, which increased from 12.6% to 15.7% of the City's population. This could be attributable to growth in active military personnel and retirees.

Table 2-19

Havelock Population Shares By Age Cohort, 2000- 2005		
Age	2000	2005
< 15	24.6%	24.0%
15-24	32.6%	31.0%
25-44	30.2%	29.3%
45-64	9.5%	11.5%
>= 65	3.1%	4.2%
Total	100.0%	100.0%

Source: ESRI

Permanent/Seasonal

Havelock's 18 seasonal housing units in 1990 housed 55 people. This seasonal population represented 6.2% of Craven County's 890 seasonal residents. Havelock's share of Craven County's permanent population was 24.8% in 1990.

Table 2-20

Permanent and Seasonal Population, 1990			
Area	Permanent	Seasonal	Total
City of Havelock	20,268	55	20,323
Craven County	81,613	890	82,503
North Carolina	6,628,637	250,733	6,879,370

Source: U.S. Census Bureau

According to the US Census Bureau, the seasonal population in Havelock in 2000 was less than it was in 1990. As a result, Havelock's share of Craven County's seasonal population decreased from 6.2% in 1990 to 3.7% in 2000. However, its share of Craven County's permanent population remained stable at 24.5%.

Table 2-21

Permanent and Seasonal Population, 2000			
Area	Permanent	Seasonal	Total
City of Havelock	22,442	40	22,482
Craven County	91,436	1,083	92,519
North Carolina	8,049,313	335,826	8,385,139

Source: U.S. Census Bureau

Based on estimates from Warren & Associates, Havelock's seasonal population of 43 persons in 2005 represented 3.8% of Craven County's 1,143 seasonal residents. This share was consistent with 3.7% in 2000. In addition, Havelock's 25.2% share of Craven County's 96,730 permanent population in 2005 was up from 24.5% in 2000.

Table 2-22

Permanent and Seasonal Population, 2005			
Area	Permanent	Seasonal	Total
City of Havelock	24,393	43	24,436
Craven County	96,730	1,143	97,873
North Carolina	9,184,356	403,265	9,587,621

Source: ESRI, Warren & Associates

In summary, the permanent population in Havelock in 2005 is estimated at 24,393, an 8.7% increase from 22,442 in 2000. It is important to note that these numbers include population on base at MCAS - Cherry Point, which was estimated at 8,987 in 2005. Seasonal population remained fairly stable in Havelock during the five-year period, going from 40 people in 2000 to 43 people in 2005.

Table 2-23

City of Havelock Permanent and Seasonal Population, 2000-2005				
			2000-2005 Change	
Type	2000	2005	Number	Percent
Permanent	22,442	24,393	1,951	8.7%
Seasonal	40	43	3	7.5%
Total	22,482	24,436	1,954	8.7%

Source: ESRI, Warren & Associates

Havelock Forecast

Growth Issues

Warren & Associates forecasted population in Havelock annually from 2005 to 2010 and in five-year increments from 2010 to 2030. Issues impacting the 25-year forecast include wastewater treatment capacity and land availability for future development.

Wastewater Treatment Capacity

Based on information from the Havelock Public Works Department, another 150,000 gallons per day of wastewater treatment capacity is available. It is estimated that 225 gallons per day are needed to support a single family household and 160 gallons per day for a multi-family household. According to the

past and present ratio of single family to multi-family households in Havelock, this equates to an average of 212 gallons per day per household. Assuming that 40% of the remaining capacity is reserved for future residential development and 60% for future commercial development, additional capacity would be required by 2009, when Havelock is expected to reach between 7,600 and 7,700 total households. As of July 2008, the City of Havelock has 5,547 households.

Remaining wastewater treatment capacity in Havelock could also be reduced by MCAS - Cherry Point's plan to move 924 of 1,435 military households (excluding group quarters) currently located on base by 2011. This reflects a goal by the military to relocate military families to private sector housing. Many of the households being transitioned off base would choose to reside in Havelock.

Developable Land Supply

In terms of land availability, the current city limits of Havelock encompass 11,768 acres, including approximately 7,450 acres controlled by MCAS - Cherry Point. Only 490.74 acres are categorized as vacant and unprotected (or developable). Assuming that 10% of that developable acreage would be utilized for open space, roads and public utilities, a total of 442 acres would remain for development. If half of that resulting acreage is allocated for future residential development, at an average density of five housing units per acre (currently observed in the city limits), the maximum amount of additional housing units that could be accommodated within the current Havelock city limits is 1,105. Based on this growth, the area within city limits would be residentially built-out by 2013. By this time, it is anticipated that Havelock will annex at least a portion of its current and proposed extra territorial jurisdiction (ETJ). The combined ETJ represents another 13,363 acres, of which 602 acres are considered vacant and unprotected (or developable).

2005 — 2010 Forecast: Permanent Population

The household forecast from 2005 to 2010 is based on U.S. Census Bureau building permit trends in 2004 and 2005 as well as 2000 to 2005 housing unit growth data provided by the City of Havelock. The 2005 and 2006 additional households estimates assume that 95% of the annual building permits issued result in completed units the following year. Then, a constructed unit occupancy rate of 94.5% was applied to the housing unit forecast to determine households for each year. The 2007 to 2010 forecasts apply the annual average households (149) added within Havelock between 2000 and 2005 to the previous year's total. This method indicates that Havelock would increase its household total from 7,307 in 2005 to 8,049 in 2010, a growth rate of 10.1%.

Table 2-24

Household Forecast, 2005-2010, City of Havelock								
							2005-2010 Change	
Type	2005	2006	2007	2008	2009	2010	Number	Percent
Beginning Households	7,126	7,307	7,451	7,600	7,750	7,899	773	10.8%
Additional Households	181	144	149	149	149	149	N/A	N/A
Total	7,307	7,451	7,600	7,750	7,899	8.049	742	10.1%

Source: U.S. Census Bureau, MCAS - Cherry Point, Warren & Associates

Households are converted into population in households for 2005-2010 by applying average household size estimates (based on 1990-2000 trends). The forecast indicates that Havelock's population in households could increase from 20,825 in 2005 to 25,536 by the end of 2010, a growth rate of 8.2%.

Table 2-25

Population in Households Forecast, 2005-2010, City of Havelock								
							2005-2010 Change	
Type	2005	2006	2007	2008	2009	2010	Number	Percent
Total Households	7,307	7,451	7,600	7,750	7,899	8,049	742	10.1%
Average Household Size	2.85	2.84	2.83	2.82	2.81	2.80	N/A	N/A
Ending Population	20,825	21,260	21,508	21,854	22,196	25,536	1,711	8.2%

Source: U.S. Census Bureau, MCAS - Cherry Point, Warren & Associates

Group quarters are the second component of Havelock's permanent population. Group quarters forecasts were generated from the Housing Market Analysis for MCAS -Cherry Point (2006 Draft Report and 2008 Final Report Update) and confirmed by officials for the military base. According to MCAS-Cherry Point, group quarters population on base are expected to increase from 3,163 persons in 2006 to 3,710 persons in 2010 (see Table 2-26). Keeping other group quarters in Havelock constant, the total group-quarters population would increase from 3,060 in 2005 to 3,710 in 2010. The total population over the five-year period is forecasted to grow by 9.9% from 23,885 persons in 2005 to 26,246 persons at the end of 2010.

Table 2-26

Permanent Population Forecast, 2005-2010, City of Havelock								
							2005-2010 Change	
Type	2005	2006	2007	2008	2009	2010	Number	Percent
Ending Population	20,825	21,260	21,508	21,854	22,196	22,536	1,711	8.2%
Group Quarters	3,060	3,163	3,266	3,544	3,544	3,710	650	21.2%
Total Population	23,885	24,423	24,774	25,398	25,740	26,246	2,361	9.9%

Source: U.S. Census Bureau, MCAS - Cherry Point, Warren & Associates

2005 — 2010 Forecast: Seasonal Population

Seasonal population is forecasted to increase from 43 persons in 2005 to 60 persons in 2010. The seasonal forecast is based on 1990 to 2000 trends as well as the amount of developable land available for resort or second home development. The combined permanent and seasonal population forecast is 27,299 persons by the end of 2010, an 11.7% increase from 24,436 persons at the end of 2005.

Table 2-27

Total Population Forecast, 2005-2010, City of Havelock								
							2005-2010 Change	
Type	2005	2006	2007	2008	2009	2010	Number	Percent
Permanent	24,393	24,663	25,111	25,557	26,799	27,239	2,846	11.7%
Seasonal	43	44	45	50	55	60	17	39.5%
Total Population	24,436	24,707	25,156	25,607	26,854	27,299	2,863	11.7%

Note: Assumes development of competitive property for seasonal housing units.
Source: U.S. Census Bureau, MCAS - Cherry Point, Warren & Associates

2010-2030 Forecast

By 2030, nearly 36,000 people could reside within Havelock's boundaries. This represents an increase of about 8,400 people from 2010, equating to a growth rate of 31.7%. Approximately 97% of the growth would be attributable to permanent residents. The seasonal population could increase by 240 persons based on the competitiveness of coastal locations for second home investments.

Table 2-28

Population Forecast, 2010-2030, City of Havelock							
						2010-2030 Change	
Type	2010	2015	2020	2025	2030	Number	Percent
Permanent	27,239	29,598	30,937	33,174	35,409	8,170	30.9%
Seasonal	60	150	200	250	300	240	400.0%
Total Population	27,299	29,748	31,137	33,424	35,709	8,410	31.7%

Note: Assumes development of competitive property for seasonal housing units.
Source: U.S. Census Bureau, MCAS - Cherry Point, Warren & Associates

Employment

Trends

According to the North Carolina Employment Security Commission (NCESC), Craven County had 40,684 jobs in 2005, up 2.7% from 39,615 jobs in 2000. This growth rate was well above the 0.4% decline for North Carolina during the five-year period. Unlike a number of North Carolina counties that experienced declines in manufacturing employment between 2000 and 2005, Craven County posted a 1.3% gain.

Table 2-29

Major Employers by Sector, Craven County, 2005				
	Jobs		2000-2005 Change	
Sector	2000	2005	Number	Percent
Agriculture	505	446	(59)	-11.7%
Mining	11	57	46	418.2%
Utilities	78	106	28	35.9%
Construction	1,907	1,934	27	1.4%
Manufacturing	4,621	4,683	62	1.3%
Wholesale Trade	957	829	(128)	-13.4%
Retail Trade	5,013	4,750	(263)	-5.2%
Transportation/Warehousing	1,136	1,275	139	12.2%
Information	728	619	(109)	-15.0%
Finance and Insurance	682	717	35	5.1%
Real Estate	479	343	(136)	-28.4%
Professional/Technical Services	1,524	1,669	145	9.5%
Management	70	97	27	38.6%
Administrative and Waste Services	1,915	1,977	62	3.2%
Education	2,692	2,797	105	3.9%
Health Care	5,193	6,140	947	18.2%
Arts, Entertainment, Recreation	522	543	21	4.0%
Accommodation and Food Services	2,891	3,271	380	13.1%
Other Services	1,088	1,104	16	1.5%
Public Administration	7,603	7,237	(366)	-4.8%
Unclassified	0	90	90	N/A
Total	39,615	40,684	1,069	2.7%

Source: North Carolina Employment Security Commission

Growth industries in Craven County included healthcare (947 jobs added) and accommodation and food services (380 jobs added). Employment sectors that lost jobs included retail trade, wholesale trade, public administration, and real estate. Combined, these four sectors lost a total of 893 jobs between 2000 and 2005.

Major Employers

The top two employers in Craven County are located in Havelock. According to military sources, the MCAS - Cherry Point and Naval Health Clinic employed 11,237 personnel (military and civilian) in 2005, with the adjoining Fleet Readiness Center East employing another 3,808 people. There are more jobs at MCAS - Cherry Point and the Fleet Readiness Center East than the remaining six major Craven County employers combined. All of the other major employers in Craven County are associated with schools, hospitals, and manufacturing. Most of these are located in New Bern.

Table 2-30

Major Employers by Employer, Craven County, 2005		
Employer	Location	Employees
MCAS - Cherry Point	Havelock	11,237
Fleet Readiness Center East	Havelock	3,808
Craven County Schools	New Bern	1,842
Craven Regional Medical Center	New Bern	1,500
Moen, Inc.	New Bern	1,100
BSH	New Bern	1,100
Hatteras Yachts	New Bern	1,100
PCS Phosphate	Aurora	1,037

Note: Employers over 1,000 employees, MCAS includes Naval Hospital
Source: New Bern, Havelock Chambers

With more than 15,000 jobs, MCAS - Cherry Point is the second largest employer east of I-95 in North or South Carolina. Camp Lejeune is the largest employer, with approximately 40,000 jobs. More than 5,000 civilians are employed at MCAS - Cherry Point, which makes it one of the largest private employers in either North or South Carolina.

Table 2-31

MCAS- Cherry Point Employment, 2005				
Area	Marine Corps Air Station	Naval Air Depot	Naval Hospital	Total
Military	9,253	39	138	9,530
Civilian	1,186	3,769	136	5,091
Non-Appropriated	424	0	0	424
Total	10,863	3,808	374	15,045

Source: MCAS - Cherry Point

Approximately 32.0% of the total employment in Craven County in 2005 was in the public sector. Comparatively, only 3.4% of employment in the State of North Carolina was in the public sector. With such a strong government employment base, Craven County's economy is comparatively stable, with an unemployment rate typically below the statewide average.

Table 2-32

Craven County Employment, 2005		
Type	Employment	% of Total
Private	27,661	68.0%
Government	13,023	32.0%
Total	40,684	100.0%

Source: North Carolina Employment Security Commission

Summary

The community profile presents an overview of existing and projected future conditions pertinent to the preparation of the Future Land Use Map and supporting goals, objectives, and policies in the Comprehensive Plan. A summary of housing, population, and employment characteristics and trends follows:

Households

- The City of Havelock experienced a moderate 13.2% household growth rate between 1990 and 2000.
- More households (896) were added within the City of Havelock between 2000 and 2005 than during the entire 1990s (750).
- Compared to Craven County and the State of North Carolina, Havelock had a much smaller share of households earning $75,000 or more per year in 2005.
- Nearly 60% of Havelock's 2005 estimated housing units were occupied by renters, much higher than Craven County's 32% and North Carolina's 30%. This trend is most likely attributable to the highly transient military population in Havelock.
- Based on the Warren & Associates' household forecast, Havelock would exhaust its remaining wastewater treatment capacity by mid-2008, when approximately 7,600 households could reside in the community.

Population

- Population growth rates of 10.7% for Havelock and 12.0% for Craven County between 1990 and 2000 were much lower than 21.4% for North Carolina.
- According to the City of Havelock and Warren & Associates, it is estimated that Havelock contained 24,393 people in 2005, an 8.7% increase from 22,442 persons in 2000.
- A total of 14.6% of Havelock's residents were located in group quarters in 2005, predominantly in military barracks at Marine Corps Air Station (MCAS) - Cherry Point.
- Based on 2000-2005 data, the share of Havelock's population younger than 44 decreased while the population over age 45 increased.
- A total of 26,439 people are forecasted to permanently reside in Havelock in 2010, reaching more than 34,600 people by 2030. The seasonal population could reach 300 persons by 2030.

Employment

- Craven County's healthcare and accommodation/food service sectors added jobs between 2000 and 2005, while retail trade, wholesale trade and public administration sectors lost jobs.
- Havelock's economy is heavily dependent upon MCAS - Cherry Point, which represented 37% of Craven County's total jobs in 2005.
- About 32% of the jobs in Craven County are public sector affiliated, compared to only 3.4% in North Carolina.

Chapter 3

Havelock Today

How do we know where we're going if we don't know where we've been?

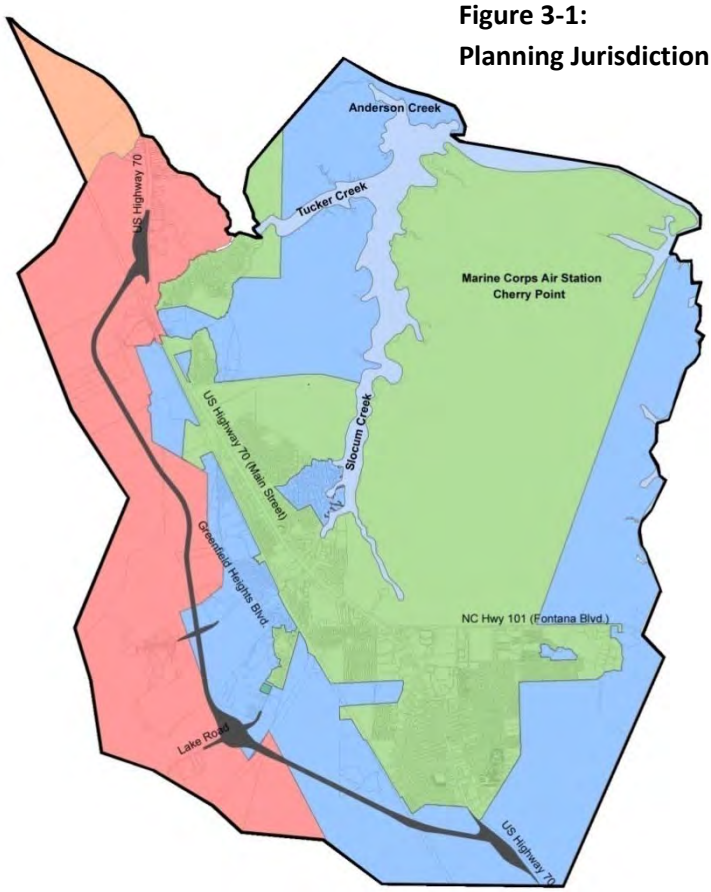
- Anonymous

An inventory and analysis of existing conditions within the planning jurisdiction serves as the benchmark for evaluating future year impacts in subsequent chapters of this document. The Havelock Today chapter of the Comprehensive Plan evaluates conditions for land use, community facilities and services, and natural resources, as well as other plans' guidance for developing the overall document. Existing conditions reported herein represent data published in 2005.

Physical Description

The planning jurisdiction assumed for preparing the City's Comprehensive Plan includes the following: areas within city limits, areas within the existing extraterritorial jurisdiction (ETJ), areas within a larger proposed ETJ, and areas within a designated future urban service area (see Figure 3-1). The proposed ETJ represents the boundary generally proposed in the *Eastern Carolina Joint Land Use Study,* for which the City of Havelock was a participant in 2002. The future urban service area represents properties (approximately 484 acres) that could receive City utilities in the near future.

Figure 3-1: Planning Jurisdiction



In total, the study area is comprised of 25,625 acres, with more than 11,000 acres dedicated to the MCAS - Cherry Point military base. Acres allotted to MCAS - Cherry Point account for more than 63% of the land within the city limits, and more than 37% of land located within the entire planning jurisdiction.

Geography

Situated on the coastal plain, Havelock is generally flat, with trees and soil conditions indicative of a coastal area. Present-day Havelock sits upon land that was once swampland, and active drainage ditches and canals continue to cross the city. According to the State Climate Office of North Carolina, Havelock's highest point of elevation is 36 feet above sea level and is located on the MCAS-Cherry Point military base.

Climate

Havelock's climate is mild. Summers are hot and humid, with an average high in July of 88.8 degrees. Winters rarely bring snow, as the average high in January is 54.8 degrees, and January's average lows are still above the freezing point at 35.3 degrees. Havelock receives about 57.0 inches of precipitation during the year, with the largest amount — 8.1 inches — in August, during the height of hurricane season. April is the month with the least amount of precipitation, averaging 3.0 inches (Source: State Climate Office of North Carolina).

Governance

The City of Havelock operates under a council-manager form of government. In addition to functioning as Havelock's official spokesperson, the Mayor leads the Board of Commissioners in setting policy and direction for the City. The Mayor votes on policy issues in the event of a tie; otherwise, the position is largely ceremonial. Residents of Havelock elect the Mayor to a four-year term.

The five members of the Board of Commissioners are elected to serve four-year terms. Elections for the Board of Commissioners are staggered, with three Commissioners elected during one election cycle and two Commissioners elected during the next election cycle two years later. This practice ensures continuity for the City of Havelock's governing body. Havelock's municipal elections are non-partisan; neither the Mayor nor the Commissioners declare an allegiance to a political party. Additionally, the Board of Commissioners elections are at-large, allowing the Commissioners to represent all of Havelock's residents rather than those only within specific district boundaries. Havelock's government has no term limits for elected officials.

City of Havelock Municipal Building (2006)

The City of Havelock has nine departments:

- Administration
- Public Works
- Utilities
- Fire and Rescue
- Police
- Parks and Recreation
- Information Technology
- Finance
- Planning and Inspections

The Public Services Department oversees water supply, wastewater, and storm water utilities. Havelock schools are a part of the Craven County School District. Havelock's public library is a member of the Craven-Pamlico-Carteret Regional Library System.

Marine Corps Air Station – Cherry Point

MCAS - Cherry Point represents a majority of the planning jurisdiction. MCAS has dedicated a full-time community liaison for coordinating on important City-MCAS issues. Havelock's Board of Commissioners and the MCAS representative work together on land use, noise, airfield protection zone, and growth and development issues. The City of Havelock greatly values MCAS and the cooperative relationship between the City and military base.

Land Use

The initial step for formulating a vision of growth and development in the City of Havelock is to understand existing land use and development patterns in the community. Existing land use information for the City was obtained from the Planning and Inspections Department and validated by City staff's field visits. Figure 3-2 illustrates the spatial relationship of existing land uses within Havelock, including identification of vacant, unprotected land available for either future development or permanent preservation. The approximate acreage for each land use category displayed on the existing land use map is summarized in Table 3-1.

Figure 3-2: Existing Land Use

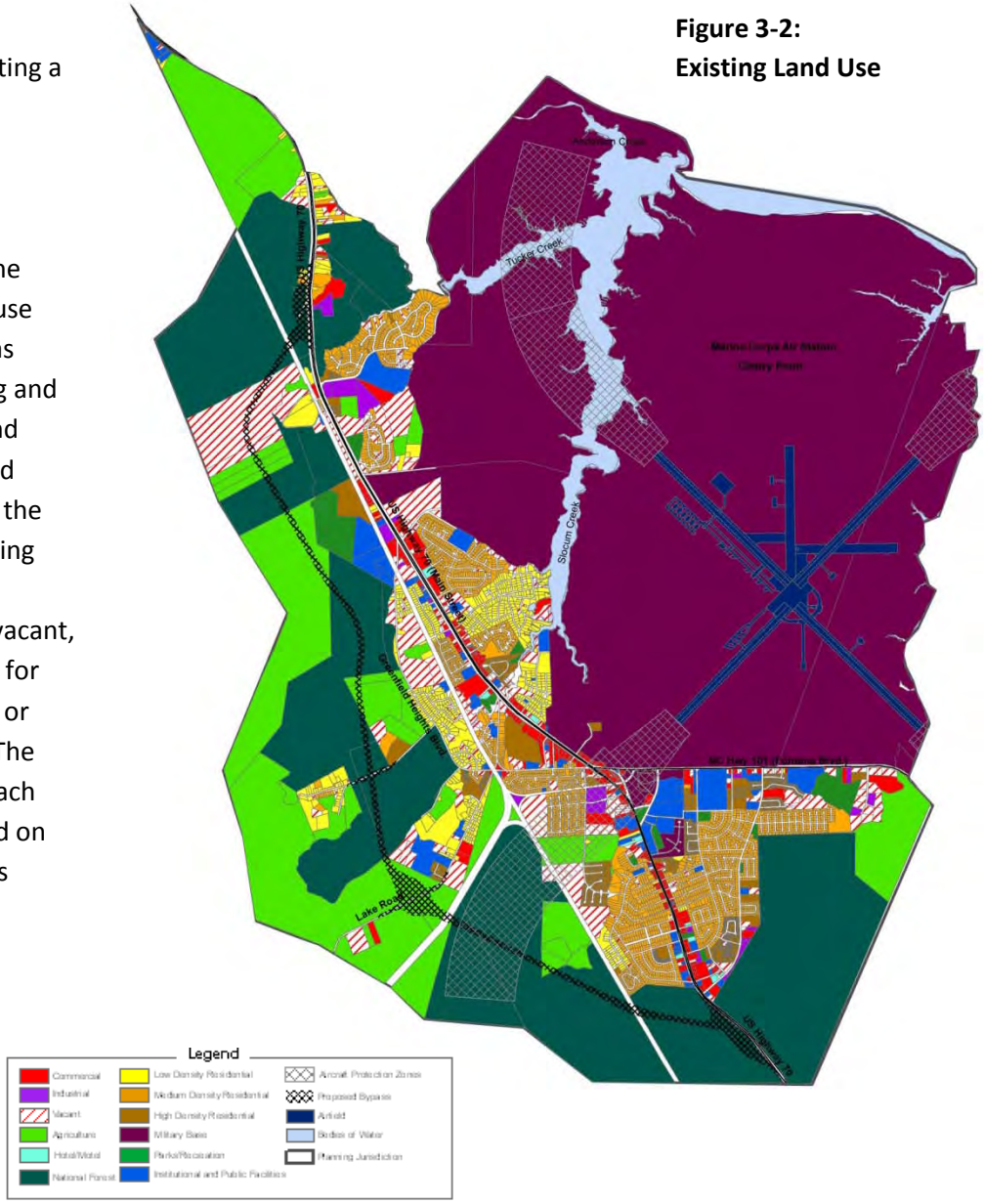


Table 3-1

City of Havelock Comprehensive Plan Existing Land Use Profile										
Land Use	Within City Limits		Within Existing ETJ		Within ETJ Expansion		Future Urban Service Area		Total	
	Acres	Percent	Acres	Percent	Acres	Percent	Acres	Percent	Acres	Percent
Residential										
Low Density	173.46	1.47	320.72	3.75	137.77	2.87	4.48	0.91	636.44	2.48
Medium Density	1,131.39	9.61	13.03	0.15	29.81	0.62	0.0	0.0	1,174.22	4.58
High Density	306.32	2.60	68.66	0.80	1.51	0.03	0.0	0.0	376.48	1.47
Hotel/Motel	18.76	0.20	0.0	0.0	0.0	0.0	0.0	0.0	18.76	0.07
Subtotal	**1,629.93**	**13.88**	**402.41**	**4.70**	**169.09**	**3.52**	**4.48**	**0.91**	**2,205.90**	**8.60**
Non-residential										
Business & Office	272.12	2.31	48.63	0.57	34.51	0.72	0.0	0.0	355.26	1.39
Institutional and Public Facilities	398.44	3.39	53.83	0.63	0.94	0.02	11.67	2.36	464.88	1.81
U.S. Military Base	7,447.41	63.29	3,554.61	41.52	0.0	0.0	0.0	0.0	11,002.01	42.93
Agriculture	.87	0.01	687.62	8.03	1,647.04	34.31	472.80	95.52	2,808.33	10.96
Parks & Recreation	95.23	0.81	97.73	1.14	0.0	0.0	0.0	0.0	192.96	0.75
National Park Land	0.0	0.0	2,759.83	32.23	2,425.32	50.52	0.0	0.0	5,185.15	20.23
Industrial	59.91	0.51	43.42	0.51	11.04	0.23	0.0	0.0	114.38	0.45
Vacant (unprotected)	490.74	4.17	264.39	3.09	337.93	7.04	1.86	0.38	1,094.91	4.27
Subtotal	**8,764.72**	**74.49**	**7,510.06**	**87.72**	**4,456.78**	**92.84**	**486.33**	**98.26**	**21,217.88**	**82.79**
ROW, Water Bodies, Etc*	1,373.32	11.67	649.66	7.59	174.64	3.64	4.19	0.85	2,201.81	8.60
Subtotal	**1,373.32**	**11.67**	**649.66**	**7.59**	**174.64**	**3.64**	**4.19**	**0.85**	**2,201.81**	**8.60**
Total	**11,767.95**	**100.00**	**8,562.12**	**100.00**	**4,800.50**	**100.00**	**495.00**	**100.00**	**25,625.59**	**100.00**

**Not a land use category*
**Note: Columns may not sum to 100 as a result of rounding properties contained within embedded equations*
Source: City of Havelock Planning and Inspections Department, 2006

The City of Havelock is comprised of 11,768 acres. More than 7,400 of these acres (63.29%) are dedicated to MCAS - Cherry Point. After the military base, the dominant land use within the city limits is residential (13.88%), consisting overwhelmingly of single-family detached homes. Vacant land accounts for 4.17% of the City's land. Within Havelock's extraterritorial jurisdiction, the most dominant land uses are MCAS - Cherry Point at 41.52%, national park land at 32.23%, agriculture at 8.03%, and residential at

4.70%. Almost 85% of the land in the expanded ETJ is comprised of agriculture or national park land while over 95% of land in the future urban service area is agriculture.

The distribution of land uses in Havelock helps to define the character of the community that the City is trying to protect. The foundation of Havelock is its low-density, residential development that serves as housing for employment centers along the US 70 Corridor and the military base. The primary concentration of single-family residential land use is south of the base, with a second concentration along US 70 west of the base, between NC Highway 101 (Fontana Boulevard) and Wal-Mart. Small pockets of multi-family residential dwelling units exist along US 70, along McCotter Boulevard, and east of the Government Complex. Also, there are several mobile home parks. The two largest are located around Lynnwayne Circle and Tilton Street, both of which are adjacent to the US 70 corridor. More than 60% of residential acres located within the planning jurisdiction are south of NC Highway 101.

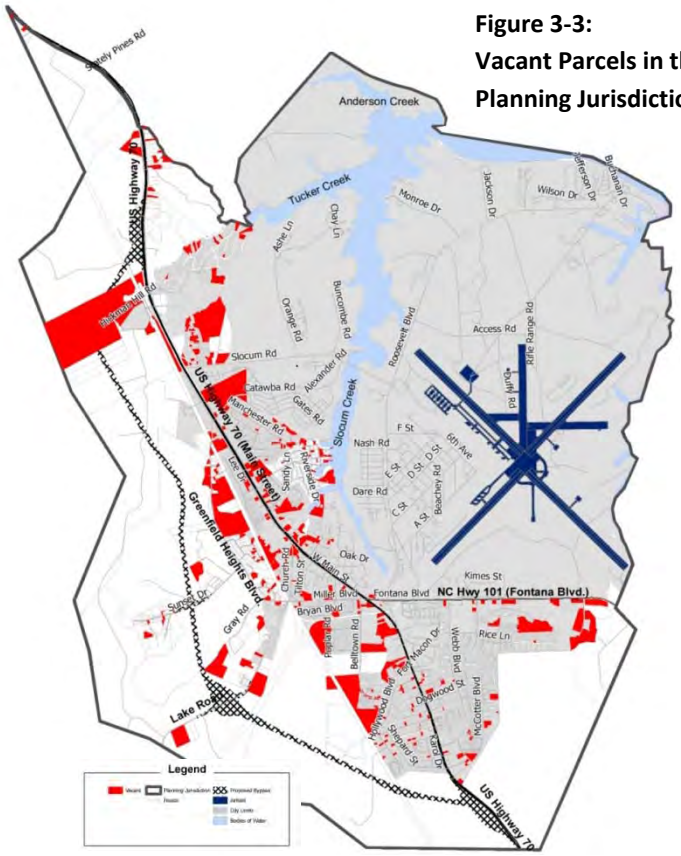


Figure 3-3: Vacant Parcels in the Planning Jurisdiction

Commercial and office activity is mostly oriented towards the US 70 corridor. Institutional land uses — such as public and private schools and churches — are scattered throughout the community. The majority of parks and recreational land uses are concentrated south of NC Highway 101, except for the Waterfront, Stonebridge, Wolf Creek, and MacDonald Downs Parks.

As mentioned previously, Havelock has only 490.74 acres of land within the city limits reported as vacant. Also, vacant land accounts for only 3.09% of land within the extraterritorial jurisdiction. This acreage is spread out through the community with few concentrations of vacant land for development. Figure 3-3 identifies vacant parcels within the planning jurisdiction. The City would need several times the existing amount of vacant land to provide housing for the projected increase in population discussed in Chapter 2 assuming similar residential development patterns.

Zoning

The City of Havelock administers its zoning authority under the powers of Section 160A-360, N.C.G.S. in the city limits and the surrounding ETJ. Craven County does not maintain zoning in the area of the expanded ETJ (see Figure 3-1). A brief summary of zoned acres by planning area is provided below.

City Limits

Approximately 10,395 acres are zoned for various uses inside city limits. An estimated 491 acres are considered vacant and unprotected, representing only 4.7% of the total zoned area. The majority of zoned acreage within the city limits (71.7%) is for MCAS — Cherry Point. The predominant zoning categories for the remaining 2,939 acres outside of the military base are either R-10 single family residential (minimum of 10,000-square foot lots) or highway commercial.

Of the total 491 vacant acres in city limits, approximately 70% are zoned for highway commercial, multi-family residential, and light industrial uses. More than 60% of the acreage within Havelock zoned for light industrial or R-20A single family residential uses is available for development.

Table 3-2

Existing Zoning, City Limits, 2005			
Category	Total Acres	Developable Acres	% Developable
Military Reservation	7,455.43	2.4	0.5%
R-10 (Min. lot size=10,000 sq ft)	611.0	21.1	4.3%
Highway Commercial	526.4	133.9	27.3%
Government Services	348.6	0.0	0.0%
R-12 (Min. lot size=12,000 sq ft)	312.0	44.2	9.0%
R-M (Multi-family residential)	348.5	110.3	22.5%
R-20 (Min. lot size=20,000 sq ft)	195.6	35.4	7.2%
R-7 (Min. lot size=7,000 sq ft)	190.1	5.6	1.1%
Light Industrial	153.1	98.5	20.1%
R-13 (Min. lot size=13,000 sq ft)	116.9	1.2	0.2%
R-MH (Min. lot size=5,000 sq ft)	93.7	10.9	2.2%
R-20A (min. lot size=20,000 sq ft)	38.0	25.9	5.3%
Office and Institutional	5.5	1.4	1.1%
Total	10,394.65	490.7	100.0%

Source: Kimley-Horn and Associates, Inc.
Note: % Column may not sum to 100 as a result of rounding properties contained within embedded equations

Outside City Limits

Approximately 7,912 acres are zoned for various uses in the City's extraterritorial jurisdiction (ETJ). Zoning in the future urban service area would only be implemented after annexation into the city. In the ETJ, more than 7,650 acres are zoned for MCAS — Cherry Point, government services (mostly the Croatan National Forest), or R-20A single-family residential (two units per acre). The 264 acres of developable acreage within the ETJ are zoned HC, R-20A, and R-M. Table 3-3 provides a summary of zoned acres in the current extraterritorial jurisdiction.

Table 3-3

Existing Zoning, Extra Territorial Jurisdiction (ETJ), 2005			
Category	Total Acres	Developable Acres	% Developable
Military Reservation	3,554.6	0.0	0.0%
R-10 (Min. lot size=10,000 sq ft)	0.0	0.0	0.0%
Highway Commercial	54.2	8.6	3.3%
Government Services	2,453.0	0.0	0.0%
R-12 (Min. lot size=12,000 sq ft)	0.0	0.0	0.0%
R-M (Multi-family residential)	38.7	25.7	9.7%
R-20 (Min. lot size=20,000 sq ft)	0.0	0.0	0.0%
R-7 (Min. lot size=7,000 sq ft)	0.0	0.0	0.0%
Light Industrial	140.9	0.0	0.0%
R-13 (Min. lot size=13,000 sq ft)	0.0	0.0	1.0%
R-MH (Min. lot size=5,000 sq ft)	15.3	0.0	0.0%
R-20A (min. lot size=20,000 sq ft)	1,655.7	230.2	87.1%
Office and Institutional	0.0	0.0	0.0%
Total	7,912.4	264.4	100.0%

Source: Kimley-Horn and Associates, Inc.
Note: % Column may not sum to 100 as a result of rounding properties contained within embedded equations

Combined Jurisdiction

The entire planning jurisdiction includes 18,307 zoned acres (see Table 3-4). Only 755 acres are identified as vacant and unprotected — comprising 4.1% of the planning jurisdiction. Approximately 34% of the vacant, unprotected acreage in the planning jurisdiction is zoned R-20A, allowing up to two dwelling units per acre.

Table 3-4

Existing Zoning, City Limits & Extra Territorial Jurisdiction (ETJ), 2005			
Category	Total Acres	Developable Acres	% Developable
Military Reservation	11,010.0	2.4	0.3%
R-10 (Min. lot size=10,000 sq ft)	611.0	21.1	2.8%
Highway Commercial	580.6	142.5	18.9%
Government Services	2,801.6	0.0	0.0%
R-12 (Min. lot size=12,000 sq ft)	312.0	44.2	5.9%
R-M (Multi-family residential)	387.2	136.0	18.0%
R-20 (Min. lot size=20,000 sq ft)	195.6	35.4	4.7%
R-7 (Min. lot size=7,000 sq ft)	190.1	5.6	0.7%
Light Industrial	294.0	98.5	13.0%
R-13 (Min. lot size=13,000 sq ft)	116.9	1.2	0.2%
R-MH (Min. lot size=5,000 sq ft)	109.0	10.9	1.4%
R-20A (min. lot size=20,000 sq ft)	1,693.7	256.1	33.9%
Office and Institutional	5.5	1.4	0.2%
Total	18,307.1	755.1	100.0%

Source: Kimley-Horn and Associates, Inc.
Note: % Column may not sum to 100 as a result of rounding properties contained within embedded equations

Historic Resources

Historic resources typically include areas, districts, or sites containing properties listed on the North Carolina State Historic Preservation Office, the National Register of Historic Places, or designated by the County or municipality as historically, architecturally, or archeologically significant. Although the City has no officially listed historic sites, the Havelock Historical Preservation Society has refurbished the Hugh Trader Store on Miller Boulevard and is working to preserve the Havelock Railroad Station, which was moved in January 2006 from its original site to a new location behind the Trader Store. A future project is to preserve the African-American School House.

Community Facilities – Infrastructure

Community facilities discussed in the Comprehensive Plan include potable water, sanitary sewer, storm water, transportation, and solid waste.

Water Supply

The City of Havelock's Public Services Department oversees potable water service for the community from the most plentiful aquifer in the State of North Carolina – the Castle Hayne Aquifer. Wells that pull water from this aquifer often yield 200-500 gallons of water per minute, but the yield can exceed 2,000 gallons per minute at its highest observed condition. The average thickness of the aquifer, which is composed of limestone, sandy limestone, and sand, is 175 feet. Havelock's four wells are located in the "transition" portion of the aquifer, where the water is a mixture of salt and fresh, and all wells extend greater than 200 feet deep. The City has a permit to withdraw up to 2.8 million gallons of water per day from the Castle Hayne Aquifer. The City supplies approximately 5,000 metered customers within the urban services area (see Figure 3-4). The average daily water demand for the city is 1.2-1.3 million gallons. The water supply also supports Havelock's 550-600 fire hydrants in the event of a fire.

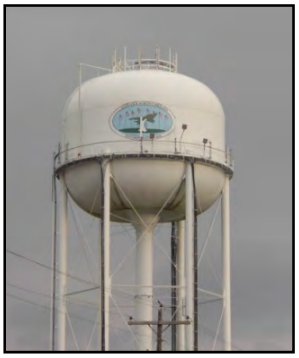


Figure 3-4: Water Service Area

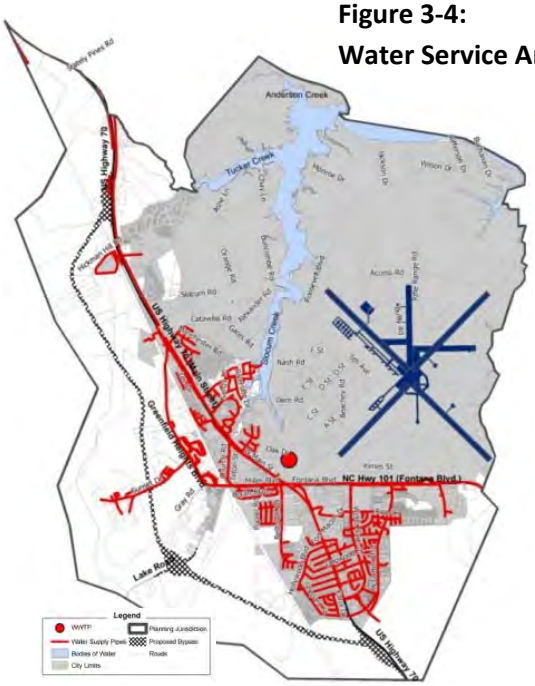


Table 3-5 lists the capacities for which Havelock has permits to withdraw from the aquifer as well as to process through its water treatment plant. Permitted amounts are the water volumes that Havelock can legally withdraw and treat. The table also shows the hydraulic capacities of wells and the water treatment plant, which are greater than the permitted capacities. The hydraulic capacities are the water volumes that the city could physically process with existing machinery.

Table 3-5

Water Supply Capacities		
	Permitted Capacities	Hydraulic Capacities
Well Pumping	1.6 MGD	2.6 MGD
Treatment Plant	2.4 MGD	3.6 MGD

MGD=million gallons per day
Source: City of Havelock Public Services Department, 2006

The City of Havelock has one ground storage tank that holds 1.0 million gallons. Three additional elevated storage tanks are located throughout the city and hold a combined 1.2 million gallons.

Proposed Improvements

The limestone in the Castle Hayne aquifer can impart high concentrations of iron and chloride into the water. Consequently, the water undergoes a series of purification procedures at Havelock's treatment plant; however, the distribution system can adversely affect quality because the original supply system design allowed for dead-end lines. This design lets water pool at the end of a line rather than circulate. As water stagnates at the ends of these supply lines, its quality deteriorates. The City of Havelock's Public Services Department has adopted a five-year Capital Improvements Plan (CIP) to replace identified dead-end lines with loop-line systems.

The CIP also addresses capacity and pressure problems experienced by residents and businesses in the western portions of Havelock. Because the water treatment plant is located on the eastern edge of Havelock, a 12-inch water main and an elevated water tank are needed in western portions of the City to improve capacity and to increase water pressure. These improvements will serve residents, the new Wal-Mart, and other small businesses.

Water Treatment Plant Waste Discharge

The water treatment plant discharges 50,000-75,000 gallons of waste per day into McCotter Canal. Water from the canal eventually flows into Slocum Creek.

Underground Storage Tanks

The City of Havelock owns no underground storage tanks of significant size, although it does have a few small underground propane tanks. Havelock does not maintain an inventory of non-City-owned underground storage tanks.

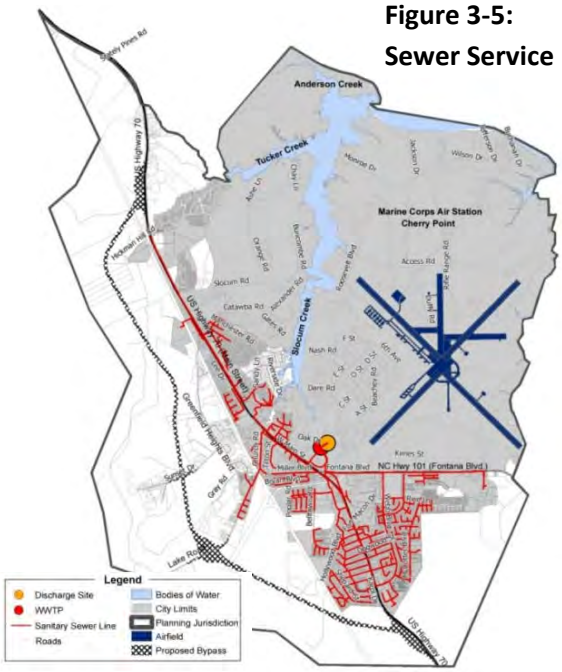


Figure 3-5: Sewer Service

Sanitary Sewer Service

The City of Havelock's Public Services Department oversees sanitary sewer service for the community. The system is a traditional gravity system with pump stations (see Figure 3-5). The treatment plant discharges effluent into the East Prong of Slocum Creek. Existing demand at the City's waste water treatment plant is between 1.33-1.50 million gallons per day (MGD). Sludge produced at the WWTP is transported to Jones County near the Town of Pollocksville.

The condition of Havelock's sanitary sewer system is reason for concern. Between July 2004 and December 2006, the City operated their sewer system under a State-imposed Special Order of Consent (SOC). An SOC is an agreement

with the State of North Carolina that requires improvements to the sanitary sewer system because the plant was operating at nearly 90% of capacity. The SOC was lifted in December 2006 because the City supplied information to the Division of Water Quality (DWQ) that they were taking corrective action to increase available capacity. Specifically, the City is increasing immediate capacity by eliminating storm water inflow and infiltration issues for the sewage collection system.

In May 2007, the City completed a Preliminary Engineering Report, which is required by NCDENR when wastewater flows reach 80% of the permitted amount. Based on flow projections, the report describes three phases of improvements necessary to meet future demand. The completion of these three phases ensures that the plant will be able to accommodate the projected wastewater flow increase over the next twenty (20) years based on land use and development patterns assumed in the preliminary engineering report. Completion of the improvements is expected to increase current plant capacity from 1.90 MGD to 3.50 MGD by 2027.

Proposed Improvements

The City increased its available capacity by eliminating the inflow and infiltration (I&I) of storm water into the sewer collection system. The City committed local funds and secured loans and grants from the U.S. Department of Agriculture totaling $3.2 million to make improvements. These funds are being used for cured-in-place pipe (CIPP) work. The CIPP process lines pipes with an impermeable lining and is designed to have a life expectancy of 50 years, similar to that of a new pipe. Havelock's Public Services Department estimates that when fully implemented, the CIPP solution will eliminate approximately 100,000 gallons per day of infiltration and inflow. This solution should also help to alleviate transmission capacity issues with the pipes themselves.

Looking long-term, the City has several strategies being considered to increase sewer capacity beyond 3.5 MGD. Additional capacity must be in place concurrent with new development to meet future residential and commercial demands through 2030.

A brief summary of three strategies for providing additional sewer treatment capacity are as follows:

Partnership with the City of New Bern

The first strategy is to partner with the City of New Bern to provide additional capacity for area of the planning jurisdiction outside city limits. Discussions include an initial improvement of 0.5 MGD to serve the northwest portion of the planning jurisdiction generally between US 70 and the CSX railroad. About half of this capacity is already committed to proposed future development. The remainder could be used to serve additional future development. There is also potential to increase reserved capacity for the City of Havelock with transmission line improvements between the New Bern Waste Water Treatment Plant (WWTP) and the service area.

Partnership with MCAS - Cherry Point

The second strategy is to partner with MCAS - Cherry Point to take over operation of their Waste Water Treatment Plant. The base has excess sewer treatment capacity, but certain challenges exist with taking over a system on an active military base. Negotiations with a private contractor to take over the Waste Water Treatment Plant (WWTP) fell through and the base is now looking at other options to turn over operation of its plant. City officials are in exploratory discussions with MCAS - Cherry Point to determine the feasibility of taking over the system.

Expand Existing City WWTP

The final strategy is to expand the City's existing Waste Water Treatment Plant or construct a new treatment plant in the city. In 2013, the City will retire a general obligation bond that helped pay for the existing WWTP. At that time the City could propose another general obligation bond to expand capacity. A critical component for building the new plant will be to secure an NPDES permit to discharge directly into the Neuse River because the tidal action of the river estuary will help disperse effluent. Existing discharge into Slocum Creek is not significantly affected by tidal action and it is relatively small in size. These conditions combine to concentrate discharge, which can adversely affect finfish and shellfish habitats in Slocum Creek. In addition, Slocum Creek is almost totally surrounded by MCAS – Cherry Point and any blockages that occur on the creek such as those from beaver dams and the like must be cleared by military personnel because of limited access to the base. Havelock's Public Services Department would prefer to address any creek maintenance issues internally.

Quality of Discharge

The City currently has a National Pollution Discharge Elimination System (NPDES) permit to discharge 1.90 MGD into the east prong of Slocum Creek. Havelock's NPDES permit limits are some of the most stringent in the state because of its proximity to the nutrient-sensitive lower Neuse River. The wastewater treatment plant removed approximately 81% of nitrogen and 86% of phosphorus from effluent discharged into Slocum Creek. Removing these elements limits excessive algal growth that fills fish. In addition, more than 99% of biological oxygen demand (BOD) and solids were removed from effluent. If BOD levels were high, fish and other aquatic organisms may not have enough oxygen available to survive.

The North Carolina Division of Water Quality rates Slocum Creek as "supporting" for recreational uses. However, the Division of Environmental Health considers the water quality in the area so consistently poor that it advises residents not to consume shellfish from Slocum Creek.

Sanitary Sewer Overflows

State law requires that municipalities report sewer overflows greater than 1,000 gallons per incident, as well as any amount of overflows that reach surface waters. The City of Havelock reported six episodes of sanitary sewer overflows to the North Carolina Division of Water Quality from 2000-2005. Four of these overflows reached surface water, including the biggest overflow of 100,000 gallons in June 2003.

Volume from that overflow entered nearby Slocum Creek, severely affecting water quality in the Neuse River tributary. Other overflows reported by the City ranged between 500-12,000 gallons. Table 3-6 summarizes sanitary sewer overflows for the period between 2000-2005.

Overall, the number of gallons of sanitary sewer overflow that reached surface waters from 2000-2005 was 113,450 gallons. Table 3-6 details sanitary sewer overflow information for the period between 2000 and 2005.

Table 3-6

Reported Sanitary Sewer Overflows (in gallons) from 2000-2005			
Date	Location	Total Volume of Overflow	Volume Reaching Surface Waters
July 29, 2002	Pineview Street adjacent to Joe's Branch	12,000	12,000
Jan. 6, 2003	Pinedale Road cul-de-sac	500	500
March 25, 2003	Sherwood Subdivision-Shore Drive and W. Sherwood cul-de-sac	1,000	---
June 18, 2003	Stonebridge pump station in Stonebridge Subdivision-near Salem Ct. off of Hwy 70 W.	100,000	100,000
Sept. 20, 2004	Laurel Hill Apartment Complex	1,000	---
Nov. 30, 2005	In front of 529 Hwy 70	950	950
Total		115,450	113,450

Source: NC Division of Water Quality, 2006.

Septic Systems

Septic systems on private property serve as the only method for collection, treatment, and disposal of raw sewage in some unincorporated areas of the planning jurisdiction. These systems typically work very well with proper siting, design, installation, operation, and maintenance. However, poor soil conditions throughout the extraterritorial jurisdiction (ETJ) limit the installation of many new septic systems.

Existing septic systems have a very high failure rate in the ETJ. All new septic systems require a permit from the Craven County Health Department prior to construction. County officials report that limiting soil conditions have a significant impact on growth outside the urban service area. High bacteria levels from poor draining soils threaten public health. The smell also diminishes quality of life.

Sewer package plants utilizing sub-surface disposal are an alternative to private septic systems. They require a discharge

permit from the Craven County Health Department, and those designed with a discharge point are required to obtain a permit from the North Carolina Division of Water Quality (DWQ). The Neuse River's sensitivity to nutrients severely limits the volume of wastewater discharge allowed in the lower Neuse River watershed. Therefore, the DWQ grants very few discharge permits. Havelock has the authority to negotiate effluent discharge via the City's existing wastewater treatment plant and discharge permits on behalf of the applicant for a sewer package plant, so long as the total discharge volume from all sources does not exceed the City's total permitted discharge limit.

Storm Water Management

The City of Havelock is crossed by a series of drainage ditches and canals. The ditches were used to drain the swampland, and currently they channel storm water runoff. The few state-owned roads in Havelock have a formalized curb-and-gutter system that funnel storm water into nearby drainage ditches. Because these are earthen ditches and canals, there is some natural detention that filters pollutants. There are no maps available for canals, ditches, or curb-and-gutter drainage systems serving the City of Havelock, and documentation does not exist within the City on their efficacy.

The City of Havelock is subject to several storm water programs in place across the state. Information on these programs is provided below.

Neuse River Nutrient Sensitive Waters (NSW) Management Strategy

In March 2001, the City of Havelock became one of fifteen local governments subject to the Neuse River Nutrient Sensitive Waters (NSW) Management Strategy. This strategy is state mandated by the North Carolina Division of Water Quality and targets nutrient removal as the water quality criteria. As an affected local government, Havelock was required to implement a nitrogen reduction program that includes review and approval of storm water management plans for new development, public education, identification and elimination of illegal discharges, and identification of retrofit sites where water quality management projects can be installed in existing developments. The City had to develop a state-approved ordinance and is responsible for implementation of the strategy.

All projects east of Interstate 95 that disturb either more than one-third acre of isolated wetlands or one-third acre of non-isolated wetlands and projects that disturb streams within a buffered stream basin require the issuance of a 401 Water Quality Certification. When a 401 permit is issued, a specific storm water management plan is typically required. In Havelock, because projects are located within a NSW area, the state stipulates enhanced nutrient removal requirements. As long as the City is implementing a State-mandated plan DWQ will not review the 401 plan.

The Neuse River NSW Management Strategy satisfies NPDES Phase II storm water requirements.

In addition, the North Carolina Environmental Management Commission (EMC) adopted a set of permanent rules, called "The Neuse Rules" to support implementation of the NSW management

strategy in 1997. A riparian buffer protection rule, which was only adopted temporarily in 1997, became a permanent rule in August 2000.

State Storm Water Management Program

All twenty coastal counties and their respective municipalities are included in the State Storm Water Management Program. This program is designed to target Total Suspended Solids (TSS) as the water quality criteria. All development is subject to the regulations that disturb one or more acres or require a CAMA major permit. Subject developments are required to establish a maximum amount of impervious surface for low density developments and install best management practices for high density developments. All permit review and approval is done at the State level. Significant changes are underway for this program that will likely become effective in the fall of 2008.

Coastal Storm Water Rule

Another rule in place that affects the City of Havelock is the Coastal Storm Water Rule. This rule was originally adopted in the late 1980s and required high density projects to have storm water controls. New changes to the Rule are underway and could become effective as early as August 2008. These changes have come about because three quarters of observed development occurring in coastal counties was low density projects and therefore not required to control storm water pollution. The changes reduce the low density threshold, require storm water controls for high density projects, require storm water best management practices, increase the vegetative setback for new development, and lower the threshold for coverage of land disturbance for non-residential projects.

Universal Storm Water Management Program (USMP)

The USMP is an innovative new approach to storm water management. The program, which became effective in January 2007, is a voluntary program that can be adopted by local jurisdictions. The purpose of the program is to streamline storm water regulations. Instead of enforcing all requirements individually, this program eliminates the overlap in requirements by developing a plan with a single set of requirements. The program is more protective than existing regulations, while at the same time giving the local jurisdiction more authority. The City of Havelock should consider adopting the USMP.

Water Supply Watersheds

There are no Water Supply Watersheds in the planning jurisdiction.

River Basin and Sub-Basin Info

Basinwide water quality plans are prepared by the North Carolina Division of Water Quality for each of the 17 major river basins in the State. The City of Havelock is in the Neuse River Basin. The most recent plan for the Neuse River Basin was completed in 2002. Plans are updated every five years. The plan

includes general basinwide information as well as water quality data and information specific to each subbasin.

The Neuse River Basin is the third largest basin in North Carolina and is one of only four basins whose boundaries are entirely within the state. The Neuse River Basin encompasses 6,192 square miles and consists of 14 subbasins. Havelock is located in the Neuse Subbasin 03-04-10 which also includes the Lower Neuse River, the City of New Bern, and portions of Craven, Pamlico, and Carteret Counties.

Subbasin 03-04-10 totals 702 square miles, 519 square miles of which is land area while 183 square miles is water area. The projected 2017 population for the subbasin is 89,713 persons, a 25% increase from 1996. The subbasin is primarily comprised of agricultural and forested lands and most of the waters are estuarine.

The four major dischargers in the subbasin include the City of New Bern, Northeast Craven Utilities, MCAS – Cherry Point, and the City of Havelock Waste Water Treatmetn Plant (WWTP). The first three discharge into the Neuse River and the Havelock WWTP discharges into the East Prong of Slocum Creek. All four dischargers conduct toxicity tests in the subbasin.

Impaired Streams

Section 303(d) of the Clean Water Act (CWA) requires states develop a list of waters not meeting water quality standards or which have impaired uses. The most recent Final North Carolina Water Quality Assessment and Impaired Waters List is from 2006. Although there are several streams from Subbasin 03-04-10 on the list, only the Neuse River is in the planning jurisdiction for this Comprehensive Plan.

Transportation

As the community works toward a collective vision for its future, the residents of Havelock recognize that a high-quality transportation system balances the needs of all users by operating safely and efficiently while supporting the community and enhancing its character. The City's transportation system links residents, business owners, and visitors to homes, businesses, schools, and parks. The various modes used to move people and goods around and through Havelock rely on a network of infrastructure that includes:

- Roadways
- Demand-driven transit services
- Freight rail
- Sidewalks, bikeways, and greenways

Roadways

The roadway network in Havelock primarily consists of secondary and local roads that connect with two main highways. US 70, also known as Main Street, bisects

the City from north to south; and NC Highway 101, also known as Fontana Boulevard where it borders MCAS – Cherry Point, intersects US 70 near the center of Havelock. Both roads are owned and maintained by the North Carolina Department of Transportation (NCDOT), and both of these primary routes are defined as major thoroughfares. Major thoroughfares are roads that have a balance between mobility and access, roads with moderate volume, and are federal and state routes not designated as freeways, expressways, or boulevards. Other characteristics of major thoroughfares include roads with a posted speed from 25 – 55 mph; and roads with some management of access, which may include medians, continuous left turn lanes, shared driveways, internal out-parcel access, and cross-connectivity between adjacent properties.

Interstate Facilities

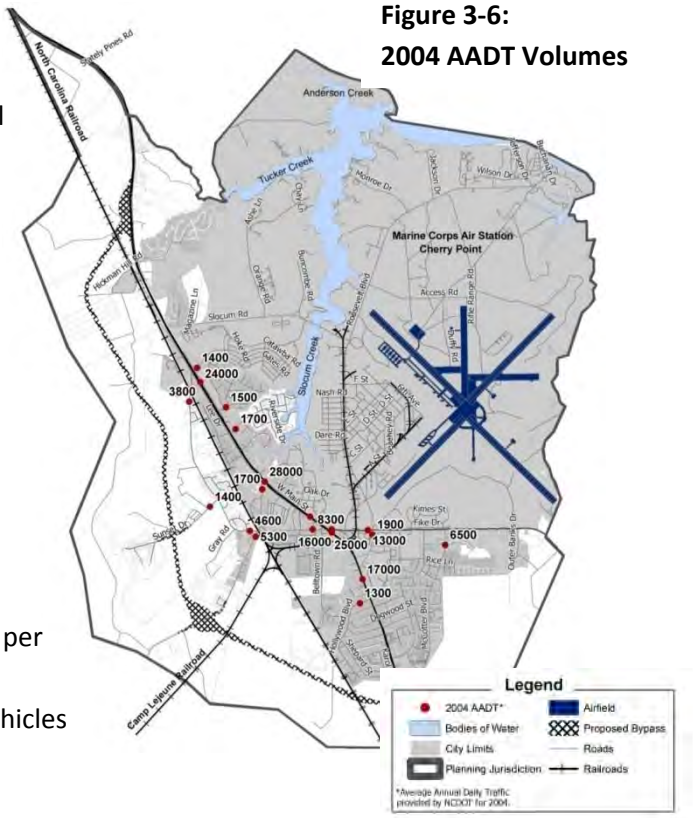
Interstate facilities in North Carolina are maintained by NCDOT, have the greatest access control, and can accommodate the highest traffic volumes. Havelock is approximately 97 miles from Interstate 40 at Wilmington, and approximately 101 miles from Interstate 95 at Smithfield.

Existing Congestion/Level of Service (LOS)

A review of 2004 average annual daily traffic (AADT) volumes for roadways within the study area revealed several corridors with high volumes. These corridors, shown in Figure 3-6, include:

- US 70 north of Stratford Road (24,000 vehicles per day)
- US 70 near Lake Road (28,000 vehicles per day)
- US 70 north of NC 101/Fontana Boulevard (30,000 vehicles per day)
- US 70 south of NC 101/Fontana Boulevard (25,000 vehicles per day)
- US 70 south of Cunningham Boulevard (17,000 vehicles per day)
- US 70 south of McCotter Boulevard (24,000 vehicles per day)
- NC 101/Fontana Boulevard west of US 70 (16,000 vehicles per day)

Figure 3-6: 2004 AADT Volumes

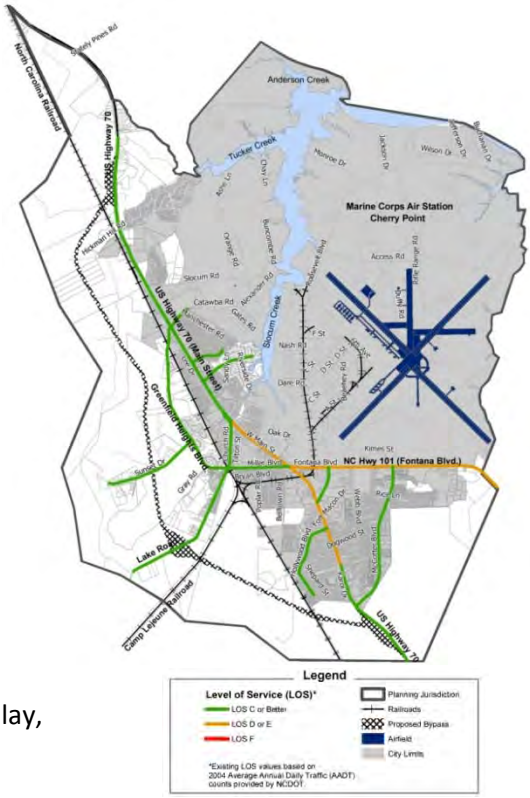


According to the *Highway Capacity Manual*, level of service (LOS) is a measure used to describe the operation conditions that drivers experience in a traffic stream. Level of service is designated by letter, similar to grades in school, with A representing the best conditions and F the worst. LOS A is generally free-flowing with few delays, while LOS F constitutes highly congested, stop-and-go conditions. LOS D or

better is generally considered acceptable. At level of service D, the roadway is busy, but traffic is still flowing at a reasonable speed.

Due to the lack of an updated travel demand model for Havelock area, level of service for each of the roadways within the study area network was determined using AADT counts, where available, and the NC LOS software program. NC LOS was developed for NCDOT by NC State University's Institute of Transportation Research and Education in 2005. The software calculates the capacity of a specific roadway based on user inputs such as facility type, peak hour factor, number of signals, etc. Roadways in the Havelock area that exhibit existing unacceptable levels of service are illustrated in Figure 3-7.

Figure 3-7: Roadways with unacceptable service levels



Moderate population growth in Havelock, coupled with access control on major roadways, has resulted in peak hour traffic congestion on sections of US 70 and NC 101. During morning and afternoon peak travel periods, sections of commuter travel corridors experience frequent "spill-back" problems and reoccurring congestion. This problem is exacerbated by tourist traffic during the summer season. Ultimately these roadways experience heavy traffic and long delays during peak hours, as well as some off peak periods.

Traffic Safety and Crash History

A thorough examination of crash history and traffic patterns helps identify key locations where traffic safety improvements would be beneficial. According to NCDOT data, the average cost of a crash to a community is $42,000[1] per accident. This cost includes medical care, emergency services, victim work loss, employer cost, traffic delay, property damage, and the overall quality of life.

A traditional approach to determining locations for safety countermeasures involves a thorough study of the number of crashes in a location and the associated crash rate for the location. The Havelock analysis built on this approach, while factoring in other key components such as traffic volumes, overall severity of crashes, and facility type. The inclusion of these components allowed a priority ranking system to be established.

Segment Data

NCDOT provided crash data for segments of all arterial and collector facilities from January 1, 2003 to December 31, 2005. Priority rankings for this analysis were established, as shown in Table 3-7.

[1] Data for NCDOT Crash Cost based on 2003 dollars (published August 5, 2005)

Arterials are roadways that provide high mobility, operate at higher speeds (45 mph and above), provide significant roadway capacity, have a great degree of access control, and serve longer distances. Collector streets are those streets that typically provide less overall mobility, operate at lower speeds (35 mph and less), have more frequent and greater access flexibility with adjacent land uses, and serve shorter distance travel than arterials.

Table 3-7

Segment Priority Rankings Crash Data Analyzed January 1, 2003 to December 31, 2005						
No.	Locations	AADT	Crashes	EPDO	Crash Rate	Functional Classification
1	US 70*	24,100	340	1,319.76	4.41	Principal Arterial
2	Fontana Blvd	13,200	153	524.48	1.11	Principal Arterial
3	Miller Blvd	5,000	85	301.08	4.91	Major Collector
4	Church Rd	1,700	32	83.80	23.55	Major Collector
5	McCotter Blvd	6,500	45	224.08	3.16	Major Collector
6	Shepard St	1,400	27	93.60	20.48	Major Collector
7	Webb Blvd	6,500	39	135.20	3.26	Major Collector
8	Lake Rd	5,300	35	94.20	1.90	Major Collector
9	Hollywood Blvd	1,400	11	25.80	11.21	Major Collector
10	Slocum Rd	5,000	11	40.60	0.91	Major Collector

**Crash data analyzed from 10/01/2001 to 09/30/2004*
AADT=Annual Average Daily Traffic
EPDO=Equivalent Property Damage Only

Intersection Data

Intersections with 10 or more crashes over a three-year period were analyzed based the NCDOT segment data for the same analysis period. The priority rankings for this analysis are provided in Table 3-8. These rankings were developed using a scoring method based on vehicles entering the intersection[2], total crashes, equivalent property damage only (EPDO) rate, crash rate[3], and functional classification. Figure 3-8 displays the high crash locations.

[2] Number of vehicles entering based on AADT provided by NCDOT Traffic Systems Safety Unit and Traffic Counts

[3] Intersection Crash Rate = (Total crashes*1,000,000)/(AADT*365 days per year*3 year analysis period); reported as crashes per million vehicle entering intersection (MVE)

Figure 3-8: High Crash Locations

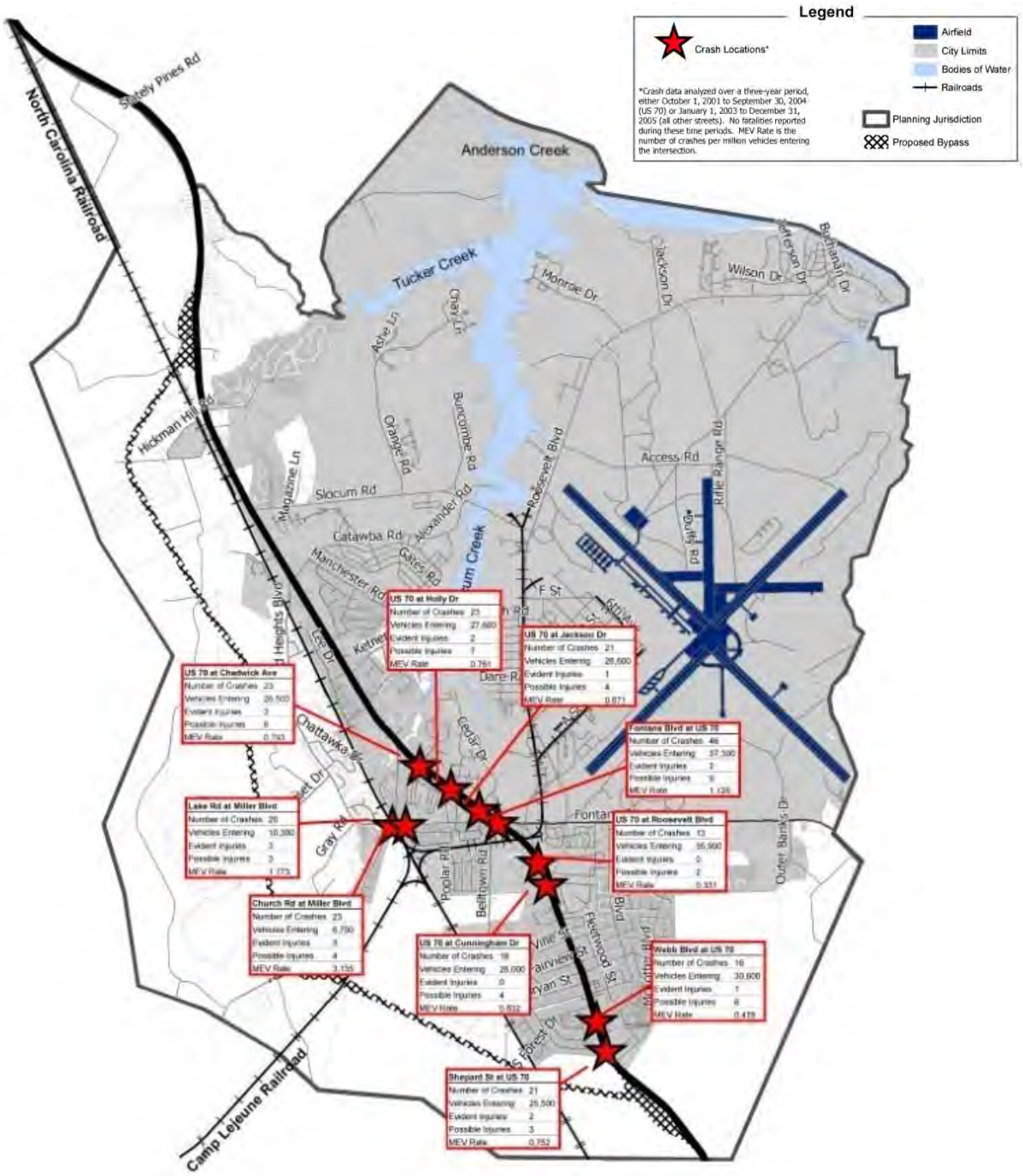


Table 3-8

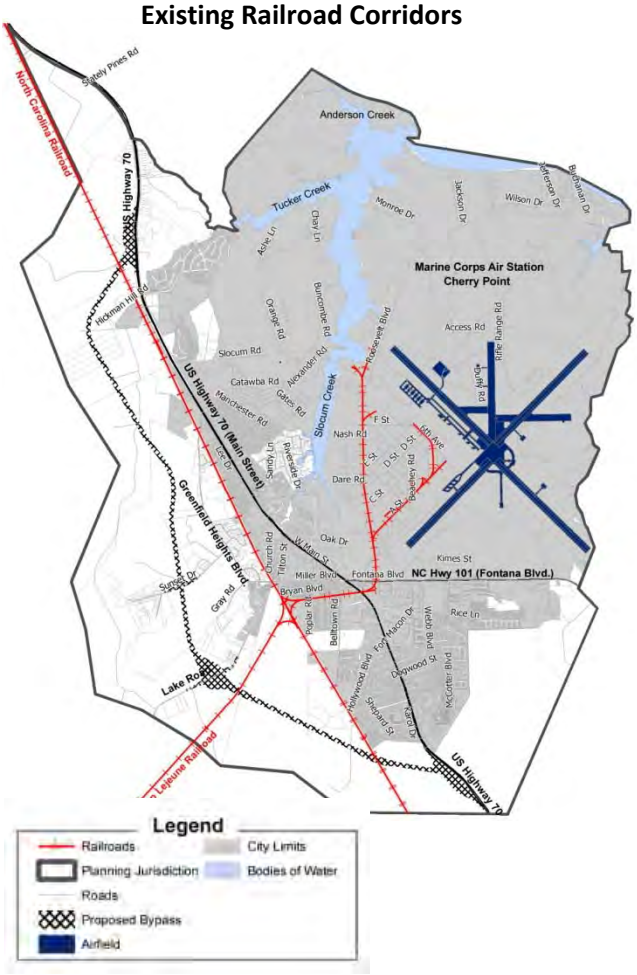
Segment Priority Rankings Crash Data Analyzed January 1, 2003 to December 31, 2005						
No.	Street 1	Street 2	Vehicles Entering	Crashes	EPDO	Functional Classification
1	Fontana Blvd	US 70	37,300	46	129.4	Principal Arterial
2	US 70*	Roosevelt Blvd	35,900	13	27.8	Principal Arterial
3	McCotter Blvd	US 70	30,600	11	40.6	Principal Arterial
4	Webb Blvd	US 70	30,600	16	67.8	Principal Arterial
5	Slocum Rd	US 70	29,100	11	40.6	Principal Arterial
6	US 70*	Jackson Dr	28,600	21	58.0	Principal Arterial
7	US 70*	Nunn St	28,400	11	40.6	Principal Arterial
8	US 70*	Holly Dr	27,600	23	89.6	Principal Arterial
9	US 70*	Chadwick Ave	26,500	23	89.6	Principal Arterial
10	US 70*	Cunningham Dr	26,000	18	47.6	Principal Arterial
11	Fontana Blvd	Roosevelt Blvd	25,000	15	29.8	Minor Arterial
12	Shepard St	US 70	25,500	21	58.0	Principal Arterial
13	Fontana Blvd	Cunningham Dr	15,100	11	18.4	Minor Arterial
14	Lake Rd	Miller Blvd	10,300	20	65.4	Minor Arterial
15	Church Rd	Miller Blvd	6,700	23	75.8	Minor Arterial

**Crash data analyzed from 10/01/2001 to 09/30/2004*
EPDO=Equivalent Property Damage Only

Transit

The Craven Area Regional Transit Services (CARTS) provides transportation services to the general public with special emphasis on services to the elderly and persons with disabilities. The system provides services in Craven, Jones, and Pamlico counties using a fleet of 32 vehicles, including 12 modified vans, 12 standard vans, four mini-buses, and four sedans. Currently, two scheduled routes serve local human service agencies, including Social Services, Craven Evaluation and Training Center, Coastal County Enterprises, Neuse Mental Health Center, and several senior citizen and employment assistance centers. Demand/response service is provided on a limited basis with an emphasis on the elderly and persons with disabilities.

Figure 3-9:
Existing Railroad Corridors



The success of transit is determined by a variety of factors, including the demographic characteristics of the areas that are served. Portions of US 70 as well as east of US 70 and south of Miller Boulevard represent commercial and residential communities that have the highest potential for transit services. Because jobs are not as concentrated by location, few places of high employment density exist. To address future mobility needs, transit should be available to serve the needs of the transit-dependent population, while also offering a competitive alternative to the automobile for "choice" customers.

Rail Freight

Rail freight service to and from Havelock is provided by the North Carolina Railroad Company (NCRR) as part of its 317-mile rail corridor between Morehead City and Charlotte. According to NCRR, more than 60 freight trains operate per day along the statewide corridor. Coal and grain are the main products carried by the NCRR, though military equipment, steel, lumber, and other products are transported. A major corridor improvement program between Goldsboro and Morehead City was completed in 2001.

The smaller Camp Lejeune Railroad provides services between the MCAS - Cherry Point and the Marine Corps Base at Camp Lejeune. Figure 3-9 shows the location of the two railroad lines in the Havelock area.

Sidewalks, Bikeways, and Greenways

During the public involvement process, advisory committee members and public workshop participants recognized the shortcomings in the City's existing bicycle and pedestrian network. Like other North Carolina cities with similar

development patterns, Havelock has only a small collection of bicycle facilities and few sidewalks. And while opportunities exist to walk and bicycle, these trips focus on recreation rather than transportation. Many advanced cyclists take advantage of the rural local roads that provide lower and moderate traffic volumes. Other cyclists use the existing sidewalk network and emerging greenway network.

Existing ordinances and ongoing planning efforts also show the growing recognition that the needs of bicyclists and pedestrians should be addressed. The City's current ordinance requires that the developer construct sidewalks to a minimum width of four feet. The ordinance specifies that sidewalks be built on both sides of a major/minor thoroughfare with three or more lanes and one side of the street everywhere else.

The development of the *Comprehensive Parks and Recreation Master Plan* for Havelock included a variety of channels through which the public could communicate their vision for the non-vehicular environment. According to a public survey conducted as part of the *Master Plan*, a discrepancy exists between levels of interest and levels of participation in pedestrian and cyclist activities. This discrepancy, referred to as latent demand, describes the difference in percentage of respondents with at least a very high interest in an activity and the percentage of those who actually participated in the activity during the last 12 months. Table 3-9 shows cyclist and pedestrian activities organized by latent demand.

Table 3-9

Bicycle and Pedestrian Activity, Interest and Latent Demand (2004-2005)

Activity	Participation 12 months	Interest (extremely or very high)	Latent Demand
Walking along trail	20.93%	84.24%	63.31%
Visiting greenways	0.92%	60.74%	59.82%
Using fitness trail	11.42%	66.88%	55.46%
Walking in a natural area	36.99%	69.06%	32.07%
Walking pets	21.29%	49.12%	27.83%
Jogging	8.35%	29.60%	21.25%
Bicycling	21.84%	42.95%	21.11%

Source: City of Havelock Comprehensive Parks and Recreation Master Plan

The higher levels of participation in activities such as "walking along trail," "walking in a natural area," and "bicycling" indicate those endeavors with, at the minimum, functional facilities. Multiplying the demand percentages by the current population of Havelock provides an estimate number of citizens

demanding improvements to facilities and auxiliary services. Table 3-10 provides such estimates. As these tables illustrate, the citizens of Havelock desire improvements to the non-vehicular transportation network.

Table 3-10

Demand and Number of Participants for Recreational Activities (2004-2005)		
Activity	Number of Participants	Total Demand
Walking along trail	4,697	18,906
Visiting greenways	206	13,632
Using fitness trail	2,563	15,010
Walking in a natural area	8,302	15,499
Walking pets	1,874	6,642
Jogging	1,874	6,642
Bicycling	4,902	9,640

Source: City of Havelock Comprehensive Parks and Recreation Master Plan

Solid Waste Management

The City of Havelock's Public Services Department is responsible for collecting yard trimmings (e.g., grass trimmings, pine needles, leaves, and tree branches). Household garbage and recyclables are picked up under a contract administered by the Craven County Solid Waste Administrative Services Division. The household solid waste service is market-driven and is administered by the purchase of garbage stickers from participating retailers. Residents must place the appropriate number of garbage stickers on all bags and/or cans for the waste to be collected. Solid waste from non-residential and multi-family residential properties is collected by private waste haulers under a direct contract with the property owner.

Solid waste is dumped into the Tuscaroora Landfill, which is a multi-county landfill located 24 miles west of Havelock in Craven County. Dump fees are $34 per ton. Landfill capacity is estimated to last 50 years. The Public Services Department estimates that each household creates 110-200 pounds of solid waste per year.

Community Facilities — Services

Energy and Communication Facilities

Havelock residents receive their electricity from either Progress Energy Carolinas or the Carteret-Craven Electric Cooperative. The Cooperative joins with 20 other elective cooperatives in North Carolina to purchase power wholesale. Bulk purchasing allows the cooperative to keep its prices lower than if it purchased as a stand-alone company. Jenkins Gas and Oil Company and Rice's Gas, Oil, and Appliance Center provide propane gas, and Piedmont Natural Gas supplies natural gas. U.S. Cellular and SunCom provide mobile telephone coverage, and there are several cell towers throughout the city. Embarq Telephone Company (formerly Sprint) provides landline telephone communication and fast-access

internet service. Time Warner Cable Company serves Havelock with cable television and fast-access internet service.

Police Protection

Location and Staff

The City of Havelock Police Department shares its headquarters with Havelock Fire and Rescue. The building is in the government complex on the southeast side of Havelock, accessed via US 70. The City has purchased 1.5 acres of land on the west side of Havelock from Craven County Schools for a police and fire services substation. Figure 3-10 on page 3-41 illustrates the location of the police headquarters.

Havelock Police Department (2006)

The Police Department has approximately 30 full-time members who work in Criminal Investigations, Telecommunications, Administrative Support Functions, Community Outreach, Animal Services, School Resources, and Patrol Operations. There are four patrol teams who cover the City 24-hours a day. In addition, there are a number of part-time and volunteer officers who are sworn officers with the same training and certification as paid police officers. The volunteer members function in the community as if they were paid members of the department.

Crime Rates

During the last 10 years, crime rates in Havelock have risen steadily. The one exception is violent crimes, which have dropped. Drug and alcohol crimes have risen 715% since 1996 while physical confrontations have risen 370%. The 2006 figures are a great cause for concern, given that 2000 showed a marked decrease in the crime rate (again, the exception being drug and alcohol crimes).

Table 3-11 reveals crime rates in 1996, 2000, and 2006 for broad categories of crime.

Table 3-11

Crime Rates in Havelock			
	1996	2000	2006
Violent Crimes	69	41	56
Drug & Alcohol Crimes	27	38	193
Property Destruction	234	191	290
Theft and Larceny	522	468	598
Physical Confrontations	73	72	270

Source: Havelock Today, September, 2006

Jail Facilities

The City of Havelock's two jail cells no longer restrain prisoners. All prisoners are escorted to the Craven County Jail in New Bern unless the facility has reached capacity. If the jail facility is full, Havelock officers and the judicial system collaborate so that offenders are fined or are assessed a large bond amount (to ensure lawbreakers return for their court dates), and then released. Craven County is constructing a new jail with larger capacity in New Bern. This jail should enable the Havelock Police Department to behave consistently toward all offenders.

Fire Protection and Emergency Medical Services

As noted above, the Havelock Fire and Rescue Department shares its headquarters with the police department in the Government Plaza along US 70. Figure 3-10 on page 3-41 illustrates the location of the fire and rescue department headquarters. As development has increased in northwest Havelock, the ability of this location to serve all residents has been stretched. Under the inter-local agreement, the Township Six Fire Station and fire personnel from MCAS - Cherry Point serve the western portion of Havelock. The Township Six Station is officially a Craven County station; it was included in Havelock City Limits via annexation. This station continues to respond to Craven County emergencies and is funded by the County. There are plans for an additional City of Havelock Station in the western section of Havelock; leaving again Township Six to respond primarily to Craven County emergencies.

The Havelock Fire Department has nine career employees and 55 volunteers. The department provides fire protection and paramedic services within city limits. The department has two engines, four ambulances, and one rescue truck. These resources are used to respond to approximately 240 fire incidents and 1,300 EMS calls annually. The fire department responds to incidents within City limits, and the EMS and rescue services contract with Craven County to cover approximately 220 square miles in unincorporated Craven County.

ISO Rating

The Insurance Services Office (ISO) supplies statistical, actuarial, and underwriting information to the property and casualty insurance industry. Its fire protection classification program grades a community's fire protection on a scale of 1-10, with 1 being perfect. Communities are evaluated on a number of factors, including the quality of the fire department, water supply and hydrant locations, the communication system, building codes, and building inspection programs. Most insurance companies base property insurance premiums in part on a community's ISO fire rating. The lower the ISO fire rating, the lower the insurance premiums. Havelock's ISO rating is 6.

Education

The Craven County School System oversees public schools in Havelock. Facilities and programs are organized into three levels: elementary (K-5), middle (6-8), and high school (9-12). The current system includes five elementary schools, two middle schools, and one high school. In addition, there are two private schools, both of

which are religiously affiliated. Annunciation Catholic School includes elementary and middle grades, and Liberty Christian School includes elementary, middle, and high school grades. Figure 3-10 on page 3-41 illustrates the location of the public facilities throughout the City.

Craven County Schools and Craven Community College jointly operate Craven Early College, for which Havelock students are eligible. Students who graduate from Craven Early College receive a high school diploma and up to two years of college credit. A main purpose of the school is to prepare students for entry into high-skill careers. Craven Early College is on the Craven Community College campus in New Bern.

As of the end of October 2007, Craven County Schools had 14,674 students enrolled in kindergarten through 12th grade. Havelock's total school population at the same time period was 4,461, which is 32% of the total enrollment for Craven County. Only one school, W.J. Gurganus Elementary School, had an enrollment that exceeded capacity. Many residents; however, expressed the need for an additional middle school during the January 17, 2006 Community Summit in Havelock.

Table 3-12 summarizes enrollment and capacity figures for Havelock Schools as of October 2007.

Table 3-12

Capacity and Enrollment Information in Havelock Schools		
	Capacity	Enrollment
ELEMENTARY SCHOOLS		
Arthur W. Edwards Elem. School	774	566
Graham A Barden Elem. School	390	326
Havelock Elem. School	445	397
Roger R. Bell Elem. School	523	492
W.J. Gurganus Elem School	445	490
MIDDLE SCHOOLS		
Havelock Middle School	528	466
Tucker Creek Middle School	642	529
HIGH SCHOOLS		
Havelock High School	1,215	1,195
TOTAL ALL ELEMENTARY SCHOOLS	**2,577**	**2,271**
TOTAL ALL MIDDLE SCHOOLS	**1,170**	**995**
TOTAL ALL HIGH SCHOOLS	**1,215**	**1,195**

Source: Craven County Public Schools, October 2007

Health and Social Services

Health Services

There is no hospital in Havelock. Both Craven Regional Medical Center in New Bern and Carteret County General Hospital in Morehead City are approximately 30 minutes away. Halyburton Naval Health Clinic on the MCAS - Cherry Point military base provides limited medical services for active duty military, military retirees, and military family members.

Craven Regional Medical Center has 313 beds and cares for around 15,000 in-patients each year. The emergency department handles roughly 40,000 patients a year. The center has more than 200 physicians and a medical and administrative support staff of 1,500. The center has medical/surgical areas and dedicated units for neurosurgical, intensive and intermediate care, women's care, pediatric care, and cancer care.

Open since 1967, Carteret County General Hospital (CCGH) has 135 beds. In 2005, CCGH admitted 6,521 patients and served 32,413 patients in the emergency room. In addition to a full range of acute care, diagnostic, and outpatient services, CCGH has a cancer treatment center, an imaging center, a specialty clinic, hospice and home health support, cardiac rehabilitation, a birthing center, and an extended care facility. In 2005, CCGH employed 937 total employees, including 248 registered nurses.

Social Services

Craven County also provides a Department of Social Services, whose mission is "to provide services to enhance the quality of life of the county's most vulnerable citizens." Table 3-13 shows the services that are available to Craven County residents. The Social Services department is located in New Bern.

Table 3-13

Craven County Department of Social Services Service Areas and Associated Programs	
Service Area	**Program Type**
Child Welfare	Protective services for children
	Foster care
	Adoption
	Crisis intervention
	Court-ordered studies
Adult Services	Adult protective services
	Rest home monitoring
	Group care placements
	In-home care
Public Assistance	Medicaid
	Food stamps
	Work First cash assistance
	Surplus food distributions
	Special assistance for home care
Work Programs	Work First and food stamp employment
	Training services for recipients of public assistance
Day Care	Subsidized day care for public assistance recipients and working families with low incomes
Preventative Services	Programs for children and adults who are at-risk of needing protection
	Programs for adolescent parents
	Programs for at-risk youth
Senior Services	Four congregate meal sits
	Meals on wheels
	Health promotion activities

Source: Craven County website, 2006 (www.cravencounty.com)

Libraries

Craven, Pamlico, and Carteret Counties created the Craven-Pamlico-Carteret (CPC) Regional Library System. There are nine member libraries, which includes the Havelock-Craven County Public Library. The Havelock branch is located near US 70 in the Government Center (see Figure 3-10 on page 3-41). Funding for Havelock's Public Library comes from the City of Havelock and Craven County. Patrons of the CPC regional system are able to borrow resources from any of the other members.

The Craven-Pamlico-Carteret Regional Library System participates in NC LIVE, a statewide system that offers residents access to a wide array of electronic information. Resources include complete articles

from more than 16,000 newspapers, journals, magazines, and encyclopedias, indexing for more than 25,000 periodical titles, and access to more than 25,000 online print and audio books. The Havelock Public Library has nearly 25,000 books and audio-visual materials. NC LIVE is free to patrons of participating libraries.

In Fall 2005, the CPC Regional Library System discontinued bookmobile service to Craven and Pamlico Counties; and in June 2006, the library system donated the bookmobile to St. Bernard Parish in Louisiana. The bookmobile had provided service to homebound and handicapped library patrons. The service was less cost effective as more branch libraries — including the branch in Havelock — opened, and as computers and Internet library resources became more available to the general public.

Parks and Recreation Facilities

The City of Havelock hired a consultant to create the *Comprehensive Parks and Recreation Master Plan.* The plan was adopted by the City in September 2007. The information provided below was obtained from the master plan.

The City of Havelock has no existing level of service standards for evaluating parks and recreation facilities. Although 39% of the residential acres within Havelock's city limits exist in the western portion (above NC 101/Fontana Boulevard), only 16% of the park and recreational facilities are located there. The four west-side parks include the Waterfront, Stonebridge, Wolf Creek, and MacDonald Downs Parks. Additionally, one of these parks — Wolf Creek — has no public access, dropping the percentage of usable park facilities in western Havelock to 14%. The population of Havelock continues to grow westward, and these residents are clearly underserved. The *Comprehensive Parks and Recreation Master Plan* recommends that Havelock develop a multi-purpose recreational facility on Havelock's west side to meet the needs of the growing population.

Overall, the City's Parks and Recreation Facilities meet a variety of needs. Havelock has five parks with a variety of ball fields and facility types, including tee-ball, softball/baseball, soccer/football, tennis courts, and basketball courts. Seven of the softball/baseball fields have lights, two of the outside basketball courts have lights, and the soccer field and the tennis courts also have lights. Six of Havelock's parks have an open field to allow residents to enjoy non-structured play. In addition, the Recreation Complex also has a Recreation Center that includes an indoor basketball court and a weight and exercise room. Extra amenities include a covered stage, a boat ramp, and two fishing piers.

Havelock Recreation Center (2006)

Figure 3-10 illustrates the location of parks and recreation amenities throughout the city.

Figure 3-10:
Community Facilities Map

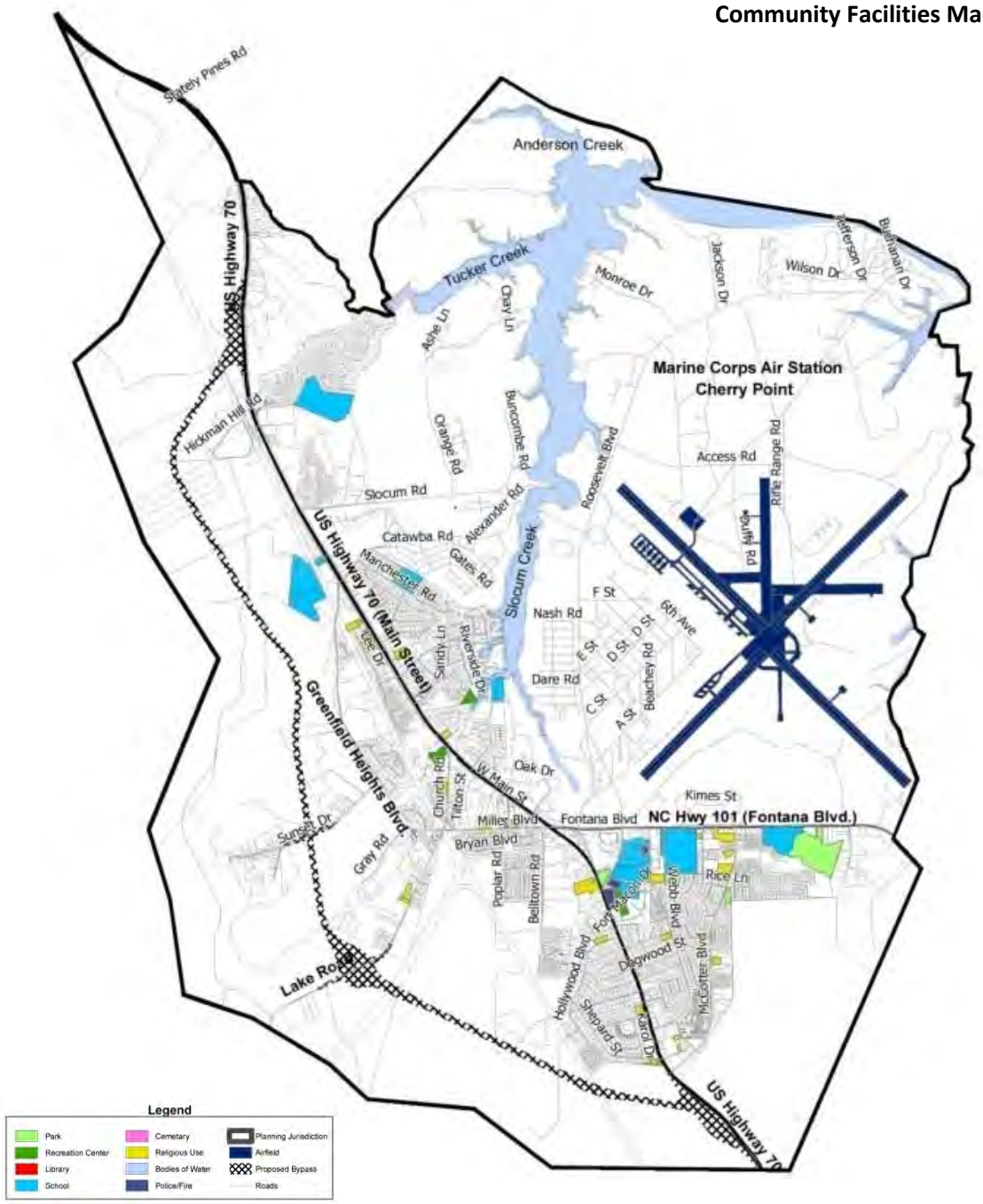


Table 3-14 provides an inventory of current parks and recreation facilities within the planning jurisdiction.

Table 3-14

Parks and Recreation Facilities								
Park	Acres	Baseball / Tee-ball	Basket -ball	Soccer/ open field	Play-ground	Picnic shelter/ table	Rest-room	Extra amenities & notes
Rachide/Tee-ball fields	5.00	4	--	--	yes	--	yes	concession stand
Senior Citizens Center							yes	
City Park	10.00	--	--	open fields	yes	2 shelters	Yes	Covered stage, 3 lighted tennis courts, rec center, 2 concession stands
Recreation Complex	50.00	8	1	1 soccer/ 1 football	yes	--	yes	--
Sermons Park	3.30	--	1	Open field	yes	--	---	--
Bryan Blvd Park	0.75	--	--	Small open lawn	--	--	--	--
Walter B. Jones Park	12.00	--	2	--	yes	1 shelter	yes	--
Waterfront Park	6.60	--	--	--	--	1 table	--	Boat ramp, fishing pier, raised walkway
Stonebridge Park	4.50	--	--	--	--	--	--	fishing pier, raised walkway
Tarheel Park	1.30	--	1	Open field	--	--	--	--
South Forest Park	2.00	--	1	Open field	--	--	--	Only access is between 2 residences
Village Park	1.00	--	--	--	--	--	--	--
Wolf Creek	2.20	--	--	--	--	--	--	Park is not accessible to the general public
MacDonald Downs	2.90	--	--	Open field	yes	--	--	--
Arthur Edwards Park	0.18				yes			Joint use facility with school
Total	101.57	12	5	7	7	3 shelters; 1 table	5	--

Source: City of Havelock Comprehensive Parks and Recreation Master Plan, 2006

Natural Resources

Areas of Environmental Concern

Coastal-area lands can be quite fragile, yet because of market conditions, they often develop quickly. These often may be vulnerable to natural hazards such as erosion or flooding; or they may be valuable to citizens for environmental, economic, aesthetic, social, or cultural reasons.

Two of the responsibilities of North Carolina's Coastal Resources Commission (CRC) are to establish policies for the Coastal Management Program and to adopt implementation rules for the Coastal Area Management Act (CAMA). The Commission designates areas of environmental concern (AECs), adopts rules and policies for coastal development within those environmentally fragile areas, and reviews and certifies local land-use plans as compliant with CAMA regulations. The Division of Coastal Management (DCM), which is contained within North Carolina's Department of Environment and Natural Resources, implements the Coastal Resources Commission's rules development permits in CAMA-compliant areas.

The foundation of the Coastal Resource Commission and Division of Coastal Management's coastal development permitting programs is the designation of Areas of Environmental Concern (AECs). According to the Division of Coastal Management's website, "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 to our state" (www.nccoastalmanagement.net). The Coastal Resource Commission designates areas as AECs to preserve their value for the good of current and future state residents. This categorization is designed to protect sensitive areas from irreversible damage to property, public health, or the environment caused by uncontrolled development. Development in almost all coastal waters and in nearly 3% of land in the 20 CAMA-compliant coastal counties is subject to review under the AEC definitions. While Havelock does not abut coastal waters, the City does border sensitive estuarine waters. As such, development within the City is subject to AEC review, in addition to other local and state restrictions on development within floodplains and other sensitive areas.

The Coastal Resource Commission's four Areas of Environmental Concern, abbreviated definitions for each, and their applicability to Havelock are listed in Table 3-15 on page 3-35. As the table shows, Havelock does not meet all the requirements for each AEC nor for many of the AEC subsections. Havelock does meet portions of the Ocean and Estuarine System and Natural and Cultural Resource Areas AECs.

Table 3-15

Areas of Environmental Concern		
AEC and Subsections	Abbreviated Definition or Note	Presence in Havelock
Estuarine and Ocean System		
Public Trust Areas	All waters of the Atlantic Ocean and the lands underneath. All navigable natural bodies and the lands underneath, to the normal high watermark, not including privately owned lakes where the public doesn't have access.	Neuse River, Tucker Creek, Hancock Creek, Slocum Creek, Anderson Creek
Estuarine Waters	Oceans, sounds, tidal rivers and their tributaries, which stretch across coastal North Carolina and link to the other parts of the estuarine system: public trust areas, coastal wetlands & coastal shorelines. Note: 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.	Neuse River, Tucker Creek, Hancock Creek, Slocum Creek, Anderson Creek
Coastal Shorelines	All lands within 75 feet of the normal high water level of estuarine waters. This definition also includes lands within 30 feet of the normal high water level of public trust waters located inland of the dividing line between coastal fishing waters and inland fishing waters.	None
Natural and Cultural Resource Areas		
Coastal Complex Natural Areas	Lands that support native plants and animal communities, providing habitats essentially unchanged by human activity	Croatan National Forest, Pocosins, Cherry Point, Tucker Creek Natural Area, Pauper's Island/Goodwin Creek, Southwest Prong Flatwoods, Havelock station Flatwoods, and Powerline Corridor Area

Estuarine and Ocean System AEC: Public Trust Waters

North Carolina Coastal Management defines public trust areas as "coastal waters and submerged lands that every North Carolinian has the right to use for activities such as boating, swimming or fishing." Public trust waters are defined as navigable natural water bodies and the lands underneath them. Some public trust waters are estuaries, and some are freshwater. In Havelock, public trust waters include

the Neuse River, Anderson Creek, Tucker Creek, Hancock Creek, and Slocum Creek. Figure 3-11 shows Havelock's public trust waters and the required buffer. The Coastal Resources Commission requires that structures be built at least 30 feet from the normal high water level of public trust waters to better filter nutrients and pollutants from storm water runoff and protect houses and other structures from flooding. These buffer areas meet the Coastal Resource Commission's strict definition of the *Coastal Shoreline* section of the Estuarine and Ocean System AEC.

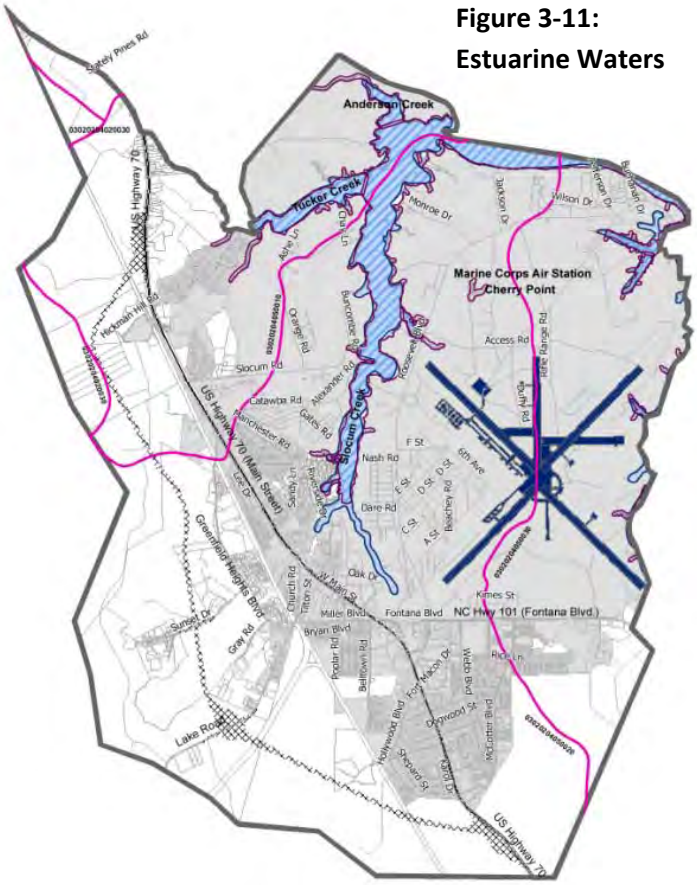


Figure 3-11: Estuarine Waters

Estuarine and Ocean System AEC: Estuarine Waters

An estuary is the area where a river's fresh water meets the ocean's salt water, and it is an area that is subject to tidal movements. Around Havelock, the Neuse River and its tributaries of Slocum and Hancock Creeks are considered estuaries. Estuaries can be critical nursery areas for finfish and shellfish, and they often contain unique plant life.

Estuaries are very sensitive to nitrogen, phosphorus, and sediment. Consequently, it is critical to know which riverine areas are estuaries as well as which lands contribute runoff and discharge to these estuaries. It is because of this sensitivity that North Carolina has designated estuarine waters as areas of environmental concern. Figure 3-5 shows storm water and wastewater discharge points, both of which emit various pollutants; as well, runoff from nearly all of Havelock's lands flow into the Neuse estuary. Figure 3-11 also shows the Coastal Resources Commission's required buffer of 75 feet from the normal high water mark of estuarine waters. Buffers filter nutrients — usually from agricultural fertilizers — and pollutants from storm water runoff, better protecting the estuary.

Historically, high nitrogen levels from agricultural runoff have contributed to frequent algal blooms, negligible dissolved oxygen concentrations, and fish kills. Because these problems

severely affected the health of the Neuse River, the State of North Carolina and the United States Environmental Protection Agency (EPA) instituted a combined program of agricultural best management practices, fertilizer management plans, and cropland reduction for limiting negative impacts to estuaries. As a result, nitrogen levels have decreased by 42% from 1993 to 2003. Additionally, the best management practices prevented more than 480,000 tons of soil from being washed away by erosion.

Natural and Cultural Resource Areas AEC: Coastal Complex Natural Areas

Immediately outside the city limits is the Croatan National Forest, which is owned by the U.S. Forest Service and managed by the North Carolina Wildlife Commission. Croatan National Forest is a rich area filled with a variety of plants and wildlife, including the carnivorous Venus flytrap, sundew, and pitcher plants as well as deer, black bears, alligators, ospreys, red-tailed hawks, eastern bluebirds, and wild turkeys. Nearly 2,900 of the Forest's more than 160,000 acres are contained within Havelock's existing extra-territorial jurisdiction. There are at least 10 formal points — several near Havelock — that provide entry to one or more of a variety of outdoor adventures, including hiking trails, boat ramps, canoe put-ins, beaches, mountain biking trails, and camping sites. Land within the boundaries of the national forest is protected from development, although growth pressures from Havelock are beginning to encroach on the Croatan. This area is particularly important because of its size, its connectivity, and its provision of habitat essentially unchanged by human activity. These features contribute to natural species by providing a large area of ranging land for bears and other animals of prey; by supplying untainted land, water, and habitat that continues to support fragile flora species like carnivorous plants; and by keeping intact wetlands and swamp areas that aid in good water quality and in hurricane and flood protection.

In addition to regular wetlands and swamp areas, the Croatan National Forest is also home to pocosins, a Native American word for "swamp on a hill." Another description for a pocosin is a raised bog. Pocosins are found on the coastal plains of Mid-Atlantic States from Maryland to South Carolina, but they are most often associated with North Carolina. The Pocosin Wilderness represents 11,709 acres of the Croatan National Forest found in nearby Carteret County.

In addition to the Croatan National Forest, land contained in and adjacent to the City's ETJ that have been designated by the U.S. Forest Service or the U.S. Department of Defense as conservation or significant natural heritage areas include:

- Cherry Point Tucker Creek Natural Area in northern Havelock
- Pauper's Island/Goodwin Creek Natural Area, to the west of the Cherry Point Tucker Creek Natural Area

- Southwest Prong Flatwoods, along the southwestern section of Havelock where the proposed bypass is located
- Havelock Station Flatwoods and Powerline Corridor Area southwest of Havelock's city limits

The above conserved areas are primarily forest, although Tucker and Anderson Creeks make up a significant portion of the Cherry Point Tucker Creek Natural Area in addition to the forestland. Several significant natural heritage locations within the planning jurisdiction overlap with the Croatan National Forest (see Figure 3-12).

Unofficial AEC: High Hazard Areas

The Coastal Resource Commission and North Carolina Coastal Management define High Hazard Flood AECs as coastal floodwaters identified on flood insurance maps as "V zones," or floodwaters with a velocity hazard. Although Havelock does not have floodwaters with a "V zone" rating, the City is subject to flooding. In addition, the City is at risk from storm surge from tropical storms and from hurricanes. Development in these areas can compromise the health and safety of the general public. Figures 3-13 and 3-14 reveal where natural hazards are in Havelock. Further information on floodplains and storm surge follows.

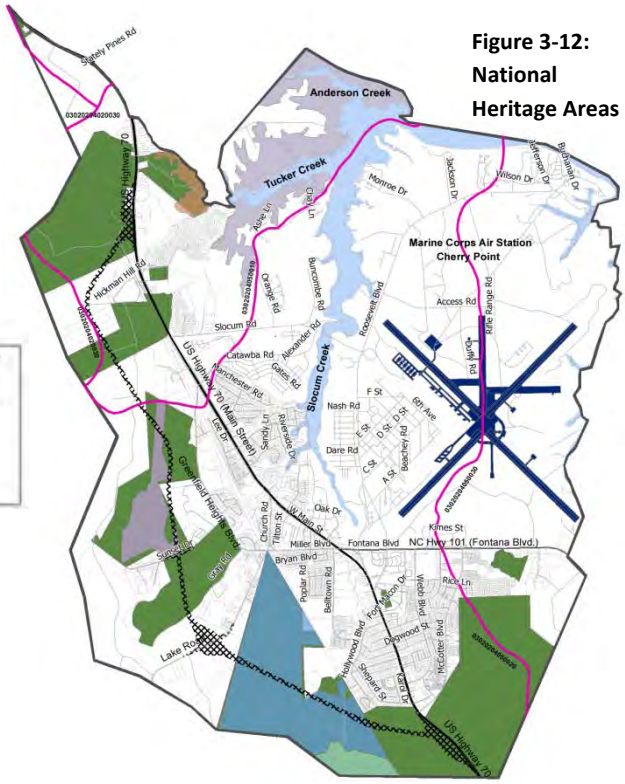


Figure 3-12: National Heritage Areas

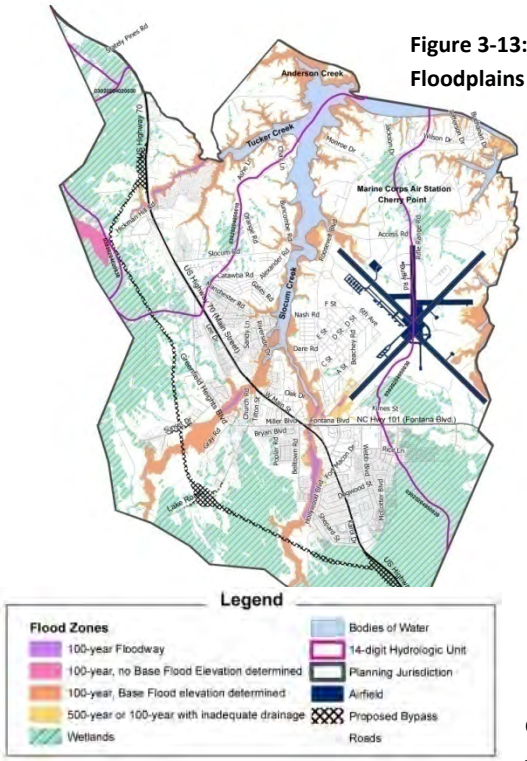


Figure 3-13: Floodplains

Floodplains

Riverine floodplains are comprised of two components, the floodway and flood fringe. The floodway includes the channels and adjacent land that actively convey floodwaters. Lands outside the floodway that store floodwaters but do not transport them are known as the flood fringe.

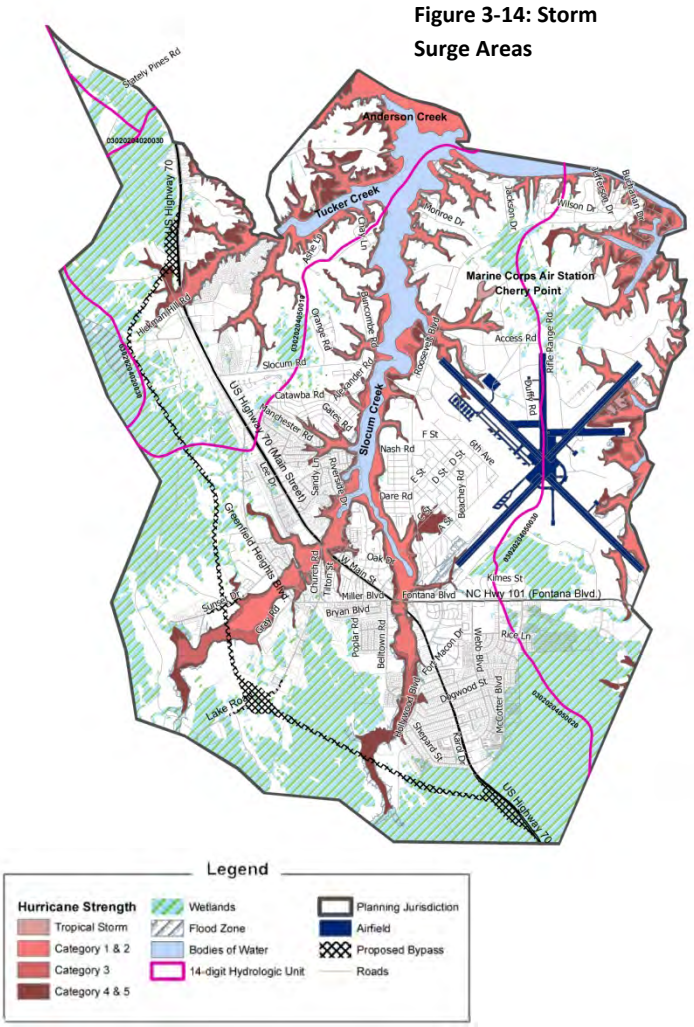


Figure 3-14: Storm Surge Areas

A flood with a 1% chance of happening in any given year is commonly known as a 100-year flood, although such a flood can happen more or less often than every 100 years. The Federal Emergency Management Agency (FEMA) requires the use of the 100-year flood to determine floodplain maps, and federal and state laws require management of floodplains where the probability of flooding in any given year is 1% or higher. For that reason, a flood with a 1% chance of occurring in any given year is also known as a base flood. The term "base flood elevation" (BFE) indicates the elevation of the water surface that is expected during a 100-year flood. Generally, local regulations usually use BFE plus a set addition in feet as a standard elevation to which structures must be built. Structures built in floodplain areas without established BFEs may be at higher risk of flooding because the lack of prevailing wisdom regarding flood level could cause builders to underestimate floodwaters.

According to Craven County's Hazard Mitigation Plan, approved by FEMA in April 2005, the City of Havelock has had two flooding events that were reported to the National Climatic Data Center since 1995. One flash flood occurred in 1995, and the other flash flood occurred in 1998. There were no damage figures, deaths, or injuries reported, which means that the impact of the floods was localized. These floods are in addition to what was caused by Hurricane Fran in September 1996 and Hurricane Floyd in September 1999.

Havelock's designated 100-year floodplains extend along Slocum, Tucker, and Hancock Creeks. While a portion of Havelock's developed areas are at risk from this level of flooding, the majority of development in Havelock is outside the 100-year floodplain boundaries. The area at particular risk for flooding within city limits is the land at the lower portion of Slocum Creek, where the bridge provides a crossing for US 70. This land contains an elementary school and a variety of housing. Excessive land

development that occurs upstream and constricts drainage of floodwaters also increases the overall area at risk of flooding. In Havelock, MCAS primarily controls upstream land. Figure 3-13 illustrates Havelock's 100-year designated floodplains.

Storm Surge

When a severe storm — such as a tropical storm or a hurricane — occurs, land in coastal areas is subject to rising water from oceans and rivers. Storm surge is the amount that water rises as the result of severe storms. The surge is calculated for tropical storms and hurricanes. As the severity of storms increase, the area affected by storm surge becomes greater. Havelock's position near North Carolina's coast guarantees its vulnerability to severe storms.

Source: www.nws.noaa.gov

Storm categories from the Saffir-Simpson scale listed in Table 3-16 are based on wind strength. Wind strength, however, is not the only predictor for storm surge and damage. Storms can be primarily wind events, water events, or they can be both; and the speed at which storms travel indicates the amount of time an affected area will be subject to the storm. A slow-moving Category 2 storm that is primarily a water event can cause massive flooding and property damage, for example. Figure 3-14 shows the storm surge areas for each category of storm for both the City and for MCAS.

Table 3-16

Saffir-Simpson Hurricane Scale	
Tropical Storm	Winds range from 30-73 miles per hour.
Hurricane, Category 1	Winds range from 74-95 miles per hour. Some damage and minor flooding are expected.
Hurricane, Category 2	Winds range from 96-110 miles per hour. Moderate damage and flooding are expected.
Hurricane, Category 3	Winds range from 110-130 miles per hour. Extensive damage, including structural damage to small buildings, is expected. Serious flooding is also expected, with estimates at up to 8 miles inland for elevations of 5 feet or less
Hurricane, Category 4	Winds range from 131-155 miles per hour. Extreme damage, including the complete destruction of mobile homes, is expected. Serious flooding is also expected, with estimates at up to 6 miles inland for elevations of 10 feet or less.
Hurricane, Category 5	Winds greater than 155 miles per hour. Catastrophic damage, including major damage to lower floors of structures less than 15 feet above sea level and extensive damage to all buildings, is expected. Massive evacuation of residential areas from 5-10 miles from shore will be required.

Source: National Weather Service National Hurricane Center Website, 2006 (www.nhc.noaa.gov/aboutsshs.shtml)

Other Environmental and Natural Resources

Map of the Castle Hayne Aquifer
Source: capp.water.usgs.gov

Groundwater

Both the MCAS — Cherry Point and the City of Havelock are fortunate enough to obtain their water from Castle Hayne, the most robust and productive aquifer in North Carolina. Wells that pull on the Castle Hayne aquifer typically yield 200-500 gallons of water per minute, but the yield can exceed 2,000 gallons per minute. The thickness of the aquifer averages about 175 feet, and it is composed of limestone, sandy limestone, and sand. The City of Havelock is located in the "transition" portion of the aquifer, which is the area of the aquifer that is between fresh and salty water. More information about groundwater supplies is located in the Community Facilities — Infrastructure section of this chapter (See Water Supply).

Watersheds

Based on drainage patterns, the United States has been divided and sub-divided into geographic regions called hydrologic units. Each unit centers on a river or stream that carries the surface water run-off from the land area within the watershed downstream to the next lower watershed.

The City of Havelock is in the Lower Neuse hydrologic unit, or in common terms, the Lower Neuse Watershed. Although the Lower Neuse hydrologic unit is the lowest level of divisions that the U.S. Geological Survey tracks, it has been further subdivided for scientists and naturalists' ease of identification. These subdivisions within the Lower Neuse hydrologic unit appear on all the natural resources maps.

Wetlands

The benefits of wetlands are numerous. In addition to protecting water quality, wetlands reduce storm water runoff and related pollution; they can help to decelerate strong storms; and they preserve critical plant, animal, and fish habitats. Canals that drain wetlands prevent these areas from benefiting the surrounding human and environmental surroundings. The State of North Carolina has developed policies to guide wetland drainage.

Wetlands
Source: www.env.duke.edu

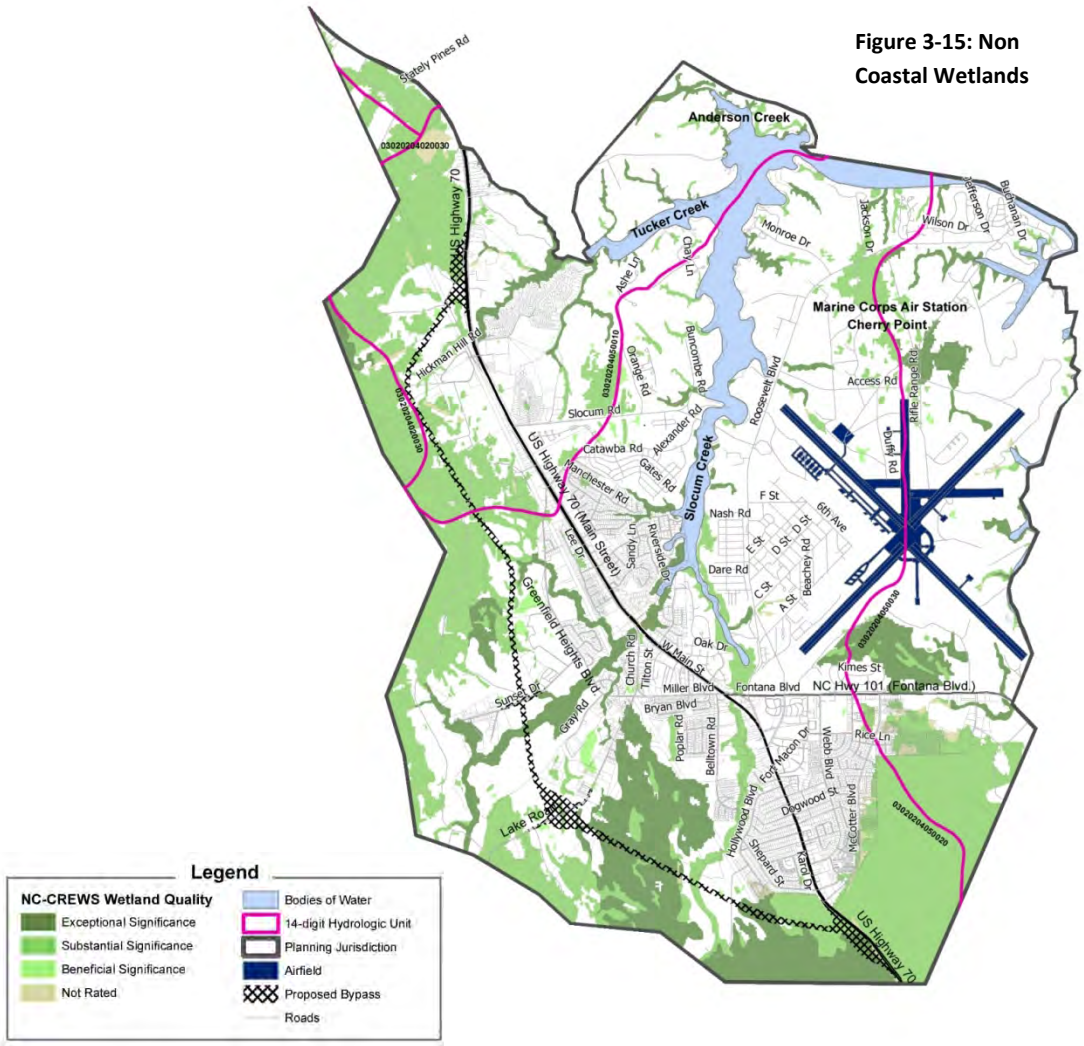


Figure 3-15: Non Coastal Wetlands

Before these policies were developed the City of Havelock was built upon drained swamplands. Drainage ditches and canals drained the water within the City, but non-coastal wetlands continue to surround Havelock's borders. While little of the land within Havelock's limits is classified as wetlands, the presence of significant amounts of hydric soils attests to the area's earlier ecology.

Figure 3-15 illustrates the status of the Havelock area's non-coastal wetlands inventoried by the Division of Coastal Management's North Carolina Coastal Regional Evaluation of Wetland Significance (NC-CREWS). The NC-CREWS model considers the level of water quality, wildlife habitat, and hydrologic functions in its assessment. The resulting rankings provide information about the relative ecological importance of specific wetlands. DCM's objective in providing this information is to have municipalities use it to determine where development should not be planned as well as where certain types of development are best suited and compatible with the habitat.

The State's goal in developing NC-CREWS is to have the assessment significantly improve municipalities' ability to avoid or minimize irreversible adverse impacts to the State's most valuable wetland ecosystems There are three wetland categories that represent different levels of ecological significance: exceptional, substantial, and beneficial. The term "wetlands" does not signify a set of universal characteristics. In fact, there are a number of different categories of wetlands. Figure 3-16 illustrates Havelock's variety of wetlands, and Table 3-17 provides the Division of Coastal Management's NC-CREWS definitions of each wetland category.

Figure 3-16: Non Coastal Wetlands by Type

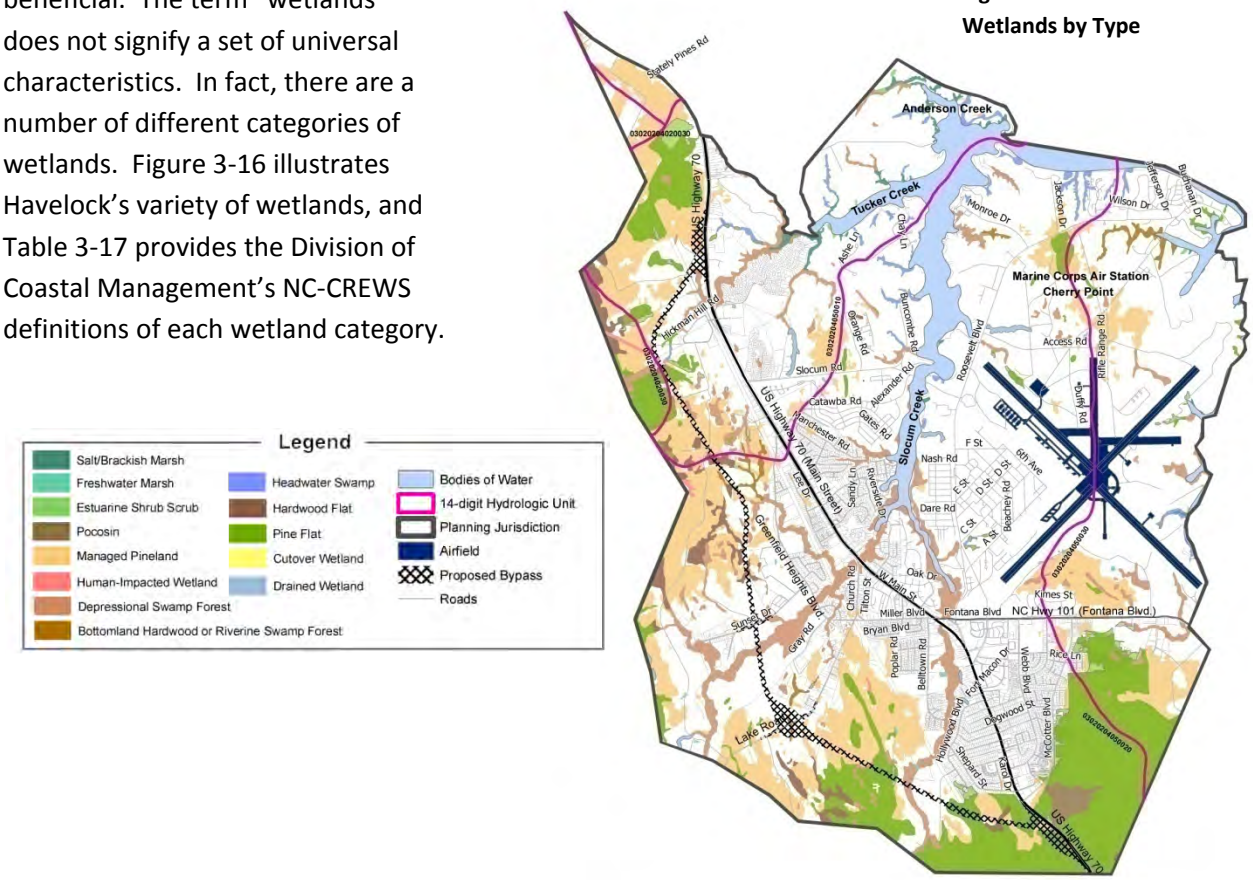


Table 3-17

Wetland Categories	
Salt/Brackish Marsh	Any salt marsh or other brackish marsh subject to regular or occasional flooding by tides, including wind tides (whether or not the tide waters reach the marshland areas through natural or artificial watercourses), provided this shall not include hurricane or tropical storm waters.
Estuarine shrub scrub	Any shrub/scrub dominated community subject to occasional flooding by tides, including wind tides (whether or not the tide waters reach the marshland areas through natural or artificial water courses)
Freshwater Marsh	Herbaceous areas which are flooded for extended periods during the growing season. Included in this are marshes within lacustrine systems, some managed impoundments, some Carolina Bays, and other non-tidal marshes (i.e. marshes which do not fall into the Salt/Brackish Marsh category).
Pocosin	Non-estuarine Scrub/Shrub dominated by evergreen shrubs. Typically occur on saturated, acid, nutrient poor, sandy or peaty soils; usually removed from large streams and subject to periodic burning.
Bottomland Hardwood or Riverine Swamp Forests	Riverine forested or occasionally scrub-shrub communities which are semi-permanently flooded or including temporarily flooded.
Depressional Swamp Forest	Very poorly drained non-riverine forested or scrub/shrub communities which are semi-permanently flooded or including temporarily flooded.
Headwater Swamps	Wooded, riverine systems along first order streams. These include hardwood dominated communities with moist soil most of the year. Channels receive their water from overland flow and rarely overflow their own banks.
Hardwood Flat	Poorly drained interstream flats not associated with rivers or estuaries. Seasonally saturated by high water table of poor drainage.
Pine Flats	Non-estuarine, seasonally saturated pine communities on hydric soils that may become quite dry for part of the year, generally on flat or nearly flat areas that are not associated with a river or stream system. This category does not include managed pine systems.
Managed Pinelands	Seasonally saturated, managed pine forests occurring on hydric soils. This wetland category may also contain non-managed pine forests occurring on hydric soils. Generally these are areas that were not shown on National Wetland Inventory maps. These areas may or may not be jurisdictional wetlands.
Human Impacted Wetlands	Areas of human impact have physically disturbed the wetland, but the area is still a wetland. Impoundments and some cutovers are included in this category, as well as other disturbed areas such as power lines.
Drained Wetlands	Any wetland system described above that is, or has been, partially drained/ditched according to the US Fish & Wildlife National Wetland Inventory maps.
Cutover Wetlands	Areas for which satellite imagery indicates a lack of vegetation in 1994. These areas are likely to still be wetlands, however, but they have recently been cut over. Vegetation in these areas may be revegetating naturally or may be in use for silvicultural activities.

Source: Division of Coastal Management website, 2006 (http://dcm2.enr.state.nc.us/Wetlands/NCCREWSDOC.pdf

Hydric Soil Conditions

Hydric soils are saturated long enough during the growing season that they support partially or totally submerged plants or plants that can grow in waterlogged soils. Hydric soils are indicative of wetlands, so it is no surprise that these soils are abundant in Havelock. The City has land that consists partly, mostly, or completely of hydric soils. Other areas have wet spots. Those with hydric soils are less able to absorb storm water runoff, and they are less able to support septic systems. Havelock also has areas with few or no hydric soils. Figure 3-17 illustrates Havelock's hydric soils areas.

Figure 3-17: Hydric Soils

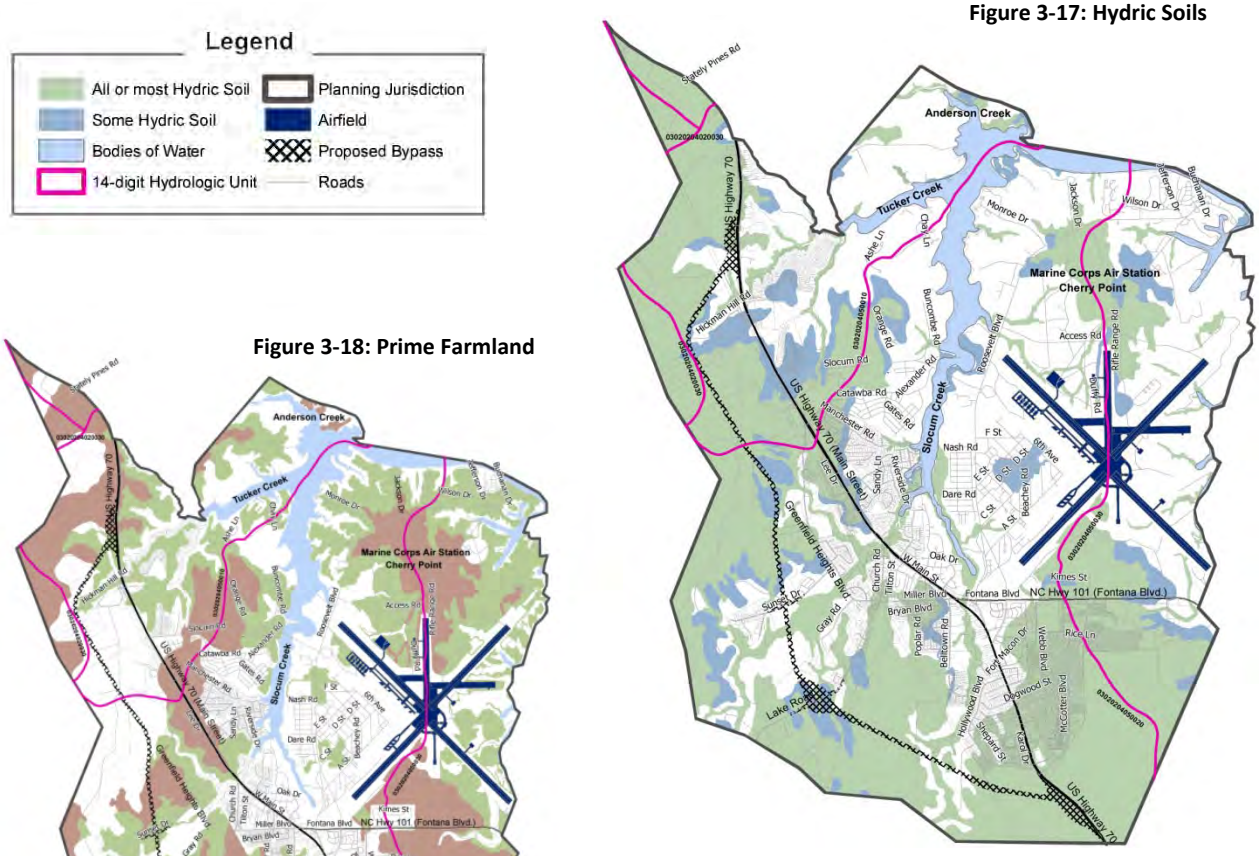
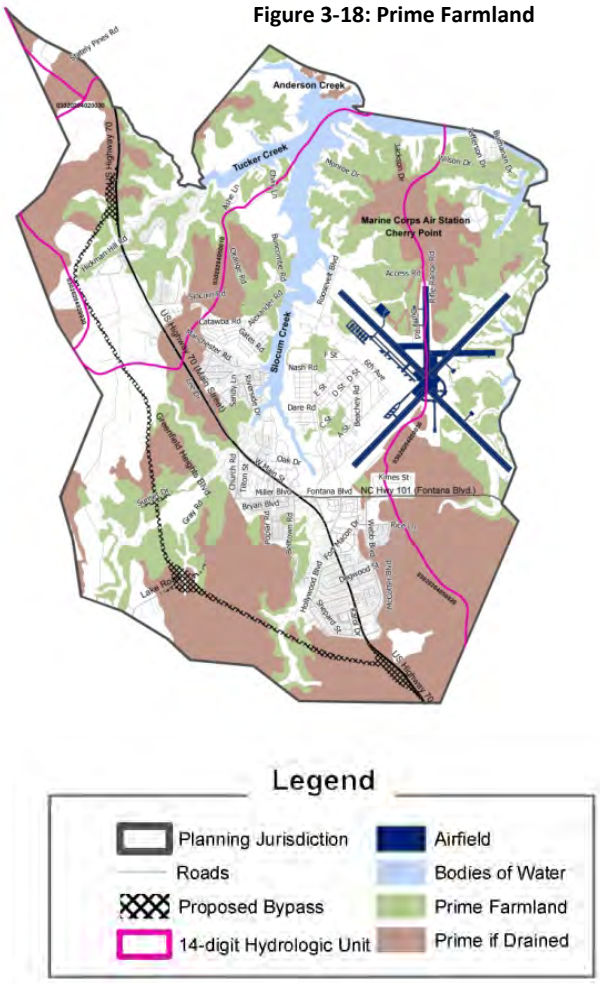


Figure 3-18: Prime Farmland



Soil Types

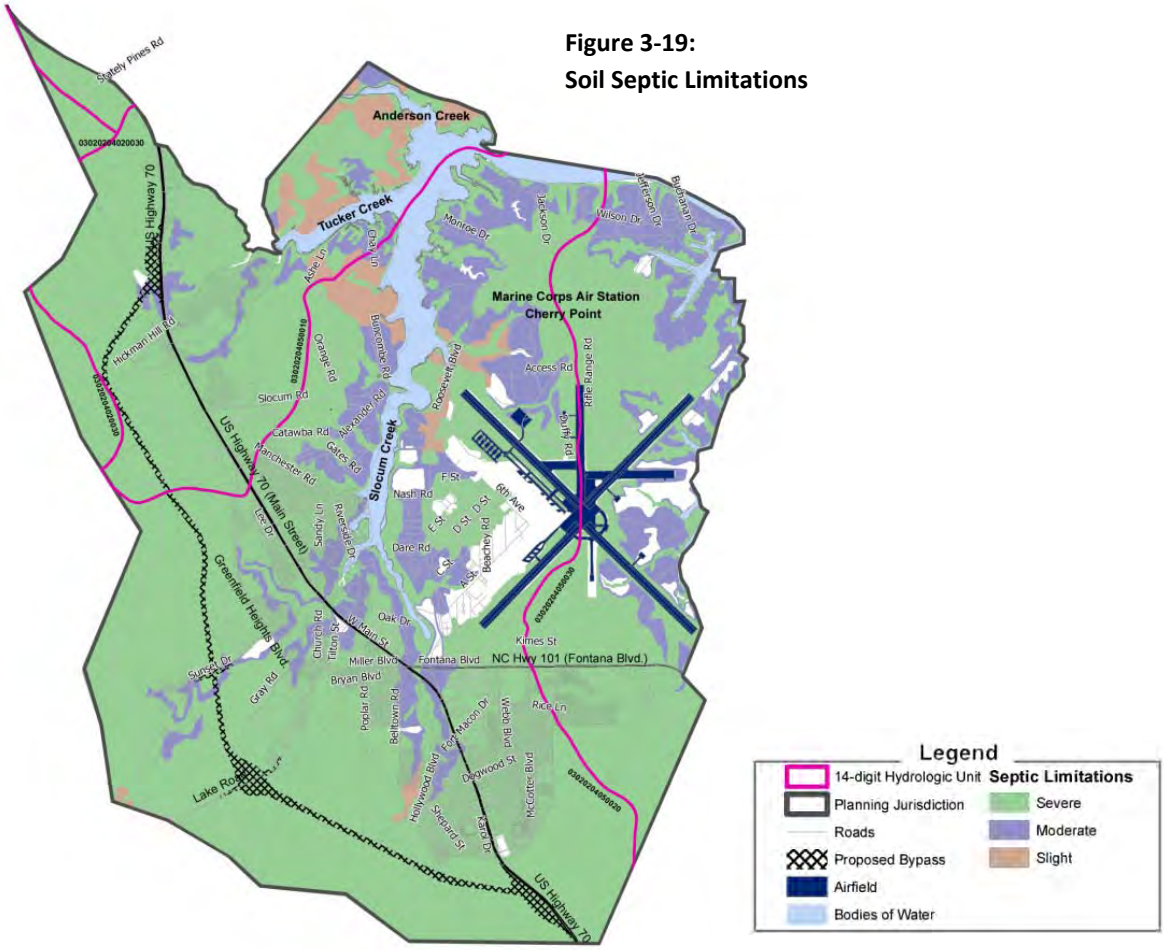
Havelock's primary soil types consist of sand, loam, and silt. Although considered poor for septic systems because of the hydric factor, components of these soils are considered good agricultural land. There is a noteworthy amount of land around Havelock considered prime farmland, even though nearly all of the areas within the city limits have been developed. Much of the prime farmland is on the military base, and still more of the prime and prime-if-drained farmland is in the Croatan National

Forest. A significant portion of land outside of the city that is not consumed by the Croatan National Forest is agricultural. Figure 3-18 shows the areas that are considered prime farmland and prime farmland, if drained.

Soil Septic Limitations

Soil texture, water content, and slope determine septic wastewater capacity. Ultimately, the soil texture most conducive to good septic system functioning is a combination of fine and coarse. Fine-textured soils filter contaminants and coarse-textured soils transmit water quickly. If, however, the water content of soil is already high, coarse soil texture is of little help, as septic wastewater will have a hard time being dispersed. Steep slopes also limit septic systems — although Havelock generally does not exhibit steep slopes. Most of the soil around Havelock is subject to severe septic limitations, which the Craven County Health Department references when denying building permits (see Figure 3-19). Other areas in and around Havelock have moderate or slight limitations, but most of these areas are either outside of Havelock's extra-territorial jurisdiction or they lie within MCAS' jurisdiction.

Figure 3-19:
Soil Septic Limitations



Slopes

The City of Havelock and the surrounding areas are generally flat (see Figure 3-20). Isolated areas with steeper slopes are located along the banks of Slocum and Hancock Creeks and their tributaries, where slope steepness ranges from 10% to 30%. Slopes at this steepness begin to be more technically demanding for development. Because these slopes consist of such a small percentage of Havelock's land and are in areas otherwise sensitive to development, they should not overly affect development within the planning jurisdiction.

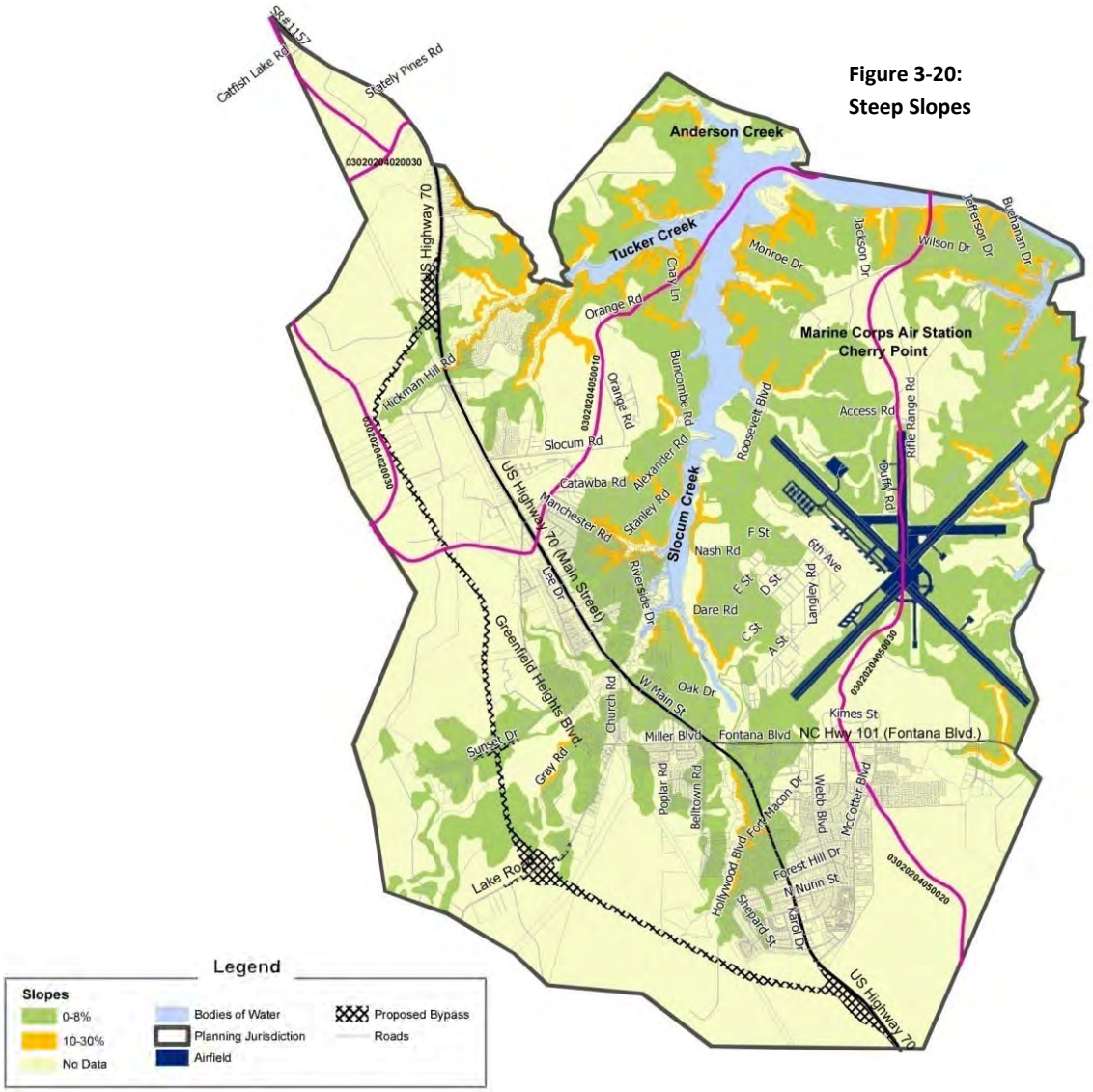


Figure 3-20: Steep Slopes

Wind Erosion

Wind can erode soil, transporting and depositing it far from its original location. Some factors that govern wind-erosion rates include wind velocity, topography, soil properties, vegetation cover, and land use. Figure 3-21 illustrates the wind speeds at which soil in the Havelock area is subject to erosion.

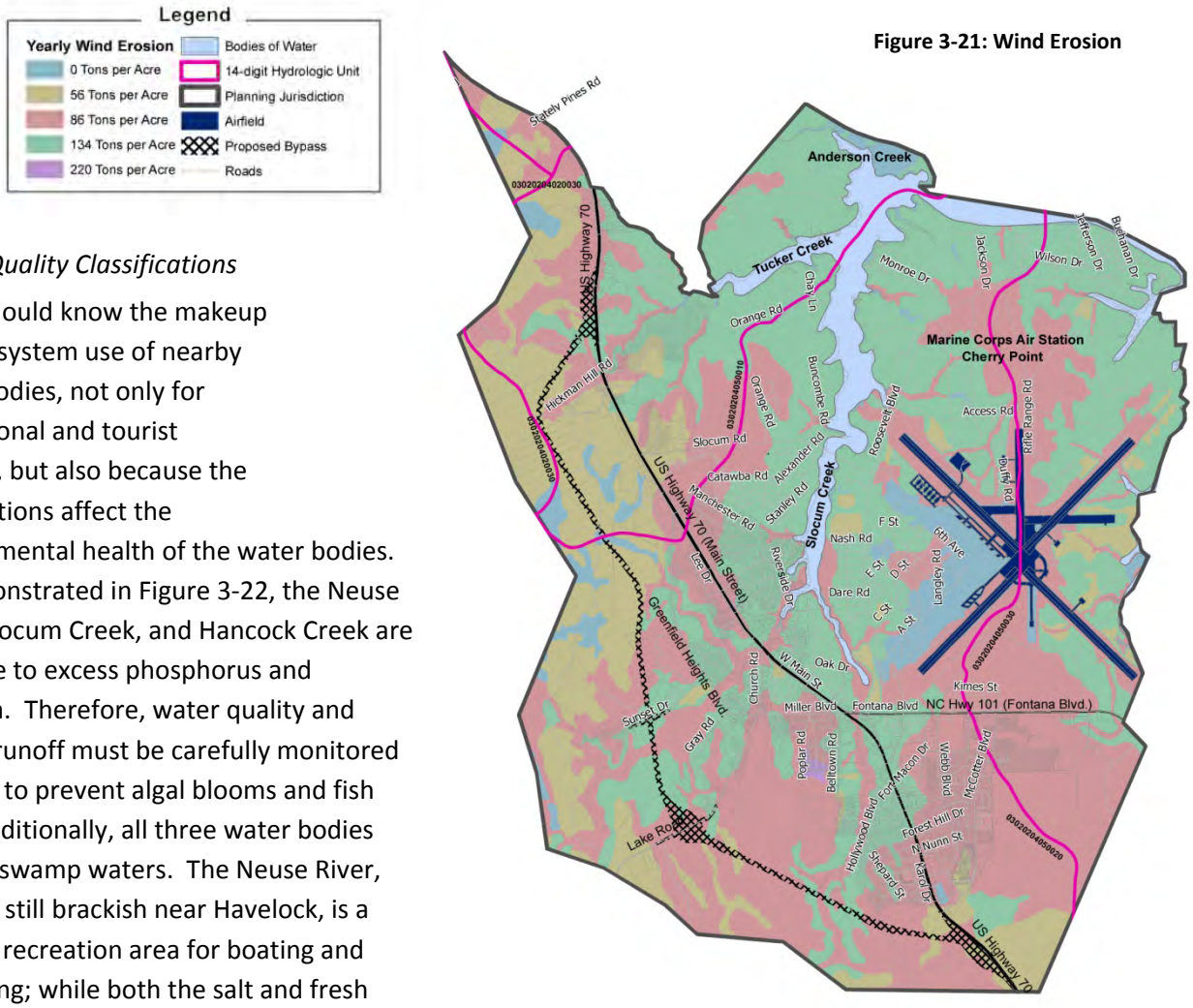


Figure 3-21: Wind Erosion

Water Quality Classifications

A city should know the makeup and ecosystem use of nearby water bodies, not only for recreational and tourist reasons, but also because the city's actions affect the environmental health of the water bodies. As demonstrated in Figure 3-22, the Neuse River, Slocum Creek, and Hancock Creek are sensitive to excess phosphorus and nitrogen. Therefore, water quality and nearby runoff must be carefully monitored in order to prevent algal blooms and fish kills. Additionally, all three water bodies contain swamp waters. The Neuse River, which is still brackish near Havelock, is a primary recreation area for boating and swimming; while both the salt and fresh waters of Slocum Creek and the salt water of Hancock Creek are secondary recreation areas. None of the waters within or around Havelock conform to the Division of Water Quality's definitions of High Quality Waters (HQW) or Outstanding Resource Waters (ORW).

Table 3-18 summarizes water quality classifications used by the North Carolina Division of Water Quality for evaluating local waters.

Chlorophyll is the pigment that allows plants to convert sunlight into energy, and chlorophyll is the predominant type found in algae. An abundance of chlorophyll can indicate an excess amount of algae. When fish and other predators cannot consume enough algae to maintain a healthy balance, the unconsumed algae sinks to the bottom of the water body and decays. The decaying process uses oxygen to break down molecules. But the decomposition of an excess amount of algae can leave water bodies without enough oxygen to support plant, finfish, and shellfish life. Phosphorus contributes to the growth of algae.

Algal bloom in Neuse River
Source: www.eutro.org

Fish kill
Source: www.bioquest.com

Table 3-18

Water Classifications	
Class C	Waters protected for secondary recreation, fishing, wildlife, fish and aquatic life propagation and survival, agriculture and other uses suitable for Class C. Secondary recreation includes wading, boating, and other uses involving human body contact with water where such activities take place in an infrequent, unorganized, or incidental manner. There are no restrictions on watershed development or types of discharges.
Class SB	Surface waters that are used for primary recreation, including frequent or organized swimming and all SC uses. Storm water controls are required under CAMA and there are no categorical restrictions on discharges.
Class SC	All tidal salt waters protected for secondary recreation such as fishing, boating and other activities involving minimal skin contact; aquatic life propagation and survival; and wildlife. Storm water controls are required under CAMA and there are no categorical restrictions on discharges.
Swamp Waters (Sw)	Supplemental classification intended to recognize those waters that generally have naturally occurring very low velocities, low pH and low dissolved oxygen. No specific restrictions on development are involved.
Nutrient Sensitive Waters (NSW)	Supplemental classification intended for waters needing additional nutrient management due to their being subject to excessive growth of microscopic or macroscopic vegetation. In general, management strategies for point and nonpoint source pollution control require control of nutrients (nitrogen and/or phosphorus usually) such that excessive growths of vegetation are reduced or prevented and there is no increase in nutrients over target levels. Management strategies are site-specific.
High Quality Waters (HQW)	Supplemental classification intended to protect waters with quality higher than state water quality standards. In general, there are two means by which a water body may be classified as HQW. They may be HQW by definition or they may qualify for HQW and then be supplementally classified as HQW through the rule-making process. Among other categories, waters which are HQW by definition are shell fishing waters, waters designated as primary or functional nursery areas by the Marine Fisheries commission, and areas that Wildlife Resources Commission has designated as native and wild trout waters.
Outstanding Resource Waters (ORW)	Supplemental classification intended to protect unique and special waters having excellent water quality and being of exceptional state or national ecological or recreational significance. To qualify, waters must be rated Excellent by DWQ and have one of the following outstanding resource values: • Outstanding fish habitat or fisheries, • Unusually high level of water based recreation, • Some special designation such as NC or National Wild/Scenic/Natural/Recreational River, National Wildlife Refuge, etc., • Important component of state or national park or forest, or • Special ecological or scientific significance (rare or endangered species habitat, research or educational areas). No new discharges or expansions of existing discharges shall be permitted. There are associated development controls enforced by DWQ. ORW areas are HQW by definition.

Source: NC Division of Water Quality website, 2006 (http://h2o.enr.state.nc.us/csu/swc.html)

In addition to causing fish kills, too much algae also blocks sunlight from reaching underwater plants, which further destabilizes the ecosystem. Nitrogen-containing compounds also deplete oxygen levels in water. Both phosphorus and nitrogen are found in fertilizers, and storm water runoff from farms is often one of the main culprits of algal blooms and poor dissolved oxygen levels.

Turbid water contains enough suspended sediment that water clarity is affected. As when excess amounts of algae are present, turbid water blocks sunlight from underwater plants, causing plant decomposition and habitat destruction. Turbidity is often the result of soil erosion from construction and farm fields.

Fecal coliform bacteria indicate that a water body has been contaminated with fecal waste products of humans and/or animals. Because fecal matter carries pathogens and disease-producing bacteria and viruses, the presence of fecal coliform bacteria indicate that potential health risks exist for humans. Fecal coliform contamination is often the result of an overflow of domestic sewerage systems.

Table 3-19 illustrates draft water quality classifications from the North Carolina Division of Water Quality's update for Slocum Creek.

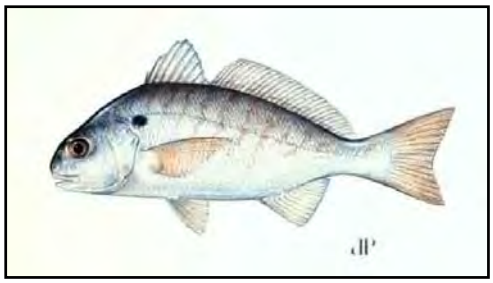
Table 3-19

Slocum Creek Water Quality Results		
	Slocum Creek Results % samples that exceeded state requirements	NC Standards % of samples that are allowed to exceed state requirements
Chlorophyll A	4.10%	Up to 10%
Turbidity	8.60%	Up to 10%
Fecal Coliform	20.0%	Up to 20%

Source: NC Division of Water Quality, July 2006

Finfish and Shellfish Habitat Areas and Primary Nursery Areas

The tables below list the varieties of finfish present in the Neuse River adjacent to Havelock, as well as in Slocum and Tucker Creeks. These data are an important addition to the water quality data, as well as to the information regarding treated wastewater discharges and untreated storm water runoff discharge. Negative changes in these populations not only affect the balance of life in the estuary, river, and ocean ecosystems, they also serve as an indicator — albeit a late indicator — that environmental protection measures are not working.



Spot
Source: myfwc.com

Among the types of anadromous fish — fish that live in saltwater but spawn in freshwater — in the Neuse River are striped bass, American shad, hickory shad, alewife, shortnosed sturgeon, and Atlantic sturgeon. Both Hickory Shad and Atlantic Sturgeon are found in the section of the Neuse River near Havelock.

Table 3-20 summaries the varieties of finfish and shellfish present in the Neuse River adjacent to Havelock and in Slocum and Hancock Creeks. Gizzard shad, longnose gar, and striped mullet are the only species found in both the river and the creeks.

Table 3-20

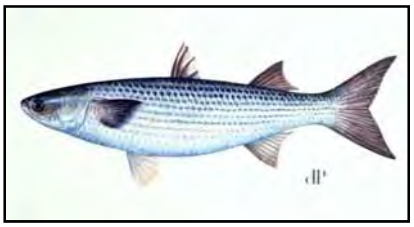
Finfish Presence in the Neuse River, Slocum Creek, and Hancock Creek			
Species	Neuse River	Slocum Creek	Hancock Creek
Alewife	X		
Atlantic Croaker	X		
Atlantic Menhaden	X		
Atlantic Sturgeon	X		
Atlantic Thread Herring	X		
Bay Anchovy	X		
Bay Whiff	X		
Black Crappie		X	
Blue Crab	X		
Bluefish	X		
Bluegill		X	X
Bluespotted sunfish		X	
Bowfin		X	X
Brown shrimp	X		
Chain pickerel		X	X
Cownose Ray	X		
Flier			X
Gizzard shad	X	X	
Golden Shiner		X	X
Grass Shrimps	X		
Hickory Shad	X		
Hogc Hocker	X		
Inshore lizardfish	X		
Jellyfish	X		
Largemouth Bass		X	X
Longnose Gar	X		X
Pigfish	X		
Pinfish	X		
Pink Shrimp	X		
Pumpkinseed		X	X
Redear sunfish		X	X
Silver Perch	X		
Southern Flounder	X		
Spanish Mackerel	X		
Spot	X		
Spotted seatrout	X		
Striped Anchovy	X		
Striped Mullet	X	X	X

Summer Flounder	X		X
Warmouth			
Weakfish	X		
White catfish		X	X
White perch		X	
White shrimp	X		
Yellow perch		X	X

Source: NC Division of Marine Fisheries, August 2006, NC Wildlife Resources Commission, September 2006.

CAMA plans address finfish and shellfish habitat as well as finfish and shellfish primary nursery areas. In practice, however, the Neuse River is administered by the Division of Marine Fisheries while Slocum and Hancock Creeks are administered by the Wildlife Resources Commission. Neither organization could provide information about shellfish habitat or primary nursery areas in Slocum or Hancock Creeks. A spokesman from the Division of Environmental Health stated that because there were no commercial shellfishing operations on the Lower Neuse River, and because of the poor water quality as a result of wastewater discharge sites on the river, the Division automatically classified the lower Neuse River and its tributaries as "Prohibited for Shellfish Harvest." In fact, the unswerving problems with high fecal coliform levels for shellfish due to the wastewater discharge sites caused the Division to remove its monitoring sites from the lower Neuse River.

Blue Crab
Source: www.fisheries.vims.edu



Striped mullet (myfwc.com)

The Division only monitors areas farther upstream, where testing could be more effective.

Environmental Composite Map

The environmental composite map illustrates three categories of land — representing natural features or environmental conditions noted within the planning jurisdiction — that influence the type, size, or pattern of new development. These categories are defined below:

Class I includes land that contains only minimal environmental hazards and limitations that could be addressed by commonly accepted land use planning and development practices. Class I land generally supports more intensive types of land use and development patterns.

Class II includes land that contains environmental hazards and limitations for development that is commonly addressed by restricting allowable land use categories, special design element requirements for approving site plans, or the provision of public services such as water and sewer. Land in Class II

generally supports less intensive types of land uses, such as low-density residential, without significant investment in public infrastructure.

Class III includes land that contains serious environmental hazards and limitations. Land in Class III generally supports very low intensity land use types, including conservation and passive parks and recreation uses.

Members of the Comprehensive Plan Advisory Committee met on January 18, 2007 to evaluate the natural features and environmental conditions inventoried within the planning jurisdiction. Each occurrence was summarized by a meeting facilitator and discussed by Committee members to evaluate the unique capabilities and limitations associated with each occurrence for supporting future development. Consensus was reached at the meeting to group certain natural features or environmental conditions into one of three land categories (i.e., Class I – III):

Table 3-21

Environmental Features Included in Land Categories			
Features	Class I	Class II	Class III
Estuarine Waters			X
Public Trust Areas			X
Flood Zones		X	
Storm Surge Areas		X	
Exceptional or Substantial Non-Coastal Wetlands			X
Beneficial Non-Coastal Wetlands		X	
Soils with Severe Septic Limitations		X	
Soils with Slight or Moderate Septic Limitations	X		
Significant Natural Heritage Areas		X	
Neuse River Watershed		X	
Steep Slope Areas (>10%)		X	
Protected Lands			X

Figure 3-22 illustrates the environmental composite map developed for the City of Havelock and its immediate environs. Based on this analysis, more than one-third (37%) of the planning jurisdiction was classified as Class III – Serious Environmental Hazards and Limitations. Class II – Moderate Hazards and Limitations, accounts for nearly two-thirds (62%) of the planning jurisdiction. No land is classified as Class I – Minimal Hazards and Limitations.

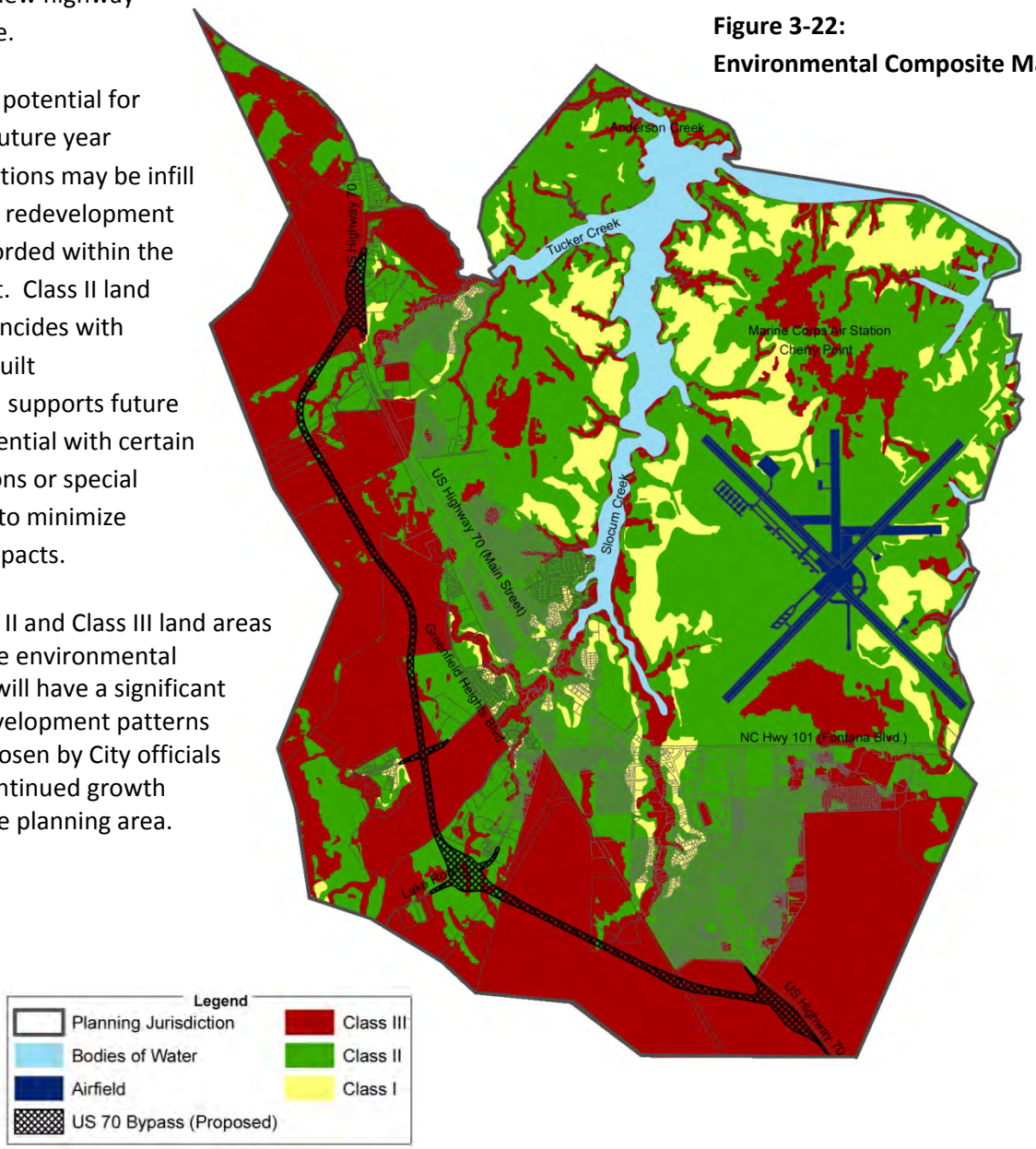
The presence of Class III land near the outward, undeveloped portions of the planning jurisdiction presents significant challenges for accommodating future year population projections. Exceptional and substantial non-coastal wetlands in the ETJ preclude low-density residential development because of septic system limitations, and create significant challenges for efficiently extending transportation, potable water, or sanitary sewer infrastructure in the area. Class III land in one of the targeted new growth areas — generally between Greenfield Heights Boulevard and the alignment for the proposed US

70 Bypass — could become available for new development if, and when, surplus national forest land impacted by the new highway becomes available.

The City's biggest potential for accommodating future year population projections may be infill development and redevelopment opportunities afforded within the built environment. Class II land area generally coincides with the limits of the built environment, and supports future development potential with certain land use restrictions or special design standards to minimize environmental impacts.

Collectively, Class II and Class III land areas represented in the environmental composite maps will have a significant impact on the development patterns and intensities chosen by City officials to support the continued growth anticipated for the planning area.

Figure 3-22: Environmental Composite Map



Summary of Other Plans' Guidance on the City's Comprehensive Plan

The City of Havelock's Comprehensive Plan should be closely coordinated with other state, regional, county, and local plans and/or policies that impact planning efforts within the City. This section summarizes the consultant's review of local plans prepared by authoritative agencies within the region and highlights issues, policies, or directives that may influence reasonable implementation of the Comprehensive Plan. Materials reviewed for development of Havelock's Comprehensive Plan include:

- Eastern Carolina Joint Land Use Study
- Craven County CAMA Land Use Plan
- Craven County Hazard Mitigation Plan
- City of Havelock Comprehensive Transportation / Land Use Plan
- Comprehensive Parks and Recreation Master Plan for Havelock
- Marine Corps Air Station - Cherry Point 2006 Housing Market Study
- City of Havelock Five Year Capital Improvement Plan
- Havelock Wastewater Treatment Plant Process Evaluation

The conclusions and recommendations from these documents, data sets, and plans that impact development of the Comprehensive Plan in Havelock are summarized below.

Eastern Carolina Joint Land Use Study

The Eastern Carolina Joint Land Use Study (ECJLUS) was completed by the Eastern Carolina Council of Governments in November 2002. The geographic area represented in the plan includes the MCAS – Cherry Point military base, the counties of Craven and Carteret, the City of Havelock, and the Towns of Emerald Isle, Bogue, and Atlantic. The comprehensive study was funded partially by the United States Department of Defense (DoD) and follows the guidelines for preparing joint land use studies addressed in the Catalog of Federal Domestic Assistance (CFDA) Section 12.610.

General DoD policy aims to achieve compatibility between air installations and neighboring civilian communities by means of a compatible land use planning and control process conducted by the local community, and the overarching purpose for the ECJLUS planning process was to promote community growth compatible with present and future military operations. Central to the planning theme was a commitment to examine local land use and development patterns near potential accident zones and specific noise contours related to military operations. The goals include protecting the health and welfare of civilian and military communities, identifying measures to ensure compatibility between land uses and military operations, increasing communication and cooperation between military installations and local communities, and protecting military operational capabilities.

The ECJLUS is a result of local communities in eastern NC coming together to work with MCAS - Cherry Point to establish land use guidelines and development regulations for the properties within the Air Installation Compatible Use Zones (AICUZ) and Accident Potential Zones (APZ) footprint. AICUZ are land

areas upon which certain uses may obstruct the airspace or otherwise be hazardous to aircraft operations and areas that are exposed to the health, safety, or welfare hazards of aircraft operations. The AICUZ includes maps that illustrate various contours of Day-Night Average Sound Levels (Ldn). APZ include areas immediately beyond the runways and along primary flight paths. These areas are subject to more aircraft accidents than other areas.

While the ECJLUS is not intended to mandate land uses, it does provide a coherent thought process in the designation of land uses based on noise level zones and APZ. The study acknowledges the role of land use planning in helping to reduce the impact of noise on the local community. The land use planning toolbox includes comprehensive plans, land use plans, zoning regulations and ordinances, subdivision regulations, building codes and housing codes, capital improvement programs, and similar regulatory documents.

A Policy Committee and Technical Advisory Committee guided the planning process by approving its methodology, establishing recommendations, and assisting with the development of implementation strategies. The final report establishes 32 recommendations for federal, state, and local governments to follow in protecting base operations and community livability. Several of these recommendations are assigned directly to the City of Havelock for maintaining compatibility with operations at MCAS - Cherry Point. These recommendations included general measures aimed to improve the ability of local plans and ordinances to anticipate and respond to military impacts on the community by preventing the influx of incompatible land uses to impact areas.

Other general recommendations focus on the safety and sustained quality of life for Havelock residents given the potential shifting of growth patterns following construction of the bypass and future military realignments. These recommendations urge full disclosure of safety and noise hazards and more stringent regulations in noise potential accident zones. The ECJLUS also laid the framework for the acquisition of critical properties to transform the land to a more compatible use.

In addition to these general recommendations, the ECJLUS also endorsed specific actions. The study acknowledges the potential for shifting growth patterns following the construction of the US 70 Bypass. The recommendations agree with a DoD Air Installation Compatible Use Zones Study that encourages the City and Craven County to work together to ensure protection of the bypass area by extending the ETJ boundaries to include the area near the southwest corner of MCAS - Cherry Point off Runway 5.

Likewise, the study discourages high-density residential development in areas of Accident Potential and High Noise to ensure current and future operations at MCAS - Cherry Point. Other tools are available to limit new homes being constructed in the area. The New Construction Acoustical Design Guide assists builders, local officials, and citizens in incorporating specific noise level reduction features into the design of new homes, and its standards should be referenced in the Comprehensive Plan.

The findings and recommendations of the ECJLUS should be coordinated with the Havelock Comprehensive Plan. Specifically, the Comprehensive Plan should reflect the ECJLUS recommendations by forwarding a land use plan that ensures compatibility with installation operations. The

Comprehensive Plan should guide growth in areas critical to the functionality of MCAS - Cherry Point, while protecting the interests of Havelock citizens near the installation. The Comprehensive Plan can help facilitate the process for identifying land for open space and outlining compatible uses in other areas.

Finally, the Comprehensive Plan should promote the regional approaches presented in the ECJLUS. The ECJLUS recommends the Technical Advisory Committee transition into the ECJLUS Implementation Committee and serve as the group responsible for monitoring the progress of the implementation of the ECJLUS recommendations. The Comprehensive Plan should move forward with this initiative.

Craven County CAMA Land Use Plan

The current Craven County CAMA Land Use Plan was adopted by the Board of Commissioners on March 22, 1999 and certified by the North Carolina Coastal Resources Commission on March 26, 1999. This plan is used by state and federal agencies for determining project consistency, funding eligibility, and permit compliance. The current CAMA plan updates a previous one from 1994 and accounts for military expansion following decisions by the Defense Base Realignment and Closure (BRAC) Commission rendered in 1993. The adopted plan will be updated again over a two-year planning process that begins in 2007.

The County's CAMA Land Use Plan provides a detailed inventory and analysis for evaluating development trends and their impact to surrounding infrastructure. Policy statements contained in the document are organized into five general management topics. The intent of the policy statements is to provide an overall policy framework from which specific implementing tools may be established related to managing growth and protecting the county's assets.

Several of the policy statements contained in the Craven County CAMA Land Use Plan directly impact the City of Havelock, either through the provision of certain county services to city residents, decision-making authority for areas immediately surrounding the city, or proposed strategies to more regional-scale issues such as transportation, storm water management, or solid waste storage. Specific policy statements that could impact decision-making within the City of Havelock include:

- Development in the vicinity of the MCAS - Cherry Point should be compatible with the Cherry Point AICUZ. Incompatible development should be minimized in the high noise impact areas.

- Craven County supports the re-establishment of jet fuel distribution that would be barged into the Naval Boat Docks at MCAS – Cherry Point and then distributed via pipeline aboard based to the appropriate fuel farms.

- Craven County supports the construction of package treatment plants which are approved and permitted by the State Division of Environmental Management.

- Craven County supports a regional multi-county approach to solid waste management.

- Craven County encourages the Croatan National Forest to maintain land holdings (no land swaps) within the vicinity of MCAS - Cherry Point.

- Craven County supports the construction of schools on behalf of the Cherry Point community. The immediate construction of a new middle school in Havelock is needed.

- Land use and development trends should be compatible with the mission of Cherry Point so as to avoid future encroachment on the base.

The City of Havelock should actively coordinate with County officials to ensure compatibility between the two new policy documents — the City of Havelock Comprehensive Plan and the Craven County CAMA Land Use Plan.

Craven County Hazard Mitigation Plan

North Carolina Senate Bill 300 requires that all local governments have an approved Hazard Mitigation Plan (HMP) before receiving state public assistance funds as the result of a state-declared disaster. These plans are reviewed by the North Carolina Department of Crime Control and Public Safety for compliance with Senate Bill 300 and the Disaster Mitigation Act of 2000 (DMA2K). A Hazard Mitigation Plan must be formally adopted by all participating local governments.

A Mitigation Advisory Committee (MAC) was convened for Craven County and the eight municipal governments within its borders to prepare the local Hazard Mitigation Plan. The Craven County Hazard Mitigation Plan (HMP) was adopted by the Craven County Board of Commissioners on September 7, 2004. Members of the MAC now act as stewards for the plan's implementation.

The Hazard Mitigation Plan classifies flood hazard risk as very high in and near the City of Havelock because of the city's proximity to the Neuse River, its tributaries, and designated wetlands within the Croatan National Forest. Forty-four structures with a combined property value of nearly $7 million were identified within Havelock's planning jurisdiction. Several of these structures are in the Kettner Heights Subdivision, and are located in low-lying areas subject to routine flooding near the banks of Slocum Creek. The HMP recommends retrofitting or demolishing existing structures citywide in high-hazard areas that do not meet current flood elevation and building code standards. Further, City officials should actively preserve open space within flood-prone areas and modify current zoning and subdivision ordinances to allow more innovative tools for managing development in high-hazard areas — such as cluster development, density transfers, planned unit developments, open space requirements, setbacks, overlay districts, performance zoning, and transfer of development rights. Officials for Havelock also are encouraged to coordinate with the North Carolina DOT (NCDOT) to address localized drainage concerns associated (in whole or in part) with NCDOT-maintained drainage facilities and to remain members of the Community Rating System Program for the National Flood Insurance Program (NFIP).

Close proximity to the Croatan National Forest also makes the City of Havelock more susceptible to wildfires. Special concern in the Hazard Mitigation Plan was noted for the area west of Greenfield Heights Boulevard, where growth pressures exist for land currently part of the Croatan National Forest.

This and others areas adjacent to the national forest warrant consideration of "firewise" design standards administered through both the zoning and subdivision ordinances. Innovative design controls that should be considered by the City include fire breaks and the use of fire-resistant materials. In addition, City officials should actively participate in public education efforts regarding wildfire risk in and around the community.

Additional recommendations for the City of Havelock in the adopted Hazard Mitigation Plan include development of a capital improvements plan that identifies and prioritizes expenditures that make capital facilities more resistant to hazards, coordination with utility companies and other service providers to ensure maximum coordination of activities, and participation in Craven County's special needs registry for declared evacuations.

The collaborative planning process that led to adoption of the Hazard Mitigation Plan is a model for success in the region. As a member of the Mitigation Advisory Committee that developed the plan, the City of Havelock is obligated to incorporate the recommendations from the regional plan into its Comprehensive Plan.

City of Havelock Draft Comprehensive Transportation/Land Use Plan

The City of Havelock is preparing a Comprehensive Transportation/Land Use Plan that will guide long-term investment and decision-making toward improving the localized transportation system. This project is unique to the State of North Carolina because it formally recognizes the inherent relationship between transportation and land use, and between state and local governments, in forming one comprehensive document that results in shared recommendations.

Chapters in the report outline goals and objectives for guiding the planning process, establish a baseline presentation of current conditions, anticipate future conditions based on a set of planning assumptions, and recommend a "plan of action" for implementation. The focus for transportation is an interconnected, multimodal system (i.e., automobile, transit, bicycle, and pedestrian) that increases mobility, safety, connectivity, health, and quality of life. The focus for land use is sustainable development — measured by environmental stewardship, economic prosperity, and equitable distribution of community resources — that reflects the community's unique character and local values. Together, transportation and land use decisions enable the City of Havelock to accommodate anticipated future growth, while instilling a "sense of place" that defines the City's identity.

One focus of the planning process was the transformation of the US 70 Corridor, which eventually will revert to a more traditional Main Street that primarily serves local residents and businesses. Recommendations for the corridor were organized into short- and long-term planning horizons, and collectively they represent incremental steps toward an ultimate vision. Catalyst redevelopment projects also were identified to complement investment in public infrastructure with rebound-type private investment.

The draft document was completed in April 2007 and adoption by the City of Havelock and the North Carolina Board of Transportation is pending. City officials should translate recommendations from the transportation/land use study into goals, objectives, and policies for the Comprehensive Plan.

Comprehensive Parks and Recreation Master Plan for Havelock

In September 2007 the City of Havelock adopted a Comprehensive Parks and Recreation Master Plan that addresses citizens' parks and recreation needs and associated facilities over a 15-year planning horizon (2020). Within the master plan, an "action plan" was developed to help City officials meet the needs of its citizens, reach the goals of the master plan, and develop strategies for its implementation.

Chapters in the report outline goals and objectives for guiding the planning process, evaluate current and projected physical factors, inventory existing and potential recreation and park sites, recommend park facility and open space standards, and set forth an action plan. Preliminary recommendations from the report include plans to develop a new multi-purpose facility on the City's west end and policies to actively secure environmentally sensitive areas for preserving the community's natural resources.

The draft document was completed in August 2006 and adoption by the City of Havelock is anticipated in 2007. City officials should translate recommendations from the master plan into goals, objectives, and policies for the Comprehensive Plan.

Marine Corps Air Station - Cherry Point 2006 Housing Market Analysis

The most recent housing market analysis completed for MCAS - Cherry Point evaluates the availability of housing for both accompanied and unaccompanied military personal that meet pre-determined standards for affordability, location, quality, and number of bedrooms. The study area for this analysis includes those locations within a 60-minute commute to the principle work area on base, assuming normal driving conditions. This includes Craven, Carteret, and Pamlico Counties, and portions of Jones, Onslow, and Beaufort Counties. Housing was considered affordable in the market analysis when rent plus utilities total less than the military's Allowance for Housing (BAH).

Housing demand forecasted in the draft analysis (2006 – 2011) assumes significant growth for active-duty, permanent-party members. Estimates for 2011 are that many of the accompanied and unaccompanied personal assigned to the base will seek private sector housing options. Local markets could expect up to 4,421 families that will either own houses (38%) or rent (62%) in the horizon year. Growth in accompanied and unaccompanied personal living off-base will have a direct impact on public infrastructure and services provided by the City. The extent of impacts to surrounding infrastructure will be a function of the attractiveness of the housing market for military personnel — including commute distance and market pricing compared to the Allowance for Housing (BAH).

The draft market analysis does not recommend preferred locations within the study area for meeting anticipated demands.

City of Havelock Five Year Capital Improvement Plan

A Capital Improvements Plan (CIP) is the multi-year planning tool that Havelock uses to identify capital projects and coordinate project financing and implementation. Generally, a CIP project has a cost of at least $5,000 and a useful life of at least five years. The first year of the CIP is traditionally incorporated into the City's annual capital budget that appropriates money for specific facilities, equipment, and improvements. Capital projects identified for implementation beyond the upcoming capital budget year are approved only for planning purposes, and may change because of available funding scenarios, a policy shift among the City Council, or some other causational factor identified during formal review and update of the CIP.

The CIP identifies each capital project for which the City plans to undertake, and presents estimates of resources needed to finance these projects. It also distributes costly projects over time, protecting the community from abrupt tax increases that might otherwise be required to fund them. By requiring the City to periodically review their current and potential capital needs, the CIP also improves planning for large projects and protects local government officials from being confronted by a sudden need for an unplanned capital expenditure. Information presented in the document helps decision-makers coordinate improvements for greater efficiency and assess short-term financing requirements in the context of long-term fiscal needs and constraints.

Although the CIP extends over many years, it is updated annually to reflect progress toward implementation and include more current information for planned expenditures and revenues. The CIP also improves the City's bond rating and lowers interest costs based on demonstrated prudent fiscal management. Often times, this document becomes the benchmark for the overall fiscal health of the local government.

The planning horizon for the City's current Capital Improvements Plan is Fiscal Year 2011/12. High priority projects in the document include: new patrol cruisers for the police department, a new fire station on US 70 near Catawba Road, new compaction truck for solid waste pick-up, specific improvements to the water and sewer treatment and collection systems, and upgrades to the Tourist Center.

Havelock Wastewater Treatment Plant Process Evaluation

The City of Havelock prepared a wastewater treatment plant process evaluation report in May 2007 to evaluate their plant process when wastewater flows reached 80% of hydraulic capacity. This report satisfied requirements of the North Carolina Department of Environment and Natural Resources (NCDENR) for prudent system management. The report identified improvements to the plant that would meet projected demand in the urban service area through 2027. Three phases for improvements are recommended over the 20-year planning horizon.

More detailed recommendations for the City's Wastewater Treatment Plant can be found in the Waste Water Treatment Plant Process Evaluation Report.

Chapter 4

Land Suitability Analysis

No city will flourish unless it attracts those who can live wherever they wish.

-Jonathan Barnett

Introduction

Determining suitable land to accommodate anticipated growth for the planning jurisdiction is a complex process that involves multiple decisions related to environmental stewardship, compatibility with existing development patterns, and availability of public facilities and services. Land suitability analysis (LSA) was the process employed by the City of Havelock to identify those locations within the planning jurisdiction most appropriate for development based on known physical features and limitations prevalent in the area. Directing growth to locations with higher suitability promotes sustainable development, economic prosperity, and equitable distribution of community resources.

Whether developed or undeveloped, land within the planning jurisdiction was evaluated for the land suitability analysis to evaluate future year development scenarios that lead to the City's Future Land Use Map (FLUM). These scenarios could include greenfield development on the fringes of the planning jurisdiction, infill development on remaining vacant parcels within city limits, or urban redevelopment of underutilized parcels.

Methodology

The land suitability analysis (LSA) for Havelock was completed using Community Viz software, which is a decision-based GIS tool that evaluates the attractiveness of individual parcels within the planning jurisdiction for accommodating new development. Physical features prevalent within the planning jurisdiction were each layered on a parcel map, and calculations were performed to determine percent overlap or proximity distance (as appropriate) for each physical feature in relation to each of the 5,451 individual parcels included in the planning jurisdiction. Data used in this analysis came from the North Carolina Center of Geographic Information and Analysis (NCGIA) and the City of Havelock.

Community Viz software calculated a numeric score for development suitability based on the presence of each physical feature on the individual parcel. A normalized score (between 0 — 100) was used to rank the parcels within the planning jurisdiction from least- to most-suitable for development. Physical features coded in the analysis could have a negative affect (e.g., exceptional non-coastal wetlands) or positive affect (e.g., proximity to water and sewer infrastructure) on development suitability.

Community Preferences

Members of the Comprehensive Plan Advisory Committee met on January 18, 2007, to evaluate the physical features included in the land suitability analysis. The process of weighting the relationship between physical features used a constant-sum, paired comparison evaluation matrix (see Appendix C). This matrix compared each feature to the remaining 13 to determine the overall importance of the physical feature when gauging development suitability.

Each advisory committee member was asked to assign a "bundle" of 10 points between each pair of features identified in the matrix. For example, if the respondent felt that developing along major roads was far more important than developing where there are existing water supply lines, a score of 10 was entered for major roads and a score of 0 for water supply lines. If, on the other hand, the respondent

felt that developing along major roads was about equal in importance to developing where there are existing water supply lines, a score of 5 was entered for major roads and a score of 5 was entered for water supply lines. There were no restrictions for the assignment of points within each square so long as the numeric relationship adds up to 10.

The weighted average for each physical feature, in comparison to the total list, was determined by adding the scores found in the lower left corner of each box for a given row and dividing that summation by the total possible points allowed in the matrix. This exercise was repeated for each feature's row until all the weighted importance factors were determined. The weighted average for each physical feature included in the analysis was incorporated into the Community Viz model to place more emphasis on certain limitations or benefits for development.

Evaluation Criteria

Thirteen physical features were included in the land suitability analysis. It is important to note that all land area classified as Class III in the environmental composite map (see Figure 3-22) and land holdings for the Marine Corp Air Station Cherry Point were automatically deemed least suitable for development. Table 4-1 summarizes the physical features incorporated in the land suitability analysis.

Table 4-1

Factors for Determining Land Suitability in Havelock, North Carolina				
Physical Feature [A]	Measurement	Score Range [B]	Impact to Development	Weighting Factor [C]
Major Roads	Proximity to Parcel	0 to 100	Higher Score Results from Closer Proximity	8
Water Supply Lines	Proximity to Parcel	0 to 100	Higher Score Results from Closer Proximity	10
Sanitary Sewer Lines	Proximity to Parcel	0 to 100	Higher Score Results from Closer Proximity	10
Aircraft Protection Zones	Amount of Overlap with Parcel	0 to 100	Lower Score Results from More Overlap	10
Steep Slope Areas (>10%)	Amount of Overlap with Parcel	0 to 100	Lower Score Results from More Overlap	1
Unsuitable Soils for Development	Amount of Overlap with Parcel	0 to 100	Lower Score Results from More Overlap	5
Soils with Severe Septic Limitations	Amount of Overlap with Parcel	0 to 100	Lower Score Results from More Overlap	1
Storm Surge Areas	Amount of Overlap with Parcel	0 to 100	Lower Score Results from More Overlap	5
Significant Natural Heritage Sites	Amount of Overlap with Parcel	0 to 100	Lower Score Results from More Overlap	6

100-Year Floodplain	Amount of Overlap with Parcel	0 to 100	Lower Score Results from More Overlap	5
Beneficial Non-Coastal Wetlands	Amount of Overlap with Parcel	0 to 100	Lower Score Results from More Overlap	2
MCAS Cherry Point Land Holdings	Amount of Overlap with Parcel	--[D]	Automatically Least Suitable for Development	--[D]
Designated Class III Environmental Hazards	Amount of Overlap with Parcel	--[D]	Automatically Least Suitable for Development	--[D]

Notes:

A= See Appendix C for a detailed description of all the physical features included in the land suitability analysis.
B= Raw scores calculated for the presence (or proximity) of a physical feature was normalized between 0-100 to compare and rank all parcels within the planning jurisdiction for development suitability. A score of '0' represents the lowest suitability for development while a score of '100' represents the highest suitability for development.
C= A weighting factor between 1-10 was assigned to each physical feature by the Comprehensive Plan Advisory Committee. A score of '0' represents lowest priority for the physical feature in influencing suitable development locations while a score of '10' represents high priority for the physical feature in influencing suitable development locations.
D= MCAS Cherry Point Land Holdings and Designated Class III Environmental Hazards were automatically assigned to the 'Least Suitable for Development' Category in the Land Suitability Analysis.

Land Suitability Map

The land suitability map generated for the City of Havelock ranks parcels within the planning jurisdiction from most- to least-suitable for development (see Figure 4-1). Generally, the planning jurisdiction is considered highly constrained for supporting new low-density development patterns beyond the limits of the current built environment (i.e., least suitable land category). Therefore, the Comprehensive Plan should focus on infill development for remaining vacant parcels or redevelopment of underutilized parcels within the planning jurisdiction to accommodate future-year population projections. Key infill development or redevelopment nodes suitable for accommodating new growth include land surrounding the Tourist Center and adjacent mobile home park, the area

Figure 4-1: Land Suitability Map

generally between Greenfield Heights Boulevard and the alignment for the proposed US 70 Bypass, the new interchange on the proposed US 70 Bypass at Lake Road, and large undeveloped tracts of land remaining along the existing the US 70 Corridor.

Table 4-2 summarizes land suitability by acreage for all areas included in the land suitability analysis.

Table 4-2

Land Suitability Summary for Havelock										
	Within City Limits		Within Existing ETJ		Within Proposed ETJ Expansion		Future Urban Service Area		Total	
Suitability Category	Acres	Percent	Acres	Percent	Acres	Percent	Acres	Percent	Acres	Percent
Least Suitable	7,968.5	78.6%	7,205.0	88.3%	3,265.1	70.5%	2.0	0.4%	18,440.6	78.8%
Low Suitability	1,388.9	13.7%	538.5	6.6%	463.1	10.0%	13.7	2.8%	2,404.2	10.7%
Medium Suitability	628.6	6.2%	375.3	4.6%	759.6	16.4%	360.5	73.5%	2,124.0	9.1%
High Suitability	152.1	1.5%	32.6	0.4%	143.6	3.1%	114.3	23.3%	442.6	2.0%
Total	10,138.0	100.0%	8,159.7	100.0%	4,631.4	100.0%	490.5	100.0%	23,411.4	100.0%

* Note: Columns may not sum to 100 as a result of rounding properties contained within embedded equations

Chapter 5

Havelock Tomorrow

We cannot solve our problems with the same thinking used to create them.

-Albert Einstein

Introduction

Looking to the future, the City of Havelock is focused on promoting more sustainable development patterns — measured by environmental stewardship, economic prosperity, and equitable distribution of community resources — that reflect the community's unique character and local values. The "Havelock Tomorrow" chapter of the Comprehensive Plan serves as the foundation for making more sustainable land use decisions. It estimates demand to community facilities and services through the long-range planning horizon (2030), identifies desirable locations for new residential and non-residential development, and confirms availability of public facilities and services supporting of land use patterns depicted in the City's Future Land Use Map (FLUM). Together, this information serves as the foundation for goals, objectives, and policies prepared to guide future development within Havelock.

Development Trends

The separation of land uses and sprawling development patterns found throughout the City represent a traditionally suburban landscape. Residential, commercial, office, and industrial uses are generally isolated or, when located near each other, not well-connected. This means increased cost-burden for the local government to provide community facilities and services that support development, and unnecessary disturbance of natural environments to accommodate anticipated population growth. A more detailed description of existing development patterns within the planning jurisdiction is provided in the "Havelock Today" chapter of this Comprehensive Plan.

Building permits tracked for the City of Havelock indicate that low-density, residential development continues to shape the built environment as pockets of vacant, unprotected land become new infill residential subdivisions. However, multi-family residential dwelling units are expected to grow rapidly in the coming years as prime developable land within the planning jurisdiction diminishes and MCAS — Cherry Point moves toward a policy of using off-base housing to accommodate new personnel. City officials also report that new commercial and office development in the planning jurisdiction continues to orient toward US 70.

Generally, the planning jurisdiction is considered highly-constrained for supporting new low-density development patterns beyond the limits of the current built environment (See Chapter 3, "Environmental Composite Map — Class III Land"). Therefore, the focus of this Comprehensive Plan is on infill development for remaining vacant parcels or redevelopment of under-utilized parcels within the planning jurisdiction to accommodate future-year population projections.

Key infill development or redevelopment nodes suitable for development include land that surrounds the Tourist Center and the adjacent mobile home park; the general area between Greenfield Heights Boulevard and the alignment for the proposed US 70 Bypass; the new interchange on the proposed US 70 Bypass at Lake Road; and the large undeveloped tracts of land that remain along the existing the US 70 corridor. All parcels within the built environment present moderate environmental hazards (i.e.,

Class II land) for new development that will necessitate certain land use restrictions or special design standards to minimize environmental impacts.

Almost all development in the short-term planning horizon (2013) is expected to infill vacant, unprotected areas generally bounded by MCAS — Cherry Point on the north and east and the Norfolk Southern Rail Road on the south and west. In the long-term planning horizon (2030), new development is anticipated to move west along Lake Road, Greenfield Heights Boulevard and Hickman Hill Road in conjunction with construction of the proposed US 70 Bypass. Additional land between the proposed US 70 Bypass and Greenfield Heights Boulevard could become available for new development if, and when, surplus national forest land impacted by the new highway becomes available.

Land Use Compatibility

In fulfilling the land use vision, community leaders will need to rethink the City's components as well as their spatial relationships. Compatible land uses reduce encroachment, protect critical natural resources, and maximize infrastructure efficiency. Below is a summary of features in the landscape that will influence planning for land use compatibility in Havelock.

Lower Neuse River Watershed

The Neuse River Basin includes portions of 18 counties and 74 municipalities. The Lower Neuse Watershed stretches from the City of New Bern to the mouth of the Pamlico Sound. In Havelock, all of the land within the planning jurisdiction lies inside the limits of the Lower Neuse Watershed. It is not possible to steer future development away from the critical watershed; however, City officials should promote conservation-based design solutions that result in low impact development patterns. Conservation-based design solutions patterns conserve and protect natural resource systems by managing storm water at the source.

MCAS — Cherry Point

Marine Corps Air Station – Cherry Point is the largest Marine Corps Air Station in the United States, employing approximately 15,000 active duty military and civilian personnel on 13,000 acres. The City of Havelock, as a partner in the Eastern Carolina Joint Land Use Study, is committed to establishing land use guidelines and development regulations for properties within designated Air Installation Compatible Use Zones (AICUZ) and Accident Potential Zones (APZ) that support the mission of the base.

An AICUZ designates the land area where certain uses may obstruct the airspace or otherwise be hazardous to aircraft operations, as well as increase exposure to health, safety, and welfare hazards from aircraft operations. An APZ includes areas immediately beyond the runways and along primary flight paths. These areas are susceptible to a higher rate of aircraft accidents than other areas.

Land use planning within designated AICUZs and APZs surrounding MCAS - Cherry Point was closely coordinated with military base officials to protect the economic base that sustains Havelock and the region.

Croatan National Forest

Croatan is one of four national forests in North Carolina, encompassing approximately 160,000 acres in portions of Craven, Carteret, and Jones Counties. It includes pine forests, saltwater estuaries, bogs, and raised swamps called pocosins. About 63,000 acres are located in Craven County west of Havelock, of which 5,300 acres are contained within the planning jurisdiction for the Comprehensive Plan. All land within the national forest is protected from development. However, national forest land between the proposed US 70 Bypass and Greenfield Heights Boulevard could become available for development if surplus land impacted by construction of the new highway becomes available. In addition, the City reports that the U.S. Department of Interior could consider a potential land swap between US 70 and the proposed US 70 Bypass to expand the Croatan National Forest in other areas of the planning jurisdiction.

Proposed US 70 Bypass

NCDOT recognizes the difficulties facing US 70 communities, where the highway serves a dual role of regional and in-town mobility and accessibility. Relief is on the horizon for Havelock with plans to build a bypass before 2020. Some priority at the state level is afforded to the US 70 Bypass in the State's seven-year funding program called the Transportation Improvement Program (TIP). The US 70 Bypass (TIP # R-1015) is intended to divert regional traffic from the current corridor and is expected to offer an alternate route for those traveling through, rather than within, the Havelock area.

Direct connections to the bypass will be limited to proposed interchanges accessed via a newly developed collector street system. Areas for commercial development will be limited to proposed interchange locations. Land use controls in the local comprehensive plan, zoning and subdivision ordinances, and capital improvements program for providing water and sewer to these locations will regulate what, where, and when development occurs along the bypass.

Unfortunately, poor planning generally leads to undesirable development. Havelock could find itself facing a bypass surrounded by development that is solely highway-oriented if land use is not carefully considered in the City's land use plan. Such patterns are not desirable because of the inherent conflict between vehicular access and mobility, which is exacerbated by the sheer amount of congestion typically associated with urban highway interchanges, and the problems resulting from a transportation system based solely on a single mode of travel.

Because of its key location, Havelock should consider developing a small area plan for the proposed interchange at Lakeview Road. This will be one more step to help Havelock achieve a more sustainable development pattern. Certainly, land use preservation and access management restrictions should be in place before interchanges are constructed or expanded.

Land Use Demand Forecasts

Future year demand for various land use categories identified for the planning jurisdiction was forecasted to 2030. This information was used by the Comprehensive Plan Advisory Committee to limit the total acreage for each land use category included in the Future Land Use Map based on an assessment of long-term market potential. Future land use demand forecasts were prepared for residential, business & office, and industrial land use categories.

Residential

A housing unit forecast was done for the City by growing historical residential building permit activity for the period between 2002 and 2006 and applying it through the planning horizon (2007-2030) (Note: It was assumed that 93.5% of the permits issued each year would result in a housing unit being built). Based on this forecast, the study area should expect up to 3,950 additional housing units by 2030. An estimated range was determined for the residential forecast to provide some flexibility for unexpected fluctuations in the market. This range is not based on industry standards, rather solely on the professional judgment of the consultant hired to complete the Comprehensive Plan. Using 3,950 units as a mid-point, the planning jurisdiction could absorb 3,700 to 4,200 housing units through 2030.

Based on unit shares by type from the 2000 U.S. Census, as well as the single family to multi-family ratio from 2000 to 2005 construction data obtained from the City of Havelock, the 3,700 to 4,200 new residential units would consist of 2,625 to 2,835 single family houses, 1,000 to 1,250 multi-family units, and 75 to 115 mobile homes (see Table 5-1).

Table 5-1

Forecasted Residential Growth
Planning Jurisdiction, 2005-2030

	Units		Acres	
Use	Low	High	Low	High
Single Family	2,625	2,835	652	704
Multi-Family	1,000	1,250	81	101
Mobile Homes	75	115	8	12
Total	3,700	4,200	740	817

Source: Warren & Associates, Kimley-Horn and Associates, Inc.

According to zoning-based residential densities allowable by category, these units would occupy between 740 and 817 acres, allocated in the following manner: 652 to 704 single-family residential acres, 81 to 101 multi-family acres, and 8 to 12 mobile home acres.

Since the number of acres needed to support the forecasted residential growth (740-817) is more than the amount of developable land currently zoned for residential uses (approximately 550.2 acres), it would be necessary to either rezone some industrial and retail land to residential uses and/or build out

the residential at higher densities than currently allowed. The latter could be accomplished by incorporating residential as part of mixed-use projects in appropriate locations.

Adding the mid-point forecast of 3,950 additional units to the existing inventory of 7,732 units yields a total of 11,682 units by the long-term planning horizon (2030). This equates to a growth rate of 51.1%. Multi-family units are expected to grow most rapidly (65.5%) during this period due to the influence of the transient military market and MCAS — Cherry Point's desire to move more housing off base. In addition, the diminishing supply of developable residential land could dictate that future housing be built-out at higher densities (i.e. attached multi-family). Table 5-2 summarizes the residential dwelling unit forecast for the planning jurisdiction.

Table 5-2

Residential Units Forecast, Planning Jurisdiction, 2005-2030				
			2005-2030 Change	
Use	2005	2030	Number	Percent
Single Family	5,459	8,189	2,730	50.0%
Multi-Family	1,718	2,843	1.125	65.5%
Mobile Homes	555	650	95	17.1%
Total	**7,732**	**11,682**	**3,950**	**51.1%**

Source: Warren & Associates, Kimley-Horn and Associates, Inc.

Based on the above forecast, Havelock's developed residential area would increase 50.2% from 2,187.2 acres in 2005 to 3,282.9 acres in 2030. The additional 3,950 new housing units would consume approximately 1095.7 acres at an average density of 3.6 units per acre. Table 5-3 summarizes the residential acreage forecast for the planning jurisdiction.

Table 5-3

Forecasted Residential Acres, Planning Jurisdiction, 2005-2030				
			2005-2030 Change	
Use	2005	2030	Number	Percent
Single Family	1,810.7	2,716.1	905.4	50.0%
Multi-Family	258.7	428.7	170.0	65.7%
Mobile Homes	117.8	138.1	20.3	17.2%
Total	**2,187.2**	**3282.9**	**1095.7**	**50.2%**

Source: Warren & Associates, Kimley-Horn and Associates, Inc.

Commercial

An estimated range was determined for the commercial forecast to provide some flexibility for unexpected fluctuations in the market. Using 747,500 square feet as a mid-point, the planning jurisdiction could absorb 665,000 to 830,000 commercial square feet through the long-term planning horizon (2030). Commercial uses defined for this document include retail, industrial, office, and hotel. Using industry standard floor area ratios (FARs) ranging from 0.2 to 0.3 by commercial category, this square footage could occupy between 73 and 90 acres. Table 5-4 summarizes the commercial growth forecast for the planning jurisdiction.

Table 5-4

Forecasted Commercial Growth, Planning Jurisdiction, 2005-2030

	Square Feet		Acres	
Use	Low	High	Low	High
Retail	275,000	325,000	32	37
Industrial	275,000	325,000	32	37
Office	75,000	100,000	7	9
Hotel	40,000	80,000	3	6
Total	**665,000**	**830,000**	**73**	**90**

Source: Warren & Associates, Kimley-Horn and Associates, Inc.

Below is a detailed demand forecast for all commercial uses defined in this analysis.

Retail

An additional 275,000 to 325,000 square feet of retail space could be supported by 2030, based on 26.5 square feet for each new resident. The current national average is 25 to 30 square feet per capita.

At this point, it is difficult to determine the potential impact of the proposed US 70 Bypass on the retail market. Factors such as housing growth in the bypass corridor, the availability of at-grade retail sites at either end of the bypass, environmental constraints, interchange/highway design and access, traffic counts, and liquor-by-the-drink licenses would influence the emergence of a critical mass of retail uses at the proposed Lake Road interchange. If highway uses migrate from the US 70 corridor to the proposed Lake Road interchange, businesses would be simply shifting their location as opposed to going out of business. Potentially vacant retail buildings/sites along US 70 could become candidates for redevelopment as mixed-use projects.

While the US 70 Bypass would reduce the flow of traffic through the City, especially during peak tourist season, the presence of MCAS — Cherry Point would provide a stabilizing influence for retailers. But the loss of seasonal traffic would be difficult to offset, with restaurants and gas stations at the greatest risk due to a loss of “inflow” sales.

Industrial

Industrial development in Havelock is driven by small manufacturers and warehouse/distribution operations seeking proximity to the Morehead City Port and Interstate 95 via US 70. The construction of the US 70 Bypass would improve Havelock's industrial competitiveness, with increasing truck traffic to and from the Morehead City Port. The proposed interchange at Lake Road could generate industrial opportunities along the Belltown Road corridor. Havelock is in a strong position to add between 275,000 and 325,000 square feet of industrial space over the next 25 years, nearly doubling its current inventory of 331,000 square feet.

Office

According to Craven County tax records, Havelock contains 190,000 square feet of office space. This inventory equates to absorption of approximately 5,000 to 7,000 square feet annually. However, based on building completion trends, market momentum has been slightly lower over the last decade. Havelock could expect development of 75,000 to 100,000 square feet of office space through the long-term planning horizon (2030). A substantial portion of this demand would be generated by medical practices serving the forecasted population growth. The proposed US 70 Bypass should have little, if any, impact on office growth.

Hotel

The City of Havelock could support one or two additional limited service hotels to accommodate vacationers and visitors to MCAS — Cherry Point. This could add approximately 40,000 to 80,000 square feet of hotel space.

Overall Commercial

The 2.4 million square feet of commercial inventory currently identified in the planning jurisdiction is forecasted to increase to approximately 3.2 million square feet by 2030, a growth rate of 30.7% (see Table 5-5). About 82% of this increase is focused in retail or industrial space. Retail and industrial growth is expected to be driven by the MCAS — Cherry Point, proximity to the Morehead City port, efficient highway and rail access, and the potential for a new freeway interchange as part of the US 70 Bypass. If possible, it is recommended that the supply of commercial land in the Future Land Use Map be almost double that of expected demand to accommodate any unanticipated business relocations and/or announcements.

Table 5-5

Commercial Square Feet Forecast, Planning Jurisdiction, 2005-2030				
			2005-2030 Change	
Use	**2005**	**2030**	**Number**	**Percent**
Retail	1,665,798	1,965,798	300,000	18.0%
Industrial	331,113	631,113	300,000	90.6%
Office	190,012	277,512	87,500	46.0%
Hotel	246,303	306,303	60,000	24.4%
Total	**2,433,226**	**3,180,726**	**747,500**	**30.7%**

Source: Warren & Associates, Kimley-Horn and Associates, Inc.

In terms of land area, total demand for commercial acreage in the planning jurisdiction is forecasted to increase from 488.5 acres in 2005 to 623.3 acres by 2030. Retail growth is expected to increase 52.4 acres and industrial growth is anticipated to increase 69.7 acres. Office and hotel uses could occupy a combined 12.7 acres. This forecast assumes that wastewater treatment capacity and developable land is readily available into the long-term planning horizon (2030). Table 5-6 summarizes the residential acreage forecast for the planning jurisdiction.

Table 5-6

Commercial Acres Forecast, Planning Jurisdiction, 2005-2030				
			2005-2030 Change	
Use	**2005**	**2030**	**Number**	**Percent**
Retail	327.2	379.6	52.4	16.0%
Industrial	114.4	184.1	69.7	60.9%
Office	28.1	36.2	8.1	28.9%
Hotel	18.8	23.4	4.6	24.4%
Total	**488.5**	**623.3**	**134.8**	**25.7%**

Source: Warren & Associates, Kimley-Horn and Associates, Inc.

Zoning Category Land Use Allocation

Forecasted residential and commercial growth in Havelock was distributed among the 824.2 acres of vacant, developable land (see Figure 3-3) by zoning category. Based strictly on the market demand forecast, there would be an undersupply of 39.2 acres, primarily a result of single family residential uses. Single family residential development would generate excess demand of 276.7 acres, while office would require another 4.4 acres. All other categories would have adequate acreage to accommodate forecasted growth. Table 5-7 summarizes demand in acres for anticipated growth through the long-term planning horizon (2030).

Table 5-7

Acreage Consumed, City of Havelock & Existing ETJ, 2005-2030			
Zoning Category	**Developable Acres, 2005**	**2005-2030 Growth**	**Remaining Acres, 2030**
Retail/Hotel	167.7	42.0	125.7
Office	3.6	8.0	-4.4
Industrial	102.7	34.4	68.3
Single Family	401.3	678.0	-276.7
Mobile Homes	10.3	10.0	0.3
Multi-Family	138.6	91.0	47.6
Total	**824.2**	**863.4**	**-39.2**

Source: Warren & Associates, Kimley-Horn and Associates, Inc.

Approximately 346.0 vacant, unprotected acres in the proposed extra-territorial jurisdiction expansion area could accommodate the excess demand for the 276.7 single family acres and 4.4 office acres assuming this land is identified as suitable for development. Additional strategies to supply adequate single-family acreage include rezoning excess land in other categories (retail/hotel, industrial, multi-family) and/or increasing residential densities.

Desirable Locations for Future Development

The most desirable location(s) for specific land use categories through 2030 were determined based on an assessment of long-term market potential. Detailed recommendations are included for the following land use categories: single-family residential, mobile home, multi-family residential, commercial retail, office, industrial, and hotel.

Single-Family Residential

Infill development within existing communities would be the highest priority for accommodating future single-family residential growth. Although wastewater treatment capacity is an issue, proximity to water and sewer transmission lines is not. There is a relatively small supply of land remaining for new single family subdivisions, with the exception of the area north of Havelock and east of US 70. This area is within the proposed ETJ expansion area, but not within the existing ETJ limits.

Mobile Homes

Mobile home development in Havelock is forecasted to slow considerably over the long-range planning horizon (2030). It should be focused in existing mobile home parks or on adjacent parcels. The existing mobile home park located between Slocum Creek and Stonebridge Trail on the east side of US 70 could potentially be redeveloped for a future City Center project.

Multi-family Residential

Most of the existing multi-family zoned areas in Havelock are located along McCotter Boulevard and Gray Fox Road in the southeastern and southwestern portions of the City. Also, there is a cluster of multi-family residential uses along Lake Road west of the railroad. This corridor could become particularly attractive for future multi-family development upon completion of the proposed US 70 Bypass. Other locations suitable for future multi-family development include the proposed City Center on US 70 adjacent to Slocum Creek, and a multi-family zoned site for 343 apartments behind the Wal-Mart at US 70 and Catawba Road.

Commercial Retail

Future retail uses will remain concentrated along the US 70 Corridor through the long-term planning horizon (2030). However, the design and character of the uses should evolve over time from a series of strip centers to clusters surrounding major intersections. After the US 70 Bypass is built, which should relieve through-traffic congestion, the development pattern along portions of US 70 could evolve into more of a "Main Street" concept.

Locations where this type of development could be feasible include the section of US 70 along the proposed "City Center" redevelopment project as well as on parcels surrounding the US 70/NC 101 and US 70/McCotter Boulevard intersections. Future highway-oriented uses such as gas stations, convenience stores, fast food restaurants and limited service hotels would be more appropriate surrounding the proposed Lake Road interchange of the US 70 Bypass.

Office

General office demand in Havelock is limited to small professional and medical services. Future development would be supportable as the City's population grows and matures. Much of the new space should be concentrated in mixed-use developments such as the proposed City Center project. Offices would be visible from US 70 or the proposed US 70 Bypass, although a small node could be supported around the expanding Craven Community College Campus on NC 101.

Industrial

Two locations will be most competitive for future industrial development in Havelock; the existing Havelock Industrial Park along NC 101, and the area between US 70 and the proposed US 70 Bypass interchange at Lake Road. Havelock Industrial Park, located on NC 101, currently has 8 of 10 lots available. NC 101 has been proposed for widening, which could be a catalyst for industrial growth along that corridor.

There are also industrial in-fill development opportunities along Belltown Road. The City of Havelock reports that the U.S. Department of Interior could consider a potential land swap between US 70 and the proposed US 70 Bypass to expand the Croatan National Forest. This would make it feasible to provide access to land between Lake Road and Belltown Road with rail frontage, making it an ideal

location for an industrial/business park that's near the proposed US 70 Bypass via the Lake Road interchange.

Hotel

Hotels operating in Havelock include Hampton Inn, Holiday Inn, Travelodge, Comfort Inn, and Days Inn. Increasing tourist traffic on US 70 indicates opportunity for future hotels, including the proposed City Center project. Another candidate site is the proposed US 70 Bypass interchange with Lake Road. A hotel here could cater to visitors and contractors for MCAS —Cherry Point as well as tourists.

Redevelopment Opportunities

The City of Havelock must look toward infill development or redevelopment for continued growth and prosperity because of the minimum amount of suitable land available for development outside of the existing built environment. In the process of developing this plan, citizens of Havelock overwhelmingly expressed a desire to redevelop portions of the City so they could have central gathering locations. Consequently, two redevelopment opportunities along the US 70 Corridor — City Center and Civic Campus — are envisioned. These could ultimately become catalysts for more private investment and infill development along the entire corridor. The City's Future Land Use Map incorporates land use categories to support the development of these two areas.

City Center

Havelock citizens indicated they want a location that provides a wide variety of activities. Some activities may involve commerce while others may be social or recreational. This location commonly becomes the perceived center of activity for the community. Having a central location helps put the city center closer to the entire community, but it is not essential to be in the exact geographic center of Havelock.

A candidate location for a new city center lies just north of the bridge crossing Slocum Creek on US 70 (i.e., Slocum Avenue vicinity). This location is a prime location for future redevelopment that could create a downtown-type area for Havelock.

Market research identified types of development that would attract residents of Havelock and visitors from nearby communities to enjoy a new downtown setting that would be anchored by US 70 on the west and a proposed gateway park on the banks of Slocum Creek, on the east end. In between, Main Street shops are envisioned with parking behind new buildings. A site plan illustrates the site and building orientation relative to US 70 and Slocum Creek. The type of land uses or development patterns included in the Comprehensive Plan are for illustrative purposes only, and could vary significantly based on future landowner interests, development approvals, or location of available infrastructure.

Land Use Plan

The aerial below displays the site's proximity to Slocum Creek. When the proposed site plan is added, the strong axial relationship between US 70 and Main Street are clear. Land uses today include mobile homes, but as land values continually increase, selling or redeveloping property may be worthwhile.

Oblique view looking southeast highlights a healthy mix of land uses and a scenic vista.

Corridor Plan

Two plan views (existing and proposed) of the potential "City Center" that highlight the radial tie-in of a new retail spine road with US 70.

It is clear that activity is occurring along US 70 near the intersection with a new spine road (i.e., Main Street) that leads into City Center. The view over the proposed intersection displays a grand entrance to street activity and iconic architecture, with a glimpse down the corridor to its terminus at the proposed riverfront park. The signature feature of the mixed-use development is Main Street itself, framed by two- and three-story buildings that offer shopping, dining, and entertainment opportunities.

The Living Experience

While the emphasis will be on the Main Street retail corridor, the areas located toward the periphery of the site are reserved for residential uses. Approximately 1,000 residential dwelling units are set back away from the US 70 Corridor, benefiting from great views over a riverfront park.

An oblique view looking down the retail spine of City Center, built around an active shopping and entertainment environment that caters to the principles of walkability.

An oblique view looking over the new riverfront park and connections back to City Center.

Civic Campus

The City of Havelock has a successful civic campus with a wide range of uses. As the uses exist, they are not conducive for accessibility other than by vehicle. Building on already existing uses, a portion of the civic campus can become a mixture of buildings and open spaces that create a more cohesive civic campus. The campus should address the US 70 corridor, while creating outdoor spaces and new structures that enhance the civic experience in Havelock. Officials for the City of Havelock should work together with property owners inside the designated Civic Campus to explore development and redevelopment opportunities for improving the spaces. Restrictive covenants on the property will also dictate what can and cannot be done with the property.

The type of land uses or development patterns included in the Comprehensive Plan are for illustrative purposes only, and could vary significantly based on future landowner interests, development approvals, or location of available infrastructure.

Corridor Plan

US 70 serves as the backbone for Havelock. As the corridor improves, so will the destination points along it. A site plan for the civic campus is shown in the aerial to the right and it is clear how the orientation of the buildings greet drivers traveling South on US 70. Once the campus has been announced, views into a large open space are visible from the road.

Views from US 70

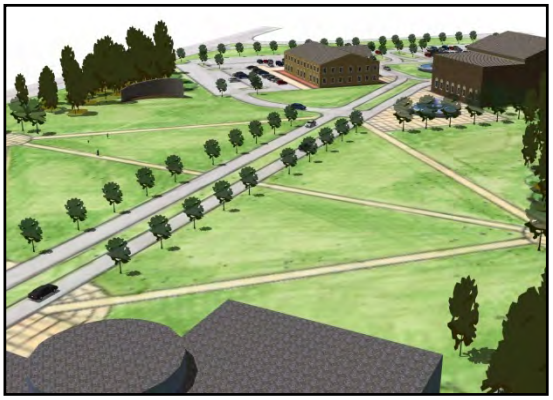
Iconic architecture serving possible civic uses dominates the panoramic view (shown below) traveling South on US 70.

A plan view that highlights orientation of "Civic Campus" to US 70.

The Civic Campus

The enclave of three classic building centered around a main square create a central space interconnected by paths and courtyards offering a user-friendly, centralized space for civic events to occur.

An oblique view looking southeast toward outdoor rooms designed for public gathering in the "Civic Campus".



An oblique view looking southeast toward government square in the "Civic Campus".

Outdoor Rooms

Behind the civic uses are two multi-purpose buildings that could serve many uses. More importantly, they create a large open space which can become a centralized location for larger events and more often smaller group meetings and outdoor gathering places (i.e. rooms). A small stage facing away from US 70 could accommodate musical events or small shows in the summer.

Future Land Use Map (FLUM)

The Future Land Use Map serves as the officially adopted blueprint for guiding growth and development in the planning jurisdiction. The distribution, location, and extent of land uses depicted in the FLUM represents consensus among elected officials, City staff, the Comprehensive Plan Advisory Committee, and the general citizenry for moving Havelock toward a more sustainable future.

The following future land use categories are included in the City of Havelock's Future Land Use Map. The definition of each category as well as associated use and development standards are identified below.

- *Agriculture Use*: This category applies to existing lands in active agricultural use. Agricultural land uses include crops, groves, and other types of typical agricultural activities. Residential density is limited to no more than one (1) dwelling unit per ten (10) net acres in this land use category.

- *Rural Residential*: Residential densities allowed in this category shall not exceed one (1) dwelling unit per five (5) gross acres, except as provided for in the local zoning ordinance to support cluster

development in environmentally-sensitive areas. In clustering development, residential densities shall not exceed 4.0 dwelling units per net acre, provided that the land that would have been allocated to individual lots under the base maximum density requirement (i.e., 1 dwelling unit per 5 gross acres) are converted to common, shared open space for residents.

- *Low-Density Residential*: Residential densities allowed in this category shall not exceed 2.0 dwelling units per net acre. This density category is characterized solely by detached single family homes on relatively large lots.

- *Medium-Density Residential*: Residential densities allowed in this category range from a minimum of 2.0 to a maximum of 6.0 dwelling units per net acre. The types of housing typically found in areas designated medium-density residential include single-family detached homes, fee-simple townhomes, and low-rise condominiums and apartments.

- *High-Density Residential*: Residential densities allowed in this category range from a minimum of 6.0 to a maximum of 12.5 dwelling units per net acre. The types of housing typically found in areas designated high-density residential include zero lot line, single-family detached homes; fee-simple townhomes; and mid-rise condominiums and apartments.

- *Industrial*: This category allows manufacturing and production uses, whether capital or labor intensive, including warehouses, shipping facilities, light manufacturing, utility maintenance yards, and assembly operations. Major industrial uses allowed in this category should generally be located away from residential areas. Maximum building heights in this category shall not exceed 2 stories. The maximum floor area ratio (FAR) is 2.5 based on current zoning regulations.

- *Institutional and Public Facility*: This category allows major institutional uses and utilities, including hospitals, non-profit medical facilities, universities and colleges, regional water-supply, wastewater and solid waste utility facilities, governmental offices and facilities, and libraries. The location of neighborhood- or community-serving institutional uses and utilities, including public and private schools, fire-rescue stations, police stations, cemeteries, and churches, are allowed in this category, but may also be approved where compatible in other land use categories described herein, pursuant to any conditions specified in the applicable category.

  Internally integrated business areas, up to ten percent (10%) of the total development floor area, may also be approved in this category. If the owner of privately owned land that is designated as Institutional and Public Facility chooses to develop the land for a different use and no public agency intends to acquire the site for a public facility, the land may be developed for a use or density comparable to and compatible with the surrounding development provided that such development is consistent with the goals, objectives, and policies of this Comprehensive Plan. Major utility facilities allowed in the Institutional and Public Facility category should generally be

located away from residential areas. Maximum building heights in this category are limited to 2 stories. The maximum floor area ratio (FAR) is 1.5 based on current zoning regulations.

- *Business and Office*: This category accommodates the full range of sales service activities including retail, wholesale, personal and professional services, commercial and professional offices, hotels, motels, hospitals, theaters, medical buildings, nursing homes, entertainment and cultural facilities, amusements and commercial recreation establishments. These uses may occur in self-contained centers, campus parks, or business districts. The specific range and intensity of uses appropriate in Business and Office areas varies by location as a function of such factors as availability of public services, roadway access, and neighborhood compatibility. The maximum scale and intensity of development shall be based on, and compatible with, the proximity and scale of adjacent and nearby residential uses. Special limitations may be imposed on uses in Business and Office areas where necessary to protect environmental resources. Through the assignment of zoning districts and conditional uses, the specific range and intensity of uses and maximum building heights appropriate for a particular site will be determined. Maximum building heights in this category shall not exceed 3 stories. The maximum floor area ratio (FAR) is 2.5 based on current zoning regulations.

- *City Center Mixed-Use*: This category is designed to encourage compact, mixed-use development comprised of commercial, office, residential, and recreation/open space uses. Development of a city center must emphasize integration of the natural and built environments, preserve fragile natural systems, integrate pedestrian and bicycle facilities, and demonstrate an urban form characterized by close-knit neighborhoods and sense of community. Vertical integration of primary uses is strongly encouraged in this category, with commercial and/or office on the ground floors and residential uses on the upper floors. On-street parking is allowed and off-street parking is highly encouraged to be located in the rear of buildings.

  Maximum building heights in this category shall not exceed 5 stories. Residential density for townhomes and condominiums shall range from a minimum of 4.0 dwelling units per net acre to a maximum of 15.0 dwelling units per net acre. Maximum floor area ratios (FAR) are 0.50 for a one-story building, plus 0.10 for each additional story.

- *Neighborhood Mixed-Use*: This category accommodates business uses and services within or near residential neighborhoods. The vertical and horizontal integration of uses is encouraged, and residential neighborhood compatibility and interconnection is essential. Supporting low-intensity institutional uses are also allowed. Maximum building heights in this category shall not exceed 5 stories. Residential densities allowed in this category range from a minimum of 3.0 to a maximum of 10.0 dwelling units per net acre. Maximum floor area ratios (FAR) are 0.40 for a one-story building, plus 0.10 for each additional story.

- *Parks and Recreation*: The Future Land Use Map (FLUM) specifically illustrates park and recreation areas. Compatible parks continue to be encouraged in all residential land use categories, and may continue to be allowed in all other future land use categories. The siting and use of future public and private parks and recreation areas shall be guided by the *Comprehensive Parks and Recreation Master Plan for Havelock, North Carolina*, as amended, and by other applicable goals, objectives, and policies adopted in this document. Other commercial recreation, entertainment, or cultural uses may also be considered for approval in this category if they would enhance the quality, utility, or enjoyment of the site and its natural, historical, or archeological resources and facilities. The maximum building height for ancillary commercial, recreation, cultural, or entertainment buildings permitted in this category shall not exceed 2 stories.

- *U.S. Military Base*: The U.S. Military Base category designates land occupied by the Marine Corps Air Station – Cherry Point, of which the federal government has complete authority. Lands designated U.S. Military Base in the Future Land Use Map (FLUM) are for illustrative purposes only, and the City of Havelock specifies no height, bulk, or density controls for this land use category.

- *U.S. National Forest*: The U.S. National Forest category designates land occupied by the Croatan National Forest, of which the federal government has complete authority. Lands designated U.S. National Forest in the Future Land Use Map (FLUM) are for illustrative purposes only, and the City of Havelock specifies no height, bulk, or density controls for this land use category.

Figure 5-1 illustrates the City's Future Land Use Map. The approximate acreage for each future land use category is summarized in Table 5-8. A zoning compatibility index in Appendix G provides a range of acceptable zoning districts for implementing the various land use categories.

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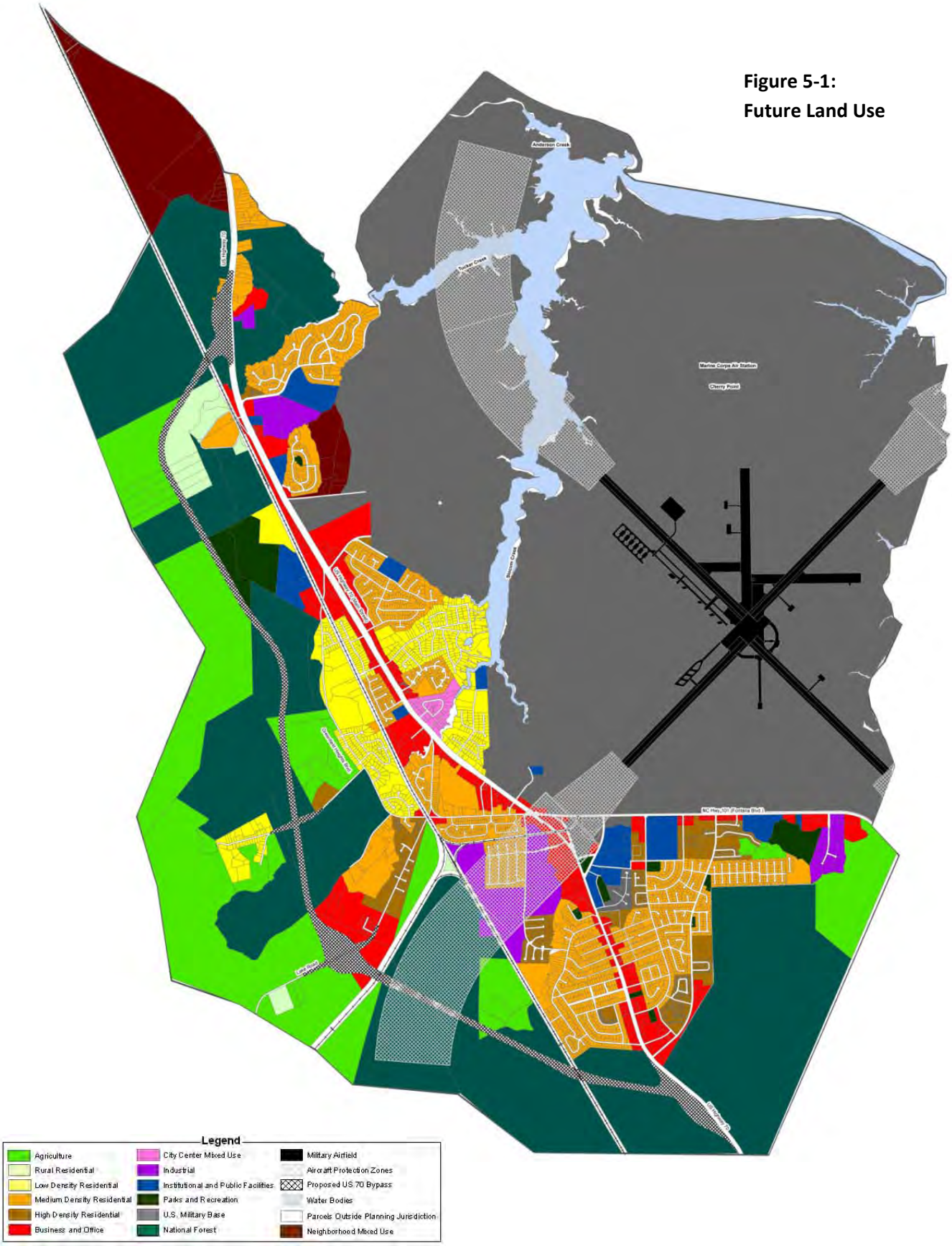
Figure 5-1:
Future Land Use



FLUM Compatibility With Land Suitability & Environmental Composite Maps

The land suitability analysis and environmental composite maps helped guide the development of the Future Land Use Map (FLUM). As described in Chapter 2, very little developable land is available in the study area for new greenfield development because of environmental concerns. Therefore, this plan focuses on both infill development and redevelopment inside city limits, and efficient use of vacant, developable land outside city limits to meet development needs through 2030. Maximizing development potential may include mixed-use neighborhoods in appropriate locations and build out of new residential developments at higher densities than currently observed.

Within the proposed ETJ, land uses were assigned the lowest densities and intensities. These areas support primarily agricultural and low density residential uses. In addition, large portions of the ETJ are national forest. Those areas are not projected to change during the life of this plan. New mixed-use neighborhoods in the future urban service area could be a conflict because of Class III lands with serious development limitations. However, low impact development, conservation-based design principles, and cluster developments promote more environmentally-sensitive development.

Based on the forgoing, no conflicts are anticipated between the FLUM and the land suitability analysis or environmental composite maps.

Table 5-8

City of Havelock Comprehensive Plan Future Land Use Profile										
	Within City Limits		Within Existing ETJ		Within Proposed ETJ		Future Urban Service Area		Total	
Land Use	Acres	Percent	Acres	Percent	Acres	Percent	Acres	Percent	Acres	Percent
Residential										
Rural	0.00	0.00	8.43	0.10	163.57	3.41	0.00	0.00	172.00	0.67
Low Density	154.37	1.31	407.97	4.76	69.21	1.44	0.00	0.00	631.55	2.46
Medium Density	1,323.21	11.24	88.72	1.04	114.31	2.38	0.00	0.00	1,526.24	5.96
High Density	312.13	2.65	41.55	0.49	0.0	0.0	0.00	0.00	353.68	1.38
Subtotal	**1,789.71**	**15.20**	**546.67**	**6.39**	**347.09**	**7.23**	**0.00**	**0.00**	**2,683.47**	**10.47**
Mixed-Use										
Neighborhood Mixed Use	2.43	0.02	93.00	1.09	21.86	0.46	490.81	99.15	608.10	2.37
City Center	43.46	0.40	0.0	0.0	0.0	0.0	0.0	0.0	43.46	0.17
Subtotal	**45.89**	**0.42**	**93.00**	**1.09**	**21.86**	**0.46**	**490.81**	**99.15**	**651.56**	**2.54**
Non-Residential										
Business & Office	562.86	4.78	174.82	2.04	25.13	0.52	0.00	0.00	762.81	2.98
Industrial	179.00	1.52	156.09	1.82	11.04	0.23	0.00	0.00	346.13	1.35
Institutional and Public Facilities	288.60	2.45	17.47	0.20	0.00	0.00	0.00	0.00	306.07	1.19
Agriculture	0.0	0.0	479.17	5.60	1,665.01	34.68	0.00	0.00	2,144.18	8.37
Parks & Recreation	81.13	0.70	85.77	1.00	42.85	0.89	0.00	0.00	209.75	0.82
U.S. Military Base	7,447.41	63.29	3,554.61	41.52	0.0	0.0	0.00	0.00	11,002.02	42.93
National Park Land	0.00	0.00	2,619.13	30.60	2,326.45	48.46	0.00	0.00	4,945.58	19.30
Subtotal	**7,528.54**	**72.74**	**7,087.06**	**82.78**	**4,070.48**	**84.78**	**0.00**	**0.00**	**19,716.54**	**76.94**
ROW, Water Bodies, Etc. *	1,373.40	11.67	835.38	9.76	361.07	7.52	4.19	0.85	2,574.04	10.04
Subtotal	**1,373.40**	**11.67**	**835.38**	**9.76**	**361.07**	**7.52**	**4.19**	**0.85**	**2,574.04**	**10.04**
Total	**11,767.95**	**100.00**	**8,562.12**	**100.00**	**4,800.50**	**100.00**	**495.00**	**100.00**	**25,625.59**	**100.00**

**Not a land use category*

**Note: Columns may not sum to 100 as a result of rounding properties contained within embedded equations*

Future Land Use Map & Forecasted Growth (2030)

Desired land use patterns and development intensities depicted on the City's Future Land Use Map (FLUM) are expected to meet anticipated demand through the long-term planning horizon (2030). New infill development and redevelopment, as well as continued home sales from existing inventories, are expected to keep pace with demand. Areas identified for new commercial development (i.e., retail and office) along US 70, Fontana Boulevard (NC 101), and the future interchange of Lake Road with US 70 Bypass are expected to meet demand and provide ample opportunities to better balance the City's tax base. Existing and new industrial areas located adjacent to the North Carolina Railroad Corridor, Fontana Boulevard (NC 101), and south of Sermons Boulevard are expected to meet demand for new industrial centers.

The City's Comprehensive Plan also recognizes that growth will continue beyond the 25-year planning horizon assumed for this plan update. Therefore, acreage in the FLUM for both residential and non-residential land use categories exceeds demand forecasted for 2030. The extra acreage allows for unanticipated growth or changing market conditions to be absorbed within the current plan document.

A worksheet summarizing the ability of the City's FLUM to meet forecasted residential and non-residential growth through 2030 is included in Appendix H.

Availability of Public Facilities and Services

Realizing the community's vision for growth and prosperity requires that adequate public facilities and services be available concurrent with the timing of development. This section of the report summarizes future year impacts to surrounding infrastructure, and identifies any potential hurdles that may be encountered for implementing the land use patterns and intensities envisioned for the planning jurisdiction. The "Havelock Today" chapter of the Comprehensive Plan provides more detailed analysis of existing transportation, potable water, sanitary sewer, storm water management, and solid waste systems — including available capacity and the ability of these facilities and services to support existing development.

Impacts to supporting infrastructure generated by the land use patterns and intensities depicted in the FLUM were calculated using Community Viz software. This software is a decision-based GIS tool that considers the tradeoffs between different development scenarios and their competing impacts on infrastructure. Demand estimates for the Comprehensive Plan assume full build-out of the FLUM and the maximum allowable densities and intensities prescribed under each of the individual future land use categories. Therefore, impacts to infrastructure reported in the Comprehensive Plan should be considered worst-case scenarios. These scenarios would very likely improve if factors for prevailing market conditions or consideration that not all development within the various land use categories would build-out at their maximum allowable densities or intensities were included in the analysis. The methodology used for evaluating the impacts to infrastructure generated by the FLUM meets the minimum rules and requirements set forth by the State of North Carolina for preparing a Core CAMA Land Use Plan.

An internal script was run in the Community Viz software to remove areas deemed highly constrained for development (i.e., Class III environmental hazards and military base land holdings) before performing the impact calculations. This more accurately estimates the impacts that development could have on supporting infrastructure. A site efficiency factor also was applied to the parcels included in the analysis to account for land typically dedicated to certain on-site improvements (e.g., internal streets, storm water management, open space, etc.) necessitated by new development. The remaining portion(s) of a parcel after removal of development constraints and on-site infrastructure was used to estimate future year demands at full build-out of the FLUM.

The City of Havelock's Comprehensive Plan recognizes that growth will continue beyond the 25-year planning horizon assumed for this plan update. Therefore, the FLUM includes acreage for both residential and non-residential land use categories that exceeds demand forecasted for 2030. The extra acreage allows for unanticipated growth or changing market conditions to be absorbed within the current plan document. The extra acreage included for certain land use categories within the planning jurisdiction leads to higher estimates for impacts to infrastructure. City officials understand that many

areas depicted in the FLUM may not develop within the 25-year planning horizon (e.g., if the State delayed improvements to the US 70 Bypass interchange at Lake Road for some reason).

A summary for the impact to public facilities and services available in the City of Havelock to support new development and redevelopment follows.

Potable Water

The estimated average daily demand for potable water service within the entire planning jurisdiction will increase from 1.30 to 5.58 million gallons per day (MGD) assuming full build-out of the FLUM and the maximum allowable densities and intensities prescribed under each of the individual future land use categories. Table 5-9 summarizes the anticipated average daily demand by land use category. The average daily demand is expected to exceed the permitted treatment plant capacity of 2.40 MGD by 133% and the current hydraulic plant capacity of 3.6 MGD by 55%.

Table 5-9

Potable Water Demand, City of Havelock & Remaining Study Area, 2005-2030

Land Use	Demand Inside City (MGD)	Demand Outside City (MGD)	Total (MGD)
Residential	**0.47**	**1.13**	**1.60**
Rural	0.00	0.15	0.15
Low Density	0.00	0.01	0.01
Medium Density	0.24	0.20	0.44
High Density	0.02	0.00	0.02
Agriculture	0.00	0.00	0.00
Neighborhood Mixed Use	0.01	0.77	0.78
City Center	0.21	0.00	0.21
Non-residential	**1.31**	**1.00**	**2.31**
Business & Office	0.92	0.37	1.29
Institutional and Public Facilities	0.00	0.00	0.00
Industrial	0.37	0.35	0.72
Neighborhood Mixed Use	0.00	0.27	0.27
City Center	0.02	0.00	0.02
Parks & Recreation	n/a	n/a	n/a
U.S. Military Base	n/a	n/a	n/a
National Park Land	n/a	n/a	n/a
Total	**1.78**	**2.13**	**3.91**

Increased demand beyond 2.8 MGD would require amendments to the City's current permit to withdrawal from the Castle Haynes Aquifer. Expansion plans for the existing plant, or construction of a secondary facility, and construction of additional transmission lines outside of the current urban service area would be required to serve additional development for the entire planning jurisdiction. City officials should carefully monitor impacts to the potable water system generated by new development, and consider the costs and benefits for extending service into the extra-territorial jurisdiction on a project-by-project basis.

Sanitary Sewer

The estimated average daily demand for sanitary sewer service in the planning jurisdiction will increase from 1.75 to 4.95 million gallons per day (MGD) at build-out of the FLUM. Table 5-10 summarizes the anticipated average daily demand by land use category. The average daily demand is expected to exceed the current permitted discharge capacity of 1.90 MGD for the Neuse River by 205%, and the current treatment plant capacity of 2.25 MGD by 157.0%.

Table 5-10

Estimated Demand for Sanitary Sewer, City of Havelock & Remaining Study Area, 2005-2030

Land Use	Demand Inside City (MGD)	Demand Outside City (MGD)	Total (MGD)
Residential	**0.56**	**1.33**	**1.89**
Rural	0.00	0.17	0.17
Low Density	0.00	0.01	0.01
Medium Density	0.29	0.24	0.53
High Density	0.02	0.00	0.02
Agriculture	0.00	0.00	0.00
Neighborhood Mixed Use	0.00	0.91	0.91
City Center	0.25	0.00	0.25
Non-Residential	**1.54**	**1.17**	**2.71**
Business & Office	1.08	0.43	1.51
Institutional and Public Facilities	0.00	0.00	0.00
Industrial	0.44	0.42	0.86
Neighborhood Mixed Use	0.00	0.32	0.32
City Center	0.02	0.00	0.02
Parks & Recreation	n/a	n/a	n/a
U.S. Military Base	n/a	n/a	n/a
National Park Land	n/a	n/a	n/a
Total	**2.10**	**2.50**	**4.60**

The City completed a preliminary engineering report for its wastewater treatment system in May 2007 that will increase capacity from 1.90 to 3.50 MGD. An additional 0.1 MGD of capacity is available by eliminating the inflow and infiltration (I&I) of storm water into the collection system. City officials are looking at three strategies for additional waste water capacity to serve long-term demand: a partnership with the City of New Bern to transfer waste water to their system for treatment, a partnership with Marine Corps Air Station – Cherry Point to take over their waste water treatment system, or expansion of the existing City waste water treatment plan. More detail on these strategies is provided in Chapter 3 of the Comprehensive Plan.

One critical component for securing additional capacity through improvements that involve Marine Corps Air Station – Cherry Point or the City's existing system will be approval of an NPDES permit to discharge directly into the Neuse River.

Transportation

Detailed study and public outreach for reaffirming the City's long-term transportation vision was prepared independent of this planning process and presented in the draft *City of Havelock Comprehensive Transportation/Land Use Plan* (CTLUP). The FLUM from this document was used to formulate the land use and transportation recommendations presented in the draft CTLUP.

Traffic forecasted for the planning jurisdiction was projected to increase the number of failing roadway links within the City. The following roadways are expected to experience an unacceptable level of service (LOS) (D or worse) in 2030 even with construction of the proposed US 70 Bypass:

- Existing US 70 — northern limits of the study area to Greenfield Heights Blvd
- Existing US 70 — Cunningham Blvd to the southern limits of the study area
- Miller Boulevard — Lake Road to Existing US 70
- Slocum Road — Existing US 70 to MCAS - Cherry Point entrance
- US 70/Slocum Road Flyover-Feasibility Study

In response to LOS deficiencies, the City has identified several short- and long-term transportation projects to alleviate some of these deficiencies and is committed to partner with NCDOT, the U.S. 70 Corridor Commission, MCAS — Cherry Point, and Craven County to develop solutions for capacity deficiencies along major and minor thoroughfares that traverse through the planning jurisdiction. Traffic conditions within the City are anticipated to be improved and acceptable based on planned and programmed improvements for these facilities reported in the City's draft CTLUP.

Solid Waste

The estimated average daily demand for residential solid waste collection within the planning jurisdiction will be 14,456 tons per year at build-out of the FLUM. It is assumed that solid waste from non-residential properties will continue to be collected by private waste haulers under a direct contract with the property owner.

Landfill capacity at the Tuscarora Landfill is estimated to last 50 years. City officials should coordinate with the landfill operator to ensure that adequate supply is available to meet anticipated demand.

Tax Value Growth Forecast

Land use patterns and development intensities included in the FLUM will directly influence the ability of City officials to implement cost-effective, highly-responsive public facilities and services that are well-maintained. Below is a brief summary of tax values and revenues anticipated for the City of Havelock with build-out of the FLUM in 2030.

Baseline Conditions (2005)

Real Property Tax Value — Land and Buildings

Residential and commercial real property tax values in the City of Havelock totaled $515 million according to the Craven County Tax Assessor's Office (2005 estimate). The general breakdown was 65.4% residential and 34.6% commercial (see Table 5-12). The total property tax value excludes personal property as well as institutional uses. Institutional uses exempt from taxation include MCAS — Cherry Point, the Croatan National Forest, schools, churches and local government offices.

Table 5-11

Real Property Tax Value
City of Havelock, 2005

Type	Value	% of Total
Residential	$333,873,270	65.4%
Commercial	$178,046,137	34.6%
Total	**$514,919,407**	**100.00%**

Note: Exempt property not included.
Source: Craven County

Residential Buildings Tax Value

In 2005, 6,319 residential dwelling units inside city limits only contributed $302 million to the local tax base. This contribution reflects only building values, not land values. By law, the 1,413 residential dwelling units on the military base inside city limits were omitted from these estimates. The resulting average building value was $47,809 per unit, including single family houses, duplex/triplexes, apartments and mobile homes. Table 5-13 summarizes the per-dwelling unit tax value for 2005.

Table 5-12

Residential Building Tax Value City of Havelock, 2005		
Total Building Value	**Total Units**	**Average Value Per Unit**
$302,106,230	**6,319**	**$47,809**

Note: Excludes Exempt Property
Source: Craven County, Warren & Associates

Commercial Buildings Tax Value

In 2005, the commercial building tax value for approximately 2.4 million square feet of space inside city limits was $76.4 million. This represents an average tax value per square foot of $31.39. Table 6-14 summarizes the per square foot tax value for commercial buildings in 2005.

Table 5-13

Commercial Building Tax Value City of Havelock, 2005		
Total Building Value	**Total Units**	**Average Value Per Unit**
$76,379,427	**2,433,226**	**$31.39**

Note: Excludes exempt property, commercial includes retail, office, industrial
Source: Craven County, Warren & Associates

Future Year Conditions (2030)

Residential Buildings Tax Value

Between 2005 and 2030, Havelock is forecasted to absorb 3,439 additional residential dwelling units inside city limits, excluding 511 dwelling units anticipated inside MCAS — Cherry Point. Based on the 2005 average tax value of $47,809 per unit, the City's residential building tax value would grow by $164.4 million. Table 5-15 summarizes anticipated residential tax value growth through 2030.

Table 5-14

Residential Building Tax Value Growth City of Havelock, 2005-2030		
Additional Units	**Average Value Per Unit**	**Additional Building Value**
3,439	**$47,809**	**$164,415,782**

Note: Excludes exempt property.
Source: Craven County, Warren & Associates

Commercial Buildings Tax Value

The City of Havelock is forecasted to add 747,500 square feet of non-exempt commercial space between 2005 and 2030. Applying the 2005 average tax value of $31.39 per square foot, the City's commercial building tax value would grow by nearly $23.5 million. Table 5-16 summarizes anticipated commercial tax value growth through 2030.

Table 5-15

Commercial Building Tax Value Growth City of Havelock, 2005- 2030		
Additional Square Feet	**Average Value per Square Foot**	**Added Building Value**
747,500	**$31.39**	**$23,464,167**

Note: Excludes exempt property, commercial includes retail, office, and industrial.
Source: Craven County, Warren & Associates

Real Property Tax Value (Land and Buildings)

Anticipated real property tax value growth from residential and commercial uses combined over the next 25 years ($188 million) would represent a 36.5% increase from tax values reported in 2005 ($515 million). The 49.0% increase in residential development would far exceed the 13.2% growth for commercial uses. It is assumed that land tax values would remain constant during the forecast period regardless of whether or not they are improved. All values presented in Table 5-17 are in 2005 dollars.

Table 5-16

Real Property Tax Value, City of Havelock, 2005-2030				
			2005-2030 Change	
Use	**2005**	**2030**	**Number**	**Percent**
Residential	$336,873,270	$501,289,052	$164,415,782	48.8%
Commercial	$178,046,137	$201,510,304	$23,464,167	13.2%
Total	**$514,919,407**	**$702,799,356**	**$187,879,949**	**36.5%**

Note: Excludes exempt property. Commercial includes retail, office, and industrial.
Assumes land tax values do not escalate as they are improved.
Source: Craven County, Warren & Associates

Based on this forecast, the City of Havelock's non-exempt real property tax base could shift from 65.4% residential and 34.6% commercial in 2005 to 71.3% residential and 28.7% commercial in 2030. The result is a 5.9% shift in tax base share. These numbers suggest that the City of Havelock would become more dependent upon residential development for tax revenue in the future. Typically, residential

development creates more of a need for public facilities such as schools and parks, yet contributes less in terms of tax revenue than commercial development. This situation could make it more likely that the cost of providing public services would exceed the revenue it would generate. Table 5-18 summarizes the potential tax base shift associated with the City's FLUM.

Table 5-17

Real Property Tax Value Shares, City of Havelock, 2005-2030			
Use	**2005**	**2030**	**2005-2030 Change**
Residential	65.4%	71.3%	5.9%
Commercial	34.6%	28.7%	-5.9%
Total	**100.00%**	**100.00%**	

Note: Excludes exempt property.
Source: Craven County, Warren & Associates

Real Property Tax Revenue (Land and Buildings)

Havelock's property tax rate in 2005 was $0.45 per $100 of value. Based on this rate, the City should receive more than $2.3 million in real property tax revenue in 2005. Residential property generated more than $1.5 million of the revenue, with commercial producing the balance of the total ($801,000). In 2005 dollars, Havelock's property tax revenues would increase to almost $3.2 million by 2030.

Table 5-18

Real Property Tax Revenue, City of Havelock, 2005-2030				
			2005-2030 Change	
Use	**2005**	**2030**	**Number**	**Percent**
Residential	$1,515,930	$2,255,801	$739,871	48.8%
Commercial	$801,208	$906,796	$105,589	13.2%
Total	**$2,317,137**	**$3,162,597**	**$845,460**	**36.5%**

Note: Excludes exempt property. Commercial includes retail, office, and industrial.
Assumes land tax values do not escalate as they are improved.
Source: Craven County, Warren & Associates

Chapter 6

Goals, Objectives, & Policies

Goals without a plan
are just wishes.

-Antoine de Saint-Exupery

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Goals, Objectives, & Policies

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Statement of Legislative Intent

This Statement expresses the legislative intent of the Board of Commissioners for the City of Havelock with regard to this Comprehensive Plan. It is applicable to the City of Havelock Comprehensive Plan in its entirety and is declared to be incorporated by reference in each plan element thereof.

1. Nothing in this Comprehensive Plan shall be construed or applied to constitute a temporary or permanent taking of private property or the abrogation of vested rights as determined to exist under applicable state law.

2. Nothing in this Comprehensive Plan shall be construed or implied to constitute an abrogation or removal of any private, regulatory, or governmental covenant or special condition in affect on any private or public property located within the City of Havelock.

3. This Comprehensive Plan is intended to set general guidelines and principles concerning its purposes and contents and is not a substitute for specific implementation mechanisms that are contained in the City of Havelock Land Use Regulations.

4. The Board of Commissioners recognizes that any application for development approval may bring into conflict and necessitate a choice between different goals, objectives, policies, priorities, and provisions in the Comprehensive Plan. While it is the intent of the Board of Commissioners that the Future Land Use Element be afforded a high priority, other elements must be taken into consideration given the Board of Commissioners responsibility to provide for the multitude of needs for this unique and diverse community. Recognizing that the Board of Commissioners and their staff will be required to balance competing goals, objectives, and policies of this Comprehensive Plan, the primary intention of the Plan is to protect the public health, safety, and welfare of the community.

5. The terms “shall” and “will” are construed as mandatory in this Plan, subject, however, to this Statement of Legislative Intent. The term “should” is construed as directory and not mandatory. The term “should” is construed as directory and not mandatory. Wherever implementation responsibility is not explicitly stated within a particular objective or policy in this Plan, that responsibility lies with the Board of Commissioners to the extent that the objective or policy specifies implementation.

6. Consideration for funding within a policy or objective shall not fiscally obligate the City of Havelock. Appropriations shall be made on an as needed or case-by-case basis.

Other commonly used action words and their definitions are included in Appendix I of the plan.

Land Use Element

Goal 1: Memorialize the community's vision for sustainable development – measured by environmental stewardship, economic prosperity, and an equitable distribution of community resources – in the distribution of land use and development patterns as well as design qualities demonstrated throughout the planning jurisdiction.

Objective 1.1: Adopt and implement the future land use map and the goals, objectives, and policies contained herein as the official and primary standard governing land use density and intensity in the City of Havelock.

Policy 1.1.1: The following future land use categories depicted on the City's Future Land Use Map are identified, and the use and development standards for each defined, below:

(a) Agriculture Use: This category applies to existing lands in active agricultural use. Agricultural land uses include crops, groves, and other types of typical agricultural activities. Residential density is limited to no more than one (1) dwelling unit per ten (10) gross acres in this land use category.

(b) *Rural* Residential: Residential densities allowed in this category shall not exceed one (1) dwelling unit per five (5) gross acres, except as provided for in the local zoning ordinance to support cluster development in environmentally-sensitive areas. In clustering development, residential densities shall not exceed 4.0 dwelling units per net acre, provided that the land that would have been allocated to individual lots under the base maximum density requirement (i.e., 1 dwelling unit per 5 gross acres) are converted to common, shared open space for residents.

(c) *Low-Density* Residential: Residential densities allowed in this category shall not exceed 2.5 dwelling units per net acre. This density category is characterized solely by detached single family homes on relatively large lots.

(d) *Medium-Density* Residential: Residential densities allowed in this category range from a minimum of 2.5 to a maximum of 6.0 dwelling units per net acre. The types of housing typically found in areas designated medium-density residential include single-family detached homes, fee-simple townhomes, and low-rise condominiums and apartments.

(e) *High-Density* Residential: Residential densities allowed in this category range from a minimum of 6.0 to a maximum of 12.5 dwelling units per net acre. The types of housing typically found in areas designated high-density residential include zero lot line, single-family detached homes; fee-simple townhomes; and mid-rise condominiums and apartments.

(f) *Industrial*: This category allows manufacturing and production uses, whether capital or labor intensive, including warehouses, shipping facilities, light manufacturing, utility maintenance yards, and assembly operations. Major industrial uses allowed

in this category should generally be located away from residential areas. Maximum building heights in this category should generally not exceed 2 stories. Maximum floor area ratios (FAR) are assumed to be 0.20 for a one-story building and 0.40 for a two-story building. Exceptions to the above height and bulk may be granted on a case-by-case basis in conformance with the City of Havelock Land Use Regulations.

(g) *Institutional and Public Facility*: This category allows major institutional uses and utilities, including hospitals, non-profit medical facilities, universities and colleges, regional water-supply, wastewater and solid waste utility facilities, governmental offices and facilities, and libraries. The location of neighborhood- or community-serving institutional uses and utilities, including public and private schools, fire-rescue stations, police stations, cemeteries, and churches, are allowed in this category, but may also be approved where compatible in other land use categories described herein, pursuant to any conditions specified in the applicable category.

Internally integrated business areas, up to ten percent (10%) of the total development floor area, may also be approved in this category. If the owner of privately owned land that is designated as Institutional and Public Facility chooses to develop the land for a different use and no public agency intends to acquire the site for a public facility, the land may be developed for a use or density comparable to and compatible with the surrounding development provided that such development is consistent with the goals, objectives, and policies of this Comprehensive Plan. Major utility facilities allowed in the Institutional and Public Facility category should generally be located away from residential areas. Maximum building heights in this category are generally limited to 2 stories. Exceptions to the above height and bulk may be granted on a case-by-case basis in conformance with the City of Havelock Land Use Regulations.

(h) *Business and Office*: This category accommodates the full range of sales service activities including retail, wholesale, personal and professional services, commercial and professional offices, hotels, motels, hospitals, theaters, medical buildings, nursing homes, entertainment and cultural facilities, amusements and commercial recreation establishments. These uses may occur in self-contained centers, campus parks, or business districts. The specific range and intensity of uses appropriate in Business and Office areas varies by location as a function of such factors as availability of public services, roadway access, and neighborhood compatibility. The maximum scale and intensity of development shall be based on, and compatible with, the proximity and scale of adjacent and nearby residential uses. Special limitations may be imposed on uses in Business and Office areas where necessary to protect environmental resources. Through the assignment of zoning districts and conditional uses, the specific range and intensity of uses and maximum building heights appropriate for a particular site will be determined. Maximum building heights in this category should generally not exceed 3 stories. Maximum floor area

ratios (FAR) are 0.40 for a one-story building, plus 0.10 for each additional story. Exceptions to the above height and bulk may be granted on a case-by-case basis in conformance with the City of Havelock Land Use Regulations.

(i) *City Center Mixed-Use*: This category is designed to encourage compact, mixed-use development comprised of commercial, office, residential, and recreation/open space uses. Development of a city center must emphasize integration of the natural and built environments, preserve fragile natural systems, integrate pedestrian and bicycle facilities, and demonstrate an urban form characterized by close-knit neighborhoods and sense of community. Vertical integration of primary uses is strongly encouraged in this category, with commercial and/or office on the ground floors and residential uses on the upper floors. On-street parking is allowed and off-street parking is highly encouraged to be located in the rear of buildings.

Maximum building heights in this category should generally not exceed 5 stories. Residential density for townhomes and condominiums shall range from a minimum of 4.0 dwelling units per net acre to a maximum of 15.0 dwelling units per net acre. Maximum floor area ratios (FAR) are 0.50 for a one-story building, plus 0.10 for each additional story. Exceptions to the above height and bulk may be granted on a case-by-case basis in conformance with the City of Havelock Land Use Regulations.

(j) *Neighborhood Mixed-Use*: This category accommodates business uses and services within or near residential neighborhoods. The vertical and horizontal integration of uses is encouraged, and residential neighborhood compatibility and interconnection is essential. Supporting low-intensity institutional uses are also allowed. Maximum building heights in this category should generally not exceed 5 stories. Residential densities allowed in this category range from a minimum of 3.0 to a maximum of 10.0 dwelling units per net acre. Maximum floor area ratios (FAR) are 0.40 for a one-story building, plus 0.10 for each additional story. Exceptions to the above height and bulk may be granted on a case-by-case basis in conformance with the City of Havelock Land Use Regulations.

(k) *Parks and Recreation*: The Future Land Use Map (FLUM) specifically illustrates park and recreation areas. Compatible parks continue to be encouraged in all residential land use categories, and may continue to be allowed in all other future land use categories. The siting and use of future public and private parks and recreation areas shall be guided by the *Comprehensive Parks and Recreation Master Plan for Havelock, North Carolina*, as amended, and by other applicable goals, objectives, and policies adopted in this document. Other commercial recreation, entertainment, or cultural uses may also be considered for approval in this category if they would enhance the quality, utility, or enjoyment of the site and its natural, historical, or archeological resources and facilities. The maximum building height

for ancillary commercial, recreation, cultural, or entertainment buildings permitted in this category should generally not exceed 2 stories. Exceptions to the above height may be granted on a case-by-case basis in conformance with the City of Havelock Land Use Regulations.

(l) *U.S. Military Base*: The U.S. Military Base category designates land occupied by the Marine Corps Air Station – Cherry Point, of which the federal government has complete authority. Lands designated U.S. Military Base in the Future Land Use Map (FLUM) are for illustrative purposes only, and the City of Havelock specifies no height, bulk, or density controls for this land use category.

(m) *U.S. National Forest*: The U.S. National Forest category designates land occupied by the Croatan National Forest, of which the federal government has complete authority. Lands designated U.S. National Forest in the Future Land Use Map (FLUM) are for illustrative purposes only, and the City of Havelock specifies no height, bulk, or density controls for this land use category.

Policy 1.1.2: Development potential for parcels within the City of Havelock shall be determined in conformance with the City of Havelock Land Use Regulations. Consistent with these regulations, development potential for land uses depicted on the future land use map shall be enumerated based on the net number of acres available for development; assuming removal of environmentally-sensitive lands, water bodies, rights-of-way, etc. (see City's Zoning Ordinance for detailed rules and procedures).

Policy 1.1.3: Houses of worship or other permitted non-residential uses continue to be allowed in all residential categories on the FLUM; however, if located in or near neighborhoods, adverse impacts to the tranquility of the residents around the allowed use and in the surrounding neighborhood must be minimized to the maximum extent possible. Therefore, in residential land use areas, houses of worship and other permitted non-residential uses are allowed on a conditional basis.

Policy 1.1.4: Small-scale public facilities and utilities intended to serve the immediate needs of the community continue to be allowed in all future land use categories subject to adequate design and buffering requirements determined by the City.

Policy 1.1.5: Home occupations may be approved in all residential land use categories provided that the activity is secondary and incidental to the primary residential use, maintains a residential appearance, does not adversely impact the surrounding neighborhood, and complies with all other applicable criteria contained in the City Land Use Regulations.

Policy 1.1.6: No amendments to the City's Future Land Use Map shall be approved that increase densities or intensities beyond those already indicated for the parcel without proper analysis to determine impacts to supporting public facilities and services.

Objective 1.2: Promote more sustainable development patterns within the planning jurisdiction.

Policy 1.2.1: Encourage infill development and redevelopment within city limits to accommodate a significant portion of population growth anticipated through 2030.

Policy 1.2.2: Consider only purposeful expansion of development into the extraterritorial planning jurisdiction, managed by the size and timing of capital improvements proposed for the area.

Policy 1.2.3: New development should not be approved that adversely strains existing or committed community facilities and services.

Objective 1.3: The City shall maintain, and revise as necessary, an effective Zoning Ordinance and Subdivision Ordinance, which clearly implement the goals, objectives, and policies of this comprehensive plan and regulate development quantity, quality, and impacts.

Policy 1.3.1: The Board of Commissioners shall prepare and adopt a new Unified Development Ordinance (combines current zoning and subdivision ordinances) for the City that is consistent with the future land use map and goals, objectives, and policies of this comprehensive plan. This document will provide business owners, residents, and developers with a clear and concise set of zoning and subdivision regulations for implementing Havelock's future vision.

Policy 1.3.2: The City of Havelock will continue to coordinate with Craven County, the North Carolina Department of Transportation, and other government agencies for regulations related to the subdivision of property within the planning jurisdiction.

Policy 1.3.3: Implement recommendations from the East Coast Joint Land Use Study for limiting critical encroachment issues created by development pressures within Accident Potential Zones (APZs) and Air Installation Compatible Use Zones (AICUZs) designated for Marine Corps Air Station Cherry Point, including:

1. Modify existing plans, ordinances, building codes, and capital improvement plan to ensure greater compatibility with mission footprint of Marine Corps Air Station Cherry Point.
2. Extend the City's extraterritorial jurisdiction (ETJ) to areas currently unprotected from uncontrolled growth.

3. Adopt policies that promote disclosure of safety and noise hazards prior to land transactions and development or sale of property.
4. Adopt noise attenuation requirements and recommendations for future development in high noise areas.
5. Acquire critical properties in APZs through fee simple purchase, restrictive use easements, or land exchanges.
6. Encourage uniform building code modifications that mitigate noise for new structures built in high noise areas.
7. Manage growth through capital expenditures in areas impacted by APZs and AICUZs for Marine Corps Air Station Cherry Point.
8. Continually improve communication channels between the City, Craven County, and Marine Corps Air Station Cherry Point.
9. Require the use of cutoff and semi-cutoff high sodium vapor lighting in Accident Potential Zones.

Objective 1.4: Coordinate land use decisions with Craven County, Carteret County, representatives for Marine Corps Air Station – Cherry Point, the North Carolina Department of Transportation, and neighboring cities.

Policy 1.4.1: Expand the extraterritorial jurisdiction (ETJ) for the City to the extents depicted in Figure 1-1 of the Comprehensive Plan, and enforce all powers within the area granted under Section 160A-360, N.C.G.S. – including zoning, subdivision regulations, enforcement of state building codes, acquisition of open space, and minimum housing codes.

Policy 1.4.2: The City Manager or his designee shall routinely coordinate and cooperate with the representatives for Marine Corps Air Station – Cherry Point on matters related to the mission footprint of the base, and potential encroachment issues related to existing development, new development, or potential redevelopment in the area.

Community Design Element

Goal 2: Protect and enhance positive design elements observed in the community for promoting development with purpose, value, and identity.

Objective 2.1: Improve community aesthetics with compatible building architecture and site design.

Policy 2.1.1: Encourage low impact development (a.k.a. conservation-based design or cluster development) in areas of the planning jurisdiction characterized by environmentally-sensitive lands, pristine natural areas, or near lakes and streams.

Policy 2.1.2: Redevelop portions of the City so they include central gathering places for medium-sized community events (e.g., movies in the park, small concerts, etc.)

Policy 2.1.3: Civic projects should set the example for quality development in the City by constructing new buildings, or refurbishing existing buildings, with an iconic architecture style.

Policy 2.1.4: Provide public streetscape improvements and strongly encourage private property improvements to maintain and improve the attractiveness of the City.

Policy 2.1.5: Continue to improve the image of Havelock by encouraging property owners to improve and maintain landscaping and, as a City, plant trees and maintain landscaping in public rights-of-way.

Policy 2.1.6: Develop an image and branding strategy for the City that reinforces the pride of the community and expectations for visitors when they arrive. Recommendations from an image and branding study should be applied to a new City logo, government website, gateway signage, wayfinding signage and banners, and print materials among other applications.

Objective 2.2: Implement plans, programs, and policies that promote distinctive building architecture and site design.

Policy 2.2.1: Encourage residential and non-residential property owners to maintain their properties through pro-active enforcement of regulations, neighborhood clean-up campaigns, and recycling events.

Policy 2.1.2: Commission a study of the built environment that results in a set of general design priorities and core design principles in a design guidelines manual that can be adapted to individual circumstances of site and subdivision layout.

Housing Element

Goal 3: Maintain and enhance the supply of decent, safe, and affordable housing for present and future residents in the City of Havelock.

Objective 3.1: Provide a range of housing opportunities for present and future residents.

Policy 3.1.1: Continue to provide land use designations in the future land use map and zoning designations in the official zoning map to ensure a variety of housing types (e.g., single family, duplex, and multi-family housing units) are allowed within the City.

Policy 3.1.2: Preserve the integrity of established single-family residential neighborhoods with public investments that reinforce community character and maintain high-quality infrastructure.

Policy 3.1.3: Support continued multi-family development initiatives in the planning jurisdiction on a case-by-case basis to increase and improve housing choice.

Policy 3.1.4: Coordinate with officials for Marine Corps Air Station – Cherry Point to ensure adequate variety and housing stock is available to meet the needs of military families.

Objective 3.2: Enforce minimum housing standards within the planning jurisdiction.

Policy 3.2.1: Minimize potential blight of existing residential neighborhoods through the use of good land use planning, urban design, landscaping in the development review, and pro-active code enforcement.

Policy 3.2.2: Preserve existing housing stock and enhance existing neighborhoods by identifying unsafe or substandard structures, advising property owners of available rehabilitation programs and pursuing prompt, corrective action.

Policy 3.2.3: Ensure that housing stock within the City of Havelock meets minimum criteria set forth in the Standard Building Code adopted by the State of North Carolina.

Policy 3.2.4: Support the utilization of county, state, and federal housing programs to provide home repair and/or home purchase opportunities for current and future residents.

Objective 3.3: Encourage not-for-profit entities to participate in the provision of affordable housing.

Policy 3.3.1: Assist not-for-profit entities that seek to promote and provide affordable housing opportunities in the City of Havelock.

Policy 3.3.2: The City should consider funding and work with a committee of architects, engineers, landscape architects, and other housing professionals to develop a design manual for building and promoting more attractive and cost-efficient affordable housing in the City of Havelock.

Transportation Element

Goal 4: Provide for a safe, convenient, effective, and efficient motorized and non-motorized transportation system that is intricately related to the land use pattern and improves the level of mobility for city residents and its visitors.

Objective 4.1: Coordinate and implement motorized and non-motorized capacity improvements to the transportation system that minimize congestion and improve safety within the transportation system.

Policy 4.1.1: Continue to work with officials for the North Carolina Department of Transportation to promote the inclusion of projects in mutually accepted plans, programs, and policies that adequately provide future capacity for moving people safely and efficiently through the City of Havelock. Candidate projects may include those recommended in the Draft City of Havelock Comprehensive Transportation / Land Use Plan.

Policy 4.1.2: The City of Havelock strongly supports construction of the US 70 Bypass to relieve congestion along existing US 70.

Policy 4.1.3: The City should strive to maintain and update annually a Five Year Capital Improvements Plan (CIP) for the City of Havelock that includes a component for transportation. This section of the CIP should be based on data, standards, and projects recommended in the City of Havelock Comprehensive Transportation / Land Use Plan completed in 2007.

Policy 4.1.4: Pursue "spot safety funds" from the North Carolina Department of Transportation to address the most severe crash locations in the City, including Fontana Boulevard at Roosevelt Boulevard, Slocum Road at US 70, Fontana Boulevard at Cunningham Drive, Greenfield Heights Boulevard at Catawba Road, and the intersection of Lake Road/Miller Road/Church Road.

Policy 4.1.5: The City of Havelock should continue to be an active member of the US 70 Corridor Commission and support reasonable conclusions and recommendations for the long-term, mutual interest of the Commission and the Board of Commissioners to retrofit the US 70 corridor as North Carolina's next major access managed highway.

Policy 4.1.6: The City should support reasonable conclusions and recommendations from the model access management ordinance included in the US 70 Corridor Access Management Handbook that was developed to administer and enforce consistent access management standards along the entire highway between Johnston and Carteret Counties.

Objective 4.2: Development and expansion of the transportation system within Havelock should be done in a way that does not adversely impact community and neighborhood integrity.

Policy 4.2.1: A traffic impact study shall be required for any development or redevelopment project expected to generate 500 vehicles or more (entering/exiting combined) in a 24-hour period or 100 vehicles or more (entering/exiting combined) during either the adjacent road's peak hour(s) or the development's peak hour(s).

Policy 4.2.2: Preserve and protect the character of neighborhoods from the avoidable intrusion of "cut through" traffic with implementation of appropriate traffic calming measures. Traffic calming will be installed, where warranted, after proper review of citizen requests measures, completion of a formal traffic calming study, and confirmation that funds are available to construct the needed improvements.

Policy 4.2.3: The City of Havelock should support locating driveways on municipal streets in compliance with the Driveway Manual published by the North Carolina Department of Transportation, as amended.

Policy 4.2.4: To the maximum extent possible, the number of driveways or curb cuts serving a property shall be minimized and shared-use driveways should be encouraged on major roads, including US 70, NC 101, and Miller Boulevard.

Policy 4.2.5: Develop supplemental engineering design and construction standards for providing minimum acceptable standards and specifications for implementing desired complete street design principles.

Objective 4.3: Increase the amount of pedestrian and bicycle activity within the City by providing adequate facilities that promote friendly pedestrian and bicycle environments.

Policy 4.3.1: Bicycle parking should be considered for all new development. Incentives should be written into land use regulations that provide for bicycle facilities (i.e. one vehicular parking space may be exchanged for bicycle facilities).

Policy 4.3.2: Sidewalks or greenways should be constructed to optimize pedestrian movements between buildings in a non-residential development, and connect with existing pedestrian sidewalks or greenways adjacent to the site where they currently exist.

Policy 4.3.3: Safe and convenient crossings shall be provided across all public and private roads internal to a non-residential development, and at all driveways leading to the site.

Policy 4.3.4: All existing railroad and utility corridors in the City should be studied for their potential to become future multi-use trails.

Policy 4.3.5: The City of Havelock should consider funding and seek grant monies from the North Carolina Department of Transportation to complete pedestrian and bicycle projects recommended in the City of Havelock Comprehensive Parks and Recreation Master Plan and the Draft City of Havelock Comprehensive Transportation / Land Use Plan.

Policy 4.3.6: The City of Havelock is committed to provide safe routes to school for local schools in the community. Upon formal request by the citizenry and determination of adequate funding, the City will contact the Craven County School Board and work cooperatively to evaluate existing walking conditions around the school consistent with guidance from the Manual on Uniform Traffic Control Devices (MUTCD) Chapter 7A for preparing individual school traffic control plans. The City will act upon the reasonable conclusions and recommendations from the study and program appropriate improvements in the City's Capital Improvements Plan to ensure safe walking conditions are maintained for students.

Policy 4.3.7: City officials should participate in pedestrian and bicycle planning programs for the North Carolina Department of Transportation.

Policy 4.3.8: Coordinate with the North Carolina Department of Transportation to satisfy the needs of non-motorized transportation modes as a part of major road improvement projects.

Objective 4.4: The transportation system should be coordinated with desired land uses and development patterns depicted in the City's Future Land Use Map.

Policy 4.4.1: Develop a small area plan for the interchange proposed at Lakeview Road on the US 70 Bypass, intended to manage access and reduce congestion around the interchange.

Policy 4.4.2: City officials should limit the number of cul-de-sacs in areas where topography, environment, or existing development make other street connections prohibitive.

Policy 4.4.3: City officials should encourage more efficient travel between complementary land uses by promoting development patterns that favor higher densities and intensities, a mix of land uses, and an environment that accommodates bicycles and pedestrians.

Policy 4.4.4: Evaluate the appropriateness of adopting a street connectivity ordinance to support local efforts to increase street, sidewalk, and greenway connections within and between developments.

Community Facilities & Services Element

Goal 5: Provide a sanitary sewer system (treatment and collection) that protects public health and safety, promotes economic development, and ensures adequate capacity is reserved to serve the magnitude and timing of anticipated development in the Future Land Use Map.

Objective 5.1: Address existing capacity and operating deficiencies in the City's sanitary sewer system to address needs for the short-term planning horizon (2013).

Policy 5.1.1: The City of Havelock should pursue an interlocal agreement with the City of New Bern to ensure adequate capacity is reserved to serve the magnitude and timing of anticipated development in the FLUM through the short-term planning horizon (2013).

Policy 5.1.2: Where deemed fiscally prudent, maintain corrective measures that minimize storm water inflow and infiltration for the City's waste water collection system.

Policy 5.1.3: Seek all available federal, state, and local funding sources deemed fiscally prudent for use by the City to correct existing deficiencies in the sanitary sewer system.

Policy 5.1.4: Where deemed fiscally prudent, allocate funds in the City's Capital Improvements Plan on an annual basis to implement projects that improve the City's sanitary sewer system.

Objective 5.2: Plan for expansion of the sanitary sewer system to meet identified needs for the long-term planning horizon (2030).

Policy 5.2.1: Strive to implement corrective measures at the City's waste water treatment plant consistent with recommendations in the Havelock Wastewater Treatment Plan Process Evaluation Report, and coordinate with partners in the region to ensure adequate capacity is reserved to serve the magnitude and timing of anticipated development in the FLUM through the long-term planning horizon (2030).

Policy 5.2.2: Encourage future development and redevelopment in portions of the urban service area already served, or programmed to be served, by the City's sewer system.

Policy 5.2.3: Continue to reduce the number of residents relying on private septic systems in close proximity to existing, or programmed, sewer service. Priority should be given to those areas designated by the Craven County Health Department as "problem areas" with failing septic tanks.

Policy 5.2.4: Begin the formal process to request a new discharge permit from the North Carolina Division of Water Quality for the City's waste water treatment plant. The new discharge permit will move the current discharge point at Slocum Creek to the Neuse River.

Objective 5.3: Continue the quality control / quality assurance program at the City's waste water treatment plant to safeguard public health and safety.

Policy 5.3.1: Monitor annually the amount of waste water reaching the City's waste water treatment plant, and prepare a process evaluation plan when 80% of plant capacity is reached and an implementation strategy (i.e., construction documents, funding plan, and interlocal agreements) when 90% of plant capacity is reached.

Policy 5.3.2: Continue to reduce the number and severity of annual sanitary sewer overflows reported to the North Carolina Division of Water Quality.

Goal 6: Provide a potable water system (treatment and distribution) that protects public health and safety, promotes economic development, and ensures adequate capacity is reserved to serve the magnitude and timing of anticipated development in the Future Land Use Map.

Objective 6.1: Plan for maintenance and expansion of the City's potable water system to meet identified needs for the long-term planning horizon (2030).

Policy 6.1.1: Continue efforts to replace dead-end distribution lines in the City's water system with an interconnected distribution system that efficiently moves water throughout the city.

Policy 6.1.2: Consider construction of a 12-inch water main and an elevated water tank in the western extremes of the city to improve capacity and increase water pressure.

Policy 6.1.3: Evaluate the feasibility of installing treated re-use (grey) water lines throughout the City for irrigation of landscaping.

Policy 6.1.4: Develop a long range strategic plan for system maintenance and expansion through 2030.

Policy 6.1.5: Encourage future development and redevelopment in portions of the urban service area already served, or programmed to be served, by the City's water system.

Policy 6.1.6: Where deemed fiscally prudent, allocate funds in the City's Capital Improvements Plan on an annual basis to implement projects that improve the City's potable water system.

Goal 7: Promote efficient and economical solid waste collection within the City that protects public health and safety, environmental resources, and community aesthetics.

Objective 7.1: Improve solid waste collection and recycling programs inside city limits.

Policy 7.1.1: Evaluate the City's current solid waste collection system (i.e., sticker system) and determine if changes are necessary to improve system efficiency or equity.

Policy 7.1.2: Encourage private waste haulers serving non-residential and multi-family development inside city limits to implement a recycling program.

Policy 7.1.3: Implement strategies and incentives to increase compliance with the City's existing recycling program.

Objective 7.2: Ensure disposal facilities exist for receiving solid waste from the City of Havelock.

Policy 7.2.1: Coordinate with representatives for the Tuscaroora Landfill to ensure adequate capacity is reserved to serve the magnitude and timing of anticipated development in the Future Land Use Map.

Policy 7.2.2: Promote programs in partnership with other solid waste haulers in the region that minimize the amount of solid waste reaching the multi-county landfill.

Goal 8: Minimize damage and disruption to daily lives caused by an inadequate storm water management system that is prone to flooding.

Objective 8.1: Manage the quantity and quality of storm water run-off generated by individual parcels in the city.

Policy 8.1.1: Implement and enforce state regulations related to storm water quantity and quality, especially in relation to special provisions adopted for the Neuse River Basin.

Policy 8.1.2: Continue to participate in the National Flood Insurance Program and enforce the minimum rules and requirements set forth in the Flood Damage Prevention Ordinance.

Policy 8.1.3: Continue to coordinate with the North Carolina Division of Water Quality regarding state storm water regulations and permits required during the development review process.

Policy 8.1.4: Evaluate new cost-effective programs for minimizing flood damage, including modification of construction setback requirements and other site design techniques.

Objective 8.2: Identify, prioritize, and provide financial resources to plan, construct, operate, and maintain a citywide storm water management program.

Policy 8.2.1: Prepare a storm water master plan (SWMP) that identifies and prioritizes storm water problem areas and targets capital improvements to mitigate them. The content and format of the SWMP shall exceed the minimum rules and requirements set forth under the National Pollution Discharge Elimination System (NPDES) for a Phase 1 Permit and the Neuse River Nutrient Sensitive Waters Management Strategy.

Policy 8.2.2: Provide an annual report to the Board of Commissioners and the North Carolina Division of Water Quality on updates and changes to the SWMP since approval of the NPDES permit.

Policy 8.2.3: Where deemed fiscally prudent, allocate funds in the City's Capital Improvements Plan on an annual basis to implement recommendations from the local Storm Water Management Plan.

Goal 9: Ensure emergency services provided to residents, business owners, and visitors in Havelock are comprehensive, efficient, and equitable.

Objective 9.1: Reduce crime and the perception of crime in the community.

Policy 9.1.1: Consider construction of a new police and fire substation on US 70, north of Catawba Road, to improve service delivery in western portions of the City.

Policy 9.1.2: Coordinate with representatives for Craven County to ensure inmate capacity at the county jail is sufficient to handle average daily arrests in the region.

Policy 9.1.3: Institute new programs and policies that increase the presence of police in areas of the city prone to violent, non-violent, and property crimes.

Policy 9.1.4: Consider investing additional resources in neighborhood watch programs.

Policy 9.1.5: Where deemed fiscally prudent, allocate funds in the City's Capital Improvements Plan on an annual basis to implement projects that improve the City's police protection.

Objective 9.2: Provide efficient and effective fire service protection in the community.

Policy 9.2.1: Improve the ISO rating for the City, especially related to programming a new fire station on US 70, north of Catawba Road, in the western portion of the City.

Policy 9.2.2: Maintain a mutual-aid agreement with Craven County to ensure quality response to all locations in the fire service area.

Policy 9.2.3: Where deemed fiscally prudent, allocate funds in the City's Capital Improvements Plan on an annual basis to implement projects that improve the City's fire service protection.

Objective 9.3: Provide efficient and effective emergency medical services in the community.

Policy 9.3.1: Where deemed fiscally prudent, allocate funds in the City's Capital Improvements Plan on an annual basis to implement projects that improve the City's provision of emergency medical services.

Policy 9.3.2: Strive to maintain an interlocal agreement with Craven County to provide City EMS service to unincorporated areas of the county.

Parks & Recreation Element

Goal 10: Provide a balanced, multi-purpose system of parks, passive open space, and trails that meet the needs of local residents, business owners, and visitors to the area.

Objective 10.1: Maintain and enhance the quantity and quality of parks and passive open space land in the City of Havelock.

Policy 10.1.1: Strive to implement recommendations from the City of Havelock Comprehensive Parks and Recreation Master Plan for new park locations, services, and amenities desired by local residents.

Policy 10.1.2: The City should strive to maintain and update annually a Five Year Capital Improvements Plan (CIP) for the City of Havelock that considers a component for parks, recreation facilities, and permanent open space. This section of the CIP should be based on data, standards, and projects recommended in the City of Havelock Parks and Recreation Master Plan.

Policy 10.1.3: Maintain a balance of active parks, passive parks, and natural open space to meet the needs and expectations of City residents, and seek opportunities to increase the number of parks and natural areas throughout the City.

Policy 10.1.4: Ensure recreation facilities are well-managed and well-maintained, and that quality recreation programs are available to all residents. This shall be partially achieved by keeping up-to-date the inventory of park facilities and sites and re-administering the parks and recreation needs survey completed for the City of Havelock Parks and Recreation Master Plan.

Policy 10.1.5: All plans for development or redevelopment of land with park resources or recreation facilities shall incorporate creative concepts of urban design and landscape compatible with unique natural features of the site. The design shall provide a circulation system to minimize conflict between pedestrians and vehicles and adequate landscape and screening to protect the integrity of established residential areas while enhancing community appearance.

Policy 10.1.6: Strengthen provisions in the City's Land Use Regulations to require dedication of open space as an integral component of the development plan.

Policy 10.1.7: Continue to coordinate with county, state, and federal agencies and private landowners to protect and enhance natural areas and environmentally-sensitive land within the City.

Policy 10.1.8: Maximize grant funding for all future City park and recreation projects.

Objective 10.2: To the maximum extent feasible, make parks and recreation facilities highly accessible to automobiles, bicycles, and pedestrians.

Policy 10.2.1: Public parks and recreation facilities shall be designed and constructed compatible with the character and quality of on-site natural resources.

Policy 10.2.2: Develop a schedule for providing parking spaces for automobiles and bicycles at parks and recreational facilities where they are now lacking or inadequate.

Environment & Natural Resources Element

Goal11: Protect and enhance the availability and quality of natural resources in the City of Havelock through prudent management, public education, appropriate regulations and enforcement, and active partnerships with governmental agencies and environmental activist groups.

Objective 11.1: Increase potable water conservation to better meet present and projected potable water needs for all consumers and reduce demands for water service.

Policy 11.1.1: All federal, state, and county water quality standards shall continue to be enforced in the City of Havelock.

Policy 11.1.2: Consider revisions to the City of Havelock Land Use Regulations to preserve and enhance the functions of natural groundwater aquifer recharge and natural drainage features and to protect water quality.

Policy 11.1.3: Ensure that water conservation booklets and brochures are readily available at City Hall and other public facilities for review by local residents and business owners.

Objective 11.2: Conserve and protect remaining natural systems in Havelock because of their inherent values of leaving these areas in their natural state.

Policy 11.2.1: Manage environmentally sensitive natural systems in the City, including, but not limited to, water resources, wetlands, and native habitats of flora and fauna through prudent land use planning and land development regulations.

Policy 11.2.2: Enforce state and federal laws and policies regarding land uses and development for Areas of Environmental Concern identified in the City.

Policy 11.2.3.: Support reasonable initiatives of the Neuse River Foundation to protect the integrity of the river for future generations, including participation in the annual Neuse River Cleanup Campaign.

Policy 11.2.4: Continue to coordinate with federal, state, and county agencies concerned with managing natural resources that protect the values and functions of these systems.

Policy 11.2.5: Increase public awareness of critical wildlife areas and natural preserves by distributing public education materials, allowing appropriate access, and reporting violations of the rules and regulations to appropriate agencies.

Policy 11.2.6: Any new project or development shall demonstrate that it does not create substantial adverse impact to the environment.

Objective 11.3: Ensure that local, state, or federally identified wetlands are protected from unlawful, intrusive actions that could result in environmental damage or degradation.

Policy 11.3.1: Wetlands suitable for protection will be identified based on the type, function, size, condition, location, and overall resource value. These wetlands shall be used for purposes compatible with their natural values and functions, and land development regulations shall be adopted to provide these areas with the maximum feasible protection, using tools such as compensatory wetland mitigation and dedication of conservation easements for preserving open space. Activities in wetland areas may be warranted provided all applicable federal, state, and county environmental agency permits have been obtained and one of the following standards is satisfied:

1. Such an activity is necessary to prevent or eliminate a public hazard.
2. Such an activity would provide direct public benefit, which would exceed those lost as a result of the modification.
3. Such an activity is proposed for habitats in which the functions and values currently provided are significantly less than those typically associated with such habitats and cannot be reasonably restored.
4. It is an unavoidable consequence of development for uses that are appropriate because of unique geometry or other site characteristics.

Policy 11.3.2: Consideration should be given for buffers that protect the presence and function of pristine wetlands on a development site.

Objective 11.4: Continue to ensure that flora and fauna listed as endangered, threatened, or of special concern in the City of Havelock are protected and enhanced, when possible.

Policy 11.4.1: Cooperate with county, state, and federal agencies in protecting wildlife and plant species listed as endangered, threatened, rare, or of special concern, and support their efforts to protect and conserve the habitats in which they reside.

Policy 11.4.2: Revise the City's Land Use Regulations to protect wildlife and vegetative habitats that are endangered, threatened, or species of special concern. The City shall further protect these habitats by promoting public acquisition and the dedication of conservation easements or reservations.

Policy 11.4.3: Development plans shall be conditioned to require that all required state and federal permits pertaining to listed flora and fauna species be obtained and filed with the City prior to clearing and grading or building activities on the site.

Policy 11.4.4: Increase public appreciation and awareness of native flora and fauna in and around the community through newspaper articles, brochures, presentations, workshops, and other means of education, and how residents can help enhance those habitats.

Objective 11.5: Improve water quality by implementing recommendations set forth in the Neuse River Basinwide Water Quality Plan.

Policy 11.5.1: Develop and refine nitrogen reduction strategies for point and non-point source polluters/pollution.

Policy 11.5.2: Evaluate the potential for implementation of appropriate best management practices (BMPs) to reduce nutrient and sediment loading in the watershed.

Policy 11.5.3: Provide educational workshops on local water quality issues.

Policy 11.5.4: Support the Division of Water Quality's (DWQ) efforts to determine a safe way to remove and dispose of hazardous waste stored at MCAS – Cherry Point.

Goal 12: Provide and enhance access for residents and visitors alike to public trust waters identified in the City of Havelock.

Objective 12.1: Increase the number of opportunities for public access to local public trust waters.

Policy 12.1.1: Coordinate with public, quasi-public, private, and non-profit groups to increase the quantity and quality of access points to public trust waters in the city, including consideration for access easements or fee simple purchase of strategic locations.

Policy 12.1.2: Seek all available federal, state, and local funding sources deemed fiscally prudent for use by the City to promote local access to public trust waters.

Policy 12.1.3: Residential and non-residential development adjacent to public trust waters shall include at least one public access point to the water body, unless demonstrated to be detrimental to nearby environmentally-sensitive lands or impractical because of other goals and policies stated in the Comprehensive Plan.

Goal 13: Protect the City's natural resources, infrastructure, and human life from harm by natural disasters.

Objective 13.1: Continue to improve pre-disaster planning and post-disaster response and redevelopment for the City.

Policy 13.1.1: Review adequacy of zoning, subdivision, and flood damage prevention ordinances for control of flooding hazards.

Policy 13.1.2: Actively support full participation in the County's Special Needs Registry.

Policy 13.1.3: Update the Parks and Recreation Master Plan to incorporate purchase and development of flood-prone lands for recreational activities as a priority.

Policy 13.1.4: Work with NCDOT Division Four Highway Operations unit and convene a working group to develop solutions to localized drainage issues caused (in part or in whole) by NCDOT maintained drainage facilities.

Policy 13.1.5: Review "Firewise" zoning and subdivision standards and report on their appropriateness for incorporation into zoning and subdivision ordinances.

Policy 13.1.6: Continue to undertake public education efforts designed to help inform the public of their exposure to natural hazards and to inform them of actions they can take to mitigate the damages to their health and property from natural hazards.

Policy 13.1.7: Work with Craven County to convene a working group with electric service providers to produce a report that addresses the issues of disaster preparedness techniques and communication with County officials during and immediately after a natural hazard event that results in loss of electrical power.

Policy 13.1.8: Apply for funding from HMGP or other Federal/State funding for at least two of the top priority ANHRE identified in Section III of the Hazard Mitigation Plan IF they are eligible and in a project category identified by the State of North Carolina as being of high priority.

Policy 13.1.9: Ensure that elevation certificate data, data related to mitigation measures implemented, and floodplain data are available through the Internet on the County's GIS website.

Policy 13.1.10: Encourage surveyors, local government officials, engineers, and land planners to become familiar with the NFIP land use and building standards by attending annual workshops presented by the NC Division of Emergency Management (DCM).

Policy 13.1.11: Continue to participate in the Community Rating System (CRS) program of the National Flood Insurance Program (NFIP).

Policy 13.1.12: Designate a representative (member and alternate) to a County-wide Mitigation Advisory Committee and ensure those representatives complete the tasks detailed in the Hazard Mitigation Plan.

Historic and Cultural Resources Element

Goal 14: Promote and preserve the City's historic, cultural, and archeological resources for present and future residents.

Objective 14.1: Protect and enhance historic, cultural, and archeological resources within the City.

Policy 14.1.1: Encourage protection of all identified, and yet to be identified, historical and archeological structures and sites within the City through appropriate land development regulations, comprehensive review of development applications, public acquisition decisions, and historic designations. Initial sites should include the historic Havelock Railroad Station and African-American School House.

Policy 14.1.2: Actively support all public efforts to purchase additional historically- and environmentally-sensitive parcels of land for preservation, passive recreation, or public access. The City should investigate and sponsor grant applications for this purpose, whenever feasible.

Objective 14.2: To the maximum extent feasible, ensure future land development activities incorporate appropriate measures to prevent damage to archaeologically and historically significant resources in the City of Havelock.

Policy 14.2.1: Coordinate with state and federal government agencies in developing programs for identifying, preserving, and enhancing sites of historical and archaeological significance.

Policy 14.2.2: Development activities shall include provisions necessary to prevent adverse impacts to historic or archaeological sites of significance.

Economic Development Element

Goal 15: Promote growth of a strong, stable, and prosperous economy that preserves and enhances a high quality of life for the Citizens of Havelock.

Objective 15.1: Increase the quantity and quality of retail, dining, and employment centers in the planning jurisdiction.

Policy 15.1.1: Treat land supportive of retail, dining, and employment centers as a critical and limited resource, and protect this resource through capital investment and rules and requirements in the local zoning and subdivision ordinances.

Policy 15.1.2: Identify and prioritize keys areas in city limits for infill development or redevelopment as new retail, dining, or employment centers.

Objective 15.2: Encourage the growth of key economic sectors that build Havelock's competitive advantages to provide sustained growth into the future.

Policy 15.2.1: Foster a positive entrepreneurial environment for business start-up and expansion and support retention of existing businesses.

Policy 15.2.2.: Support regulatory reform in the City that strikes a balance between the financial impact of regulation on business and developers, and maintaining the appropriate level of safeguards for furthering the vision of the community toward sustainable growth and development.

Policy 15.2.3: Consider ways to achieve greater predictability and efficiency in the review of development permit applications, consistent with goals and policies of this plan and implementing zoning and subdivision ordinances.

Policy 15.2.4: Recognize the importance of maintaining and enhancing the City's tax base, including property taxes, sales taxes, and business and occupation taxes, to provide funds for capital facilities and city services necessary for existing and future populations.

Policy 15.2.5: Enhance the City's ability to recruit new business and industry and work cooperatively with the Havelock Chamber of Commerce, Craven County Economic Development Commission, and other local economic development partners on actions such as maintaining a database of available sites and buildings, identification of target industries and potential economic clusters, and consistent and effective marketing efforts.

Policy 15.2.6: Support efforts to attract military-based business and industry that support the needs of Marine Corps Air Station Cherry Point.

Policy 15.2.7: Assess the effects of City policy regarding taxes, fees, or utility rates on economic development goals at least every five years, considering the balance between economic development, financial health of city government, cumulative debt, tax burden on local residents and businesses, and the goals and policies of this Comprehensive Plan.

Objective 15.3: Assist in developing a highly-trained local work force that effectively competes for meaningful and productive employment, earns a living wage, and meets the needs of business.

Policy 15.3.1: The City will coordinate with the Havelock Chamber of Commerce and the Craven County Economic Development Commission on their efforts to assure that the local work force is trained in fields that meet demand for local businesses.

Policy 15.3.2: The City will partner with businesses, labor, and educational institutions to develop competency-based education and training programs for Havelock citizens that meet the needs of business, including vocational training programs, apprenticeship programs, entrepreneurial skills training, and technical and vocational preparatory programs in local high schools.

Policy 15.3.3: Seek all available federal, state, and local funding sources deemed fiscally prudent for use by the City to promote local economic development initiatives.

Policy 15.3.4: Encourage a variety of businesses to locate in Havelock that improve job opportunities for a wide spectrum of the community.

Objective 15.4: Strive to increase the amount of tourist activity as a component of the local economy.

Policy 15.4.1: Recognize Havelock's cultural resources, including institutions, traditions, historic sites, and creative people as important contributors to the City's economic vitality.

Policy 15.4.2: Work with the Havelock Chamber of Commerce and Craven County Economic Development Commission to target new tourist attractions appropriate for the community.

Policy 15.4.3: The City should support and encourage "high-profile" local festivals and events that bring attention to the city.

Policy 15.4.5: The City will be a partner in supporting the initiatives of the Havelock Tourist and Event Center for attracting new visitors to the area.

Policy 15.4.6: Partner with the Havelock Chamber of Commerce, Craven County Economic Development, and Marine Corps Air Station Cherry Point to promote the City as a tourism destination within the region.

Capital Improvements Element

Goal 16: Provide high-quality community facilities and services necessary to address current deficiencies, as well as support new development or redevelopment anticipated for the planning jurisdiction, through the long range planning horizon (2030).

Objective 16.1: Adequate fiscal resources should be available to ensure public facilities and services required for existing development, new development, or redevelopment is provided concurrent with development impacts.

Policy 16.1.1: Prepare and adopt a Five Year Capital Improvements Plan (CIP) and a One Year Capital Budget as part of the City's annual budgeting process.

Policy 16.1.2: Ensure that all public capital revenue and/or secured developer commitments are in place to provide public facilities and services necessitated by development.

Policy 16.1.3: Seek viable grant monies and private development contributions whenever possible to provide additional capital revenues for implementation of the City's Five Year Capital Improvements Plan.

Policy 16.1.4: Assess all funding mechanisms and revenue sources available under North Carolina General Statute to bear a proportion of the costs for providing public facilities and services necessitated by existing development, redevelopment, and new development anticipated for the planning jurisdiction.

Objective 16.2: Provide high-quality public facilities and services necessary to meet existing demands as well as accommodate future growth anticipated from the City's Future Land Use Map.

Policy 16.2.1: All City decisions regarding land use and development patterns should ensure availability of public facilities and services necessary to support such development prior

to approval by the Board of Commissioners by means of the City's Zoning and Subdivision Ordinances.

Policy 16.2.2: Coordinate with road, utility, and school providers in the area to ensure necessary capital projects are scheduled concurrent with anticipated growth patterns.

Policy 16.2.3: Continue to encourage expedited installation of sewer infrastructure improvements necessary to increase the capacity of the City's current system.

Policy 16.2.4: Repair and upgrade public facilities and services managed by the City according to generally accepted engineering principles and guidelines, and ensure that facilities and service providers operating in the City are held to the standard.

Objective 16.3: Develop and implement a debt management program necessary to assist the City in providing adequate and timely revenues for scheduled capital projects in the Five Year Capital Improvements Plan.

Policy 16.3.1: Incur debt within generally accepted municipal finance principles and guidelines, and only in relation to the City's ability to pay for new capital assets or to significantly extend the life expectancy of a capital asset.

Policy 16.3.2: Any increase to operating costs for a new or enhanced capital project shall be considered when evaluating debt incurred for a new public facility or service.

Policy 16.3.3: The City shall not provide a public facility or service, nor accept ownership from others, if it cannot pay for the subsequent annual operation and maintenance costs of the facility or service.

Policy 16.3.4: The City's net general obligation debt as defined in G.S. 159-55, is statutorily limited to eight percent (8%) of the assessed valuation of the taxable property within the City. The City will utilize a self-imposed ceiling of 3%.

Chapter 7

Inviting Success

What makes a plan capable of producing results is the commitment of key people to work on specific tasks.

- Peter Drucker

Action Plan

Successful implementation of the *City of Havelock Comprehensive Plan* will depend greatly on the ability of local, private, and governmental entities to work together in collaboration. This "action plan" provides a framework for achieving the City's desired future vision. It builds on the successes and shortcomings of policies outlined in the previous CAMA Land Use Plan and an analysis of current trends and community concerns and aspirations for future growth. The action plan includes a list of specific projects and implementing actions, a timeframe for completion of such actions, and a determination of responsible agencies for overseeing implementation of the actions. The intent of the action plan is three-fold; first, it must provide decision-makers with a blueprint for implementation that will enable them to track progress and schedule future year improvements. Second, clearly defined action items will enable the City to identify public and private investment opportunities that are healthy, sustainable, and achievable through well-guided land use policies that encourage quality design and environmental stewardship. Third, the plan will be used for State and Federal permit consistencies. As stated in Section 113A-107 N.C.G.S., a consistency determination must be made for all development within AECs and no development permit may be issued that is inconsistent with the plan.

Completion of this Comprehensive Plan represents an important step towards encouraging quality development and aesthetic improvements within the planning jurisdiction. The structure of the recommendations does not require that all improvements be completed in unison. Instead, the recommendations promote flexibility and partnership between the City and development community to implement the vision of the plan in several phases as development occurs and funding sources become available.

Local, state, and private partnerships can be levied to ensure strategic and timely improvements. Working together is especially important, given the amount of impending development within the planning jurisdiction. The purpose of the "action plan" is to recognize the challenges associated with new development and new partnerships, and suggest strategies and resources to address each challenge.

With this in mind, the action plan identifies "next step" items for major elements of the Comprehensive Plan. Specific components of the action plan include: implementation toolbox, plan consistency matrix, schedule of capital improvements, roles and responsibilities, and evaluation and monitoring. Ultimately, recommendations in the action plan can be administered concurrently or as priorities and regional initiatives present the opportunity.

Implementation Toolbox

The City's implementation toolbox includes regulatory and non-regulatory tools used to fulfill goals, objectives, and policies described in Chapter 6 of the Comprehensive Plan. These tools include ordinance, codes, policies, and regulations implemented at the local, state, and federal level. Collectively, these tools guide development and redevelopment within the planning jurisdiction.

Regulatory tools represent rules and requirements formally adopted by the Board of Commissioners through legislative action, which empowers them with the force of law. Courts recognize regulatory tools under the police power of a municipality. These tools are legally binding. Conversely, non-regulatory tools are not adopted via legislative action. Instead, they are administrative methods and procedures available for City staff to implement formal goals and policies stated in the adopted Comprehensive Plan.

Regulatory tools currently used by City staff for implementing goals, objectives, and policies within the Comprehensive Plan are summarized below.

Regulatory Tools

Zoning Ordinance

A zoning ordinance allows a local government to enforce rules and regulations that protect the health, safety, and welfare of a community. These documents typically dictate permitted uses, minimum lot size, maximum building height, setbacks, environmental buffers, and other building and development controls. Several policies in the Comprehensive Plan are implemented through the local zoning ordinance.

Subdivision Ordinance

A subdivision ordinance establishes the procedures and standards for development and subdivision of land within a community. These documents typically include provisions for the dedication or reservation of land for public purpose and ensure adequate provision of public facilities and services. Several policies in the Comprehensive Plan are implemented through the local subdivision ordinance.

Storm Water Management Ordinance

A storm water management ordinance establishes procedures and standards for addressing storm water runoff from development activities to protect water quality, to promote the public health, safety, and general welfare of the community, and to satisfy basin wide storm water requirements detailed in the Neuse River Basin--Nutrient Sensitive Waters Management Strategy

Flood Damage Prevention Ordinance

A flood damage prevention ordinance promotes the health, safety, morals, and general welfare of a community by minimizing public and private losses due to flood conditions within flood prone areas.

Sedimentation and Erosion Control Ordinance

A sedimentation and erosion control ordinance regulates certain land-disturbing activities to control accelerated erosion. The intent of this control is to prevent water pollution and damage to public and private property through sedimentation. This ordinance also establishes procedures to fulfill these goals.

Water Conservation Ordinance

A water conservation ordinance assures that available water resources are put to reasonable beneficial uses to avoid depletion of the city water supply during a water shortage.

State Building and Electrical Code

State building and electrical codes govern the standards of construction in a municipality. The City has implemented a permitting system to ensure that all structures built in the planning area are compliant with State requirements.

CAMA Land Use Plan

The original land use plan was adopted in 1976 and has been updated every five years. This document will serve as the update to the 1996 Land Use Plan.

Comprehensive Parks and Recreation Master Plan

Adopted in September 2007, this Plan identifies and addresses the community's parks and recreation needs over the next 5, 10, and 15 years.

Hazard Mitigation Plan

This plan identifies mitigation goals and strategies to reduce/avoid long-term vulnerabilities in the City from natural and manmade hazards.

Emergency Response Plan

This plan ensures that the City is prepared to respond to, recover from, and mitigate impacts of emergencies.

Havelock Wastewater Treatment Plant Process Evaluation

The North Carolina Department of Environment and Natural Resources (NCDENR) requires that a utility provider complete a waste water treatment plant process evaluation plan report when flows from the wastewater treatment plant reach 80% of the permitted capacity. The plan contains flow projections based on land use and development plans assumed in the report and an improvement schedule that will accommodate the projected wastewater flow increase over the next twenty (20) years. The City of Havelock completed this plan in May 2007.

Capital Improvement Program (CIP)

The purpose of a Capital Improvement Plan is to provide a long-range plan which identifies capital projects and expenditures, delineates a planning schedule, and identifies options for financing the plan.

National Flood Insurance Program (NFIP)

The NFIP is a federal program enabling property owners in participating communities to purchase insurance as protection against flood losses in exchange for floodplain management regulations that reduce future flood damages.

State Storm Water Regulations

The North Carolina Department of Environment and Natural Resources (NCDENR) is responsible for administering the state's storm water management program and all National Pollutant Discharge Elimination System (NPDES) permits. The program requires that storm water be treated to the maximum extent practicable. All construction sites disturbing more than one acre, many industrial sites, and all designated Municipal Separate Storm Sewer Systems (MS4s) are required to obtain permit coverage and must establish a Storm Water Management Program (SWMP).

Coastal Area Management Act

The Coastal Area Management Act establishes a cooperative program for coastal management between local and state governments to protect coastal lands and waters.

Neuse Buffer Rules

The Neuse River Buffer Rules are a set of permanent rules to implement the Neuse River Nutrient Sensitive Waters Management Strategy.

Section 404 Wetland Regulations

The City recognizes the importance of protecting environmentally sensitive areas, which includes those lands designated as wetlands by the US Army Corps of Engineers. It is generally

the policy of the local government that all development within these areas conforms to federal, state, and local regulations and relevant development ordinances.

Neuse River Nutrient Sensitive Waters Management Strategy

This strategy requires local governments on the Neuse River Basin to implement nitrogen reduction programs.

Regulatory tools available to City staff, but not currently used, for implementing goals, objectives, and policies within the Comprehensive Plan are summarized below.

Engineering Design & Construction Standards

Many communities throughout the country have chosen to supplement their subdivision ordinance with engineering design and construction standards to provide minimum acceptable standards and specifications for implementing desired development patterns. Illustrations included with these standards provide design professionals with a clear set of "pre-approved" guidelines that could reduce the plan review time for installation and construction of public infrastructure improvements. Further, these guidelines provide the State's transportation, environmental, and land use authorities with a blueprint for implementing the City's vision as they consider new projects.

Comprehensive Transportation/Land Use Plan

A comprehensive transportation/land use plan recognizes the inherent relationships between land use and transportation and between state and local governments. These plans help guide long-term investment and decision-making within the community. Currently the City has a draft Comprehensive Transportation/Land Use Plan that has not been formally adopted.

Wellhead Protection Plan

A wellhead protection plan protects the City's drinking water source by managing potential sources of contamination in the area which supplies water to a public well. Currently the City has a draft Wellhead Protection Plan that has not been formally adopted.

Unified Development Ordinance

A unified development ordinance (UDO) is a unified development code that contains a range of development regulations. Currently, the City of Havelock has a separate zoning and subdivision ordinance.

Non-Regulatory Tools

Not all implementation tools need to be legal instruments. Some efforts for implementing policies in the adopted CAMA Land Use Plan are simply changes in the way the City of Havelock

conducts daily business. The following list provides a brief summary of everyday implementation tools that the City may use to implement adopted policy statements:

- Calculate and report quantitative measures
- Create/update GIS maps
- Create/update policy documents
- Create/change new departmental programs/procedures
- Include position statements in formal resolution/meeting minutes format
- Communicate with outside agencies
- Write formal letters of support
- Solicit funds from outside agencies
- Initiate plans, programs, and studies identified in policy statements

A summary of these non-regulatory implementation tools is provided below.

Calculate and Report Quantitative Measures

Some measures of progress are quantitative and calculated to demonstrate progress for meeting policy statements. One example of a quantitative measure is the number of acres of conservation land within the City's extraterritorial jurisdiction.

Create/Update GIS Maps

Creating or updating GIS maps provides elected officials, departmental staff, and the community at-large with a visual planning tool for the topic under study. A visual reference communicates critical information in a more understandable medium across multiple interest groups.

Create/Update Policy Documents

Planning documents — such as land use plans, water and sewer infrastructure plans, and economic development plans — may be formally adopted by the Board of Commissioners or serve as administrative guidelines to city departments. The presence as well as the regularly scheduled updates of these documents helps to maintain the core vision for the City and continuity of future decision-making.

Create New Departmental Programs/Procedures

As needed, new departmental programs and procedures meet the demands of a particular goal or policy, such as economic development or dissemination of information to the public. It may or may not require additional staff to administer new programs or procedures.

Include Position Statements in Formal Resolution/Meeting Minutes Format

The Board of Commissioners and/or Planning Commission have the opportunity to provide their comments on the rules, requirements, and policy statements enforced by other governmental agencies in formal resolution or through statements recorded in official meeting minutes. Formal comments serve as the official statement of the City of Havelock on these matters.

Communicate with Outside Agencies

The City of Havelock routinely partners with local, county, state, and federal governmental agencies to address planning issues of regional significance. Elected officials and departmental staff also use these opportunities to communicate local priorities and exchange available data. Often times, elected officials or City staff will sit on boards, commissions, or committees created specifically for sustained coordination on identified issues or disciplines.

Write Formal Letters of Support

A formal letter of support is another mechanism for communicating with outside governmental agencies, community groups, or regional commissions. Routinely, a letter of support is signed by either the Mayor or City Manager and expresses the official opinions of the City of Havelock related to a specific issue or subject matter.

Solicit Funds from Outside Agencies

Some county, state, and federal governmental agencies offer grant funding to local governments for an assortment of needs. These monies are typically awarded on a competitive basis, and represent one-time disbursements without a new application from the local government. Applying for grant monies is one way to help cities with limited resources implement targeted improvements or fund annual operating costs.

Initiate Plans, Programs, and Studies Identified in Policy Statements

Policy statements sometimes advocate that a plan, program, or report be prepared for further study prior to implementing change. Studying an event or series of occurrences provides a city with conclusions and reasonable recommendations for developing more refined policies or changing departmental procedures in the future.

Some of the specific non-regulatory tools the City should utilize over the lifetime of this plan include implementing recommendations from the East Coast Joint Land Use Study, coordinating with representatives for Marine Corps Air Station – Cherry Point, the North Carolina Department of Transportation, and neighboring cities, pursuing "spot safety funds" to address severe crash locations, and updating the Comprehensive Parks and Recreation Master Plan.

A more detailed account of both regulatory and non-regulatory tools available to the City can be found in the Plan Implementation Matrix.

Existing Policy Review

Section 15A 07B.0702(C)(6) of the North Carolina Administrative Code requires that the Comprehensive Plan include a brief assessment of the successes and shortcomings of goals and policies listed in the City of Havelock's current CAMA Land Use Plan. The review process focuses on the extent to which current initiatives by the City have been successful in fulfilling the policy statements contained in the currently adopted plan. Measurable targets are used to evaluate

the effectiveness of the adopted policies. The implementation toolbox inventories strategic plans, regulatory tools, and funding sources currently used by the City to fulfill policy requirements. Regulatory effectiveness represents the opinion of City staff regarding how effective existing regulatory tools are in implementing adopted policies. Comments in the achievement matrix include modifications, deletions, or additions to existing policy statements (as needed) and/or action items for City staff to improve existing regulatory tools for implementing the adopted policy statements. The policy review matrix included in Appendix E evaluates each of the goals and policies contained in the City of Havelock 1996 Land Use Plan Update and the City of Havelock Land Use Plan Addendum (1998) for its purpose, success, and continued relevance. Collectively, these two policy documents represent the current CAMA Core Land Use Plan recognized by the North Carolina Coastal Resource Commission.

Plan Implementation Matrix

The plan implementation matrix is a tool to help ensure that the City sees the updated plan through to implementation. Each policy described in Chapter 6 is listed in the matrix. An implementing action, timeframe, and responsible party are provided for each policy. The implementing action describes the action or step the City must take to successfully implement the policy. The timeframe helps prioritize when the policy should be implemented. Those policies with a short-term time frame should be initiated within the first five years of plan adoption. Those policies with a medium-term time frame should be initiated between five and ten years of plan adoption, while those policies with a long-term time frame should be completed beyond ten years of plan adoption. Those recommendations that are ongoing should be addressed continuously during the life of the plan. The agency listed as the responsible party is charged with overseeing the successful implementation of that policy. The governing body accepts state and federal law regarding land uses and development in Areas of Environmental Concern (AEC) and all policies relevant to AECs meet state and federal law. These state and federal regulations are included in the Implementation Toolbox section of this chapter.

The City's plan implementation matrix is summarized on page 7-9 through 7-38.

Table 7.1

City of Havelock Comprehensive Plan Plan Implementation Matrix				
Policy #	**Policy**	**Implementing Action**	**Timeframe**	**Responsible Party**
LAND USE				
1.1.1	The following future land use categories depicted on the City's Future Land Use Map are identified, and the use and development standards for each defined, below: [description of future land use categories]	Adopt Comprehensive Plan and FLUM.	short term	Board of Commissioners
1.1.2	Development potential for parcels within the City of Havelock shall be determined in conformance with the City of Havelock Land Use Regulations. Consistent with these regulations, development potential for land uses depicted on the future land use map shall be enumerated based on the net number of acres available for development; assuming removal of environmentally-sensitive lands, water bodies, rights-of-way, etc. (see City's Zoning Ordinance for detailed rules and procedures).	Reference Land Use Regulations during initial consultation with developer or during sketch design presentation.	ongoing	Board of Commissioners, Planning Board, Planning Director
1.1.3	Houses of worship or other permitted non-residential uses continue to be allowed in all residential categories on the FLUM; however, if located in or near neighborhoods, adverse impacts to the tranquility of the residents around the allowed use and in the surrounding neighborhood must be minimized to the maximum extent possible. Therefore, in residential land use areas, houses of workshop and other permitted non-residential uses are allowed on a conditional basis.	Ensure that houses of worship and other permitted non-residential uses are a permitted use in the implementing zoning ordinance.	ongoing	Board of Commissioners, Planning Board, Planning Director, Board of Adjustments
1.1.4	Small-scale public facilities and utilities intended to serve the immediate needs of the community continue to be allowed in all future land use categories subject to adequate design and buffering requirements determined by the City.	Ensure that small-scale public facilities and utilities are a permitted use in the implementing zoning ordinance.	ongoing	Board of Commissioners, Planning Board, Planning Director

1.1.5	Home occupations may be approved in all residential land use categories provided that the activity is secondary and incidental to the primary residential use, maintains a residential appearance, does not adversely impact the surrounding neighborhood, and complies with all other applicable criteria contained in the City Land Use Regulations.	Ensure that home occupations are a conditional use in the implementing zoning ordinance and follow proper procedures for issuance of a CUP.	ongoing	Board of Commissioners, Planning Board, Planning Director, Board of Adjustments
1.1.6	No amendments to the City's Future Land Use Map shall be approved that increase densities or intensities beyond those already indicated for the parcel without proper analysis to determine impacts to supporting public facilities and services.	Require developer to conduct an impact study and submit study for review by the BOC if an increase is proposed.	ongoing	Board of Commissioners, Planning Board, Planning Director
1.2.1	Encourage infill development and redevelopment within city limits to accommodate a significant portion of population growth anticipated through 2030.	Consult with developers on preferred and ideal locations for different types of development and market these properties accordingly.	ongoing	Board of Commissioners, Planning Board, Planning Director, Chamber of Commerce
1.2.2	Consider only purposeful expansion of development into the extraterritorial planning jurisdiction, managed by the size and timing of capital improvements proposed for the area.	Conduct annexation feasibility studies and area qualifications before facilitating an annexation. Manage growth through timing and provision of capital facilities in currently unserved areas.	ongoing	Board of Commissioners, Planning Board, Planning Director, consultant
1.2.3	Encourage low impact development (a.k.a. conservation-based design or cluster development) in areas of the planning jurisdiction characterized by environmentally-sensitive lands, pristine natural areas, or near lakes and streams.	Amend Subdivision Ordinance to provide such options. Require developers to delineate environmentally-sensitive lands on site plans.	ongoing	Board of Commissioners, Planning Board, Planning Director

1.2.4	New development should not be approved that adversely strains existing or committed community facilities and services.	Consult with WTP and WWTP Operators during the development review process.	ongoing	Board of Commissioners, Planning Board, Planning Director, WTP Operator, WWTP Operator
1.3.1	The Board of Commissioners shall prepare and adopt a new Unified Development Ordinance (combines current zoning and subdivision ordinances) for the City that is consistent with the future land use map and goals, objectives, and policies of this comprehensive plan. This document will provide business owners, residents, and developers with a clear and concise set of zoning and subdivision regulations for implementing Havelock's future vision.	The City should continue to move forward with the development of the UDO.	short term	Board of Commissioners, Consultant
1.3.2	The City of Havelock will continue to coordinate with Craven County, the North Carolina Department of Transportation, and other government agencies for regulations related to the subdivision of property within the planning jurisdiction.	Continue to coordinate with county and state review agencies throughout the development review process. Formalize an official review process if one does not exist.	ongoing	Technical Advisory Review Committee, county and state review agencies
1.3.3	Implement recommendations from the East Coast Joint Land Use Study for limiting critical encroachment issues created by development pressures within Accident Potential Zones (APZs) and Air Installation Compatible Use Zones (AICUZs) designated for Marine Corps Air Station Cherry Point, including: [list of recommendations]	Act on the recommendations from the study related to the city.	ongoing	Board of Commissioners, Planning Board, Planning Director, City Manager
1.4.1	Expand the extraterritorial jurisdiction (ETJ) for the City to the extents depicted in Exhibit A, and enforce all powers within the area granted under Section 160A-360, N.C.G.S. – including zoning, subdivision regulations, enforcement of state building codes, acquisition of open space, and minimum housing codes.	Amend Official Zoning Map to include areas in the proposed ETJ and enact other codes and ordinances as applicable.	short term	Board of Commissioners, consultant

1.4.2	The City Manager or his designee shall routinely coordinate and cooperate with the representatives for Marine Corps Air Station – Cherry Point on matters related to the mission footprint of the base, and potential encroachment issues related to existing development, new development, or potential redevelopment in the area.	Continue monthly meetings to share information and issues critical to the mission of the base.	ongoing	City Manager, Community Liaison Officer
COMMUNITY DESIGN				
2.1.1	Encourage low impact development (a.k.a. conservation-based design or cluster development) in areas of the planning jurisdiction characterized by environmentally-sensitive lands, pristine natural areas, or near lakes and streams.	Amend Subdivision and Zoning Ordinances to include provisions for voluntary low impact development.	short term	Board of Commissioners
2.1.2	Redevelop portions of the City so they include central gathering places for medium-sized community events (e.g., movies in the park, small concerts, etc.)	Encourage developers to include small community parks or urban plazas in their projects during the sketch plan and preliminary plat review process. The City could also look to purchase land for such uses.	ongoing	Board of Commissioners, Planning Director, City Manager
2.1.3	Civic projects should set the example for quality development in the City by constructing new buildings, or refurbishing existing buildings, with an iconic architecture style.	Select a palate of common design elements in building architecture and site design that reinforce a common architectural style for all civic building structures and sites.	medium term	Appearance Commission, Board of Commissioners, Planning Board, Planning Director
2.1.4	Provide public streetscape improvements and strongly encourage private property improvements to maintain and improve the attractiveness of the City.	Include funding for streetscape improvements in CIP. Initiate improvement projects to spark interest of private property owners. Explore the feasibility a matching grant program to expedite improvements by private landowners.	ongoing	Appearance Commission, Board of Commissioners, business owners, residents

2.1.5	Continue to improve the image of Havelock by encouraging property owners to improve and maintain landscaping and, as a City, plant trees and maintain landscaping in public rights-of-way.	Strengthen landscaping requirements in Subdivision Ordinance. Sponsor and help organize clean up and revitalization efforts in the planning jurisdiction.	ongoing	Appearance Commission, resident volunteers, non-profit organizations
2.1.6	Develop an image and branding strategy for the City that reinforces the pride of the community and expectations for visitors when they arrive. Recommendations from a image and branding study should be applied to a new City logo, government website, gateway signage, way-finding signage and banners, and print materials among other applications.	Initiate a committee to lead image and branding study. Recommendations from study should be presented to City Manager and Board of Commissioners.	medium term	appointed committee representatives, City Manager, Board of Commissioners
2.2.1	Encourage residential and non-residential property owners to maintain their properties through pro-active enforcement of regulations, neighborhood clean-up campaigns, and recycling events.	Fairly and consistently enforce Code of Ordinances and sponsor city-wide clean up events annually.	ongoing	Code Enforcement, Public Works
2.2.2	Commission a study of the built environment that results in a set of general design priorities and core design principles in a design guidelines manual that can be adapted to individual circumstances of site and subdivision layout.	Hire a consultant to facilitate an image and branding process. Initiate a committee to study the built environment. Study should conclude with the development of a manual illustrating design priorities and principles.	long term	appointed committee representatives, consultant
HOUSING				
3.1.1	Continue to provide land use designations in the future land use map and zoning designations in the official zoning map to ensure a variety of housing types (e.g., single family, duplex, and multi-family housing units) are allowed within the City.	Adopt FLUM and amend zoning map. Monitor zoning map amendments to ensure housing variety remains intact.	ongoing	Board of Commissioners, Planning Board, Planning Director

3.1.2	Preserve the integrity of established single-family residential neighborhoods with public investments that reinforce community character and maintain high-quality infrastructure.	Implement neighborhood improvement programs that target capital improvements and civil services (i.e., police, fire, EMS) needed for maintaining quality neighborhoods.	ongoing	Board of Commissioners
3.1.3	Support continued multi-family development initiatives in the planning jurisdiction on a case-by-case basis to increase and improve housing choice.	Support rezoning requests for additional multi-family housing in the planning jurisdiction, when appropriate.	ongoing	Board of Commissioners, Planning Board, Planning Director, City Manager
3.1.4	Coordinate with officials for Marine Corps Air Station – Cherry Point to ensure adequate variety and housing stock is available to meet the needs of military families.	Schedule routine meetings with the base to stay informed about the timing of the relocation and the number of families that will be affected. Partner with MCAS-Cherry Point to implement recommendations from the 2006 Housing Market Study.	ongoing	City Manager, Planning Director
3.2.1	Minimize potential blight of existing residential neighborhoods through the use of good land use planning, urban design, landscaping in the development review, and pro-active code enforcement.	Adopt provisions in the City's Zoning Ordinance that target nuisances common in City neighborhoods, and bolster the resources of the City's Code Enforcement Department to address citizen complaints.	ongoing	Board of Commissioners, Planning Board, Planning Director, Code Enforcement, Appearance Commission

3.2.2	Preserve existing housing stock and enhance existing neighborhoods by identifying unsafe or substandard structures, advising property owners of available rehabilitation programs and pursuing prompt, corrective action.	Inventory unsafe or substandard structures in the City and enforce necessary Ordinances for remediation. Be proactive in getting the word out to residents related to plans, programs, and policies available for rehabilitating dilapidated buildings.	ongoing	Code Enforcement, Building Inspections
3.2.3	Ensure that housing stock within the City of Havelock meets minimum criteria set forth in the Standard Building Code adopted by the State of North Carolina (1994 Edition).	Enforce the minimum codes and standards for the State during the development review process. Respond to citizen complaints for unsafe living conditions in the city.	ongoing	Code Enforcement, Building Inspections
3.2.4	Support the utilization of county, state, and federal housing programs to provide home repair and/or home purchase opportunities for current and future residents.	Use City's Grant Coordinator to pursue county, state, and federal housing programs available to the City.	ongoing	Grant Manager, Consultant
3.3.1	Assist not-for-profit entities that seek to promote and provide affordable housing opportunities in the City of Havelock.	Encourage not-for-profit groups for affordable housing to work in Havelock. Provide data and policy documents to support their initiatives.	ongoing	City Manager, Board of Commissioners, Planning Director
3.3.2	The City should consider funding and work with a committee of architects, engineers, landscape architects, and other housing professionals to develop a design manual for building and promoting more attractive and cost-efficient affordable housing in the City of Havelock.	Establish a committee and develop a design guidelines manual for providing high-quality affordable housing choices in Havelock.	medium term	Board of Commissioners, Planning Board, Planning Director

TRANSPORTATION				
4.1.1	Continue to work with officials for the North Carolina Department of Transportation to promote the inclusion of projects in mutually accepted plans, programs, and policies that adequately provide future capacity for moving people safely and efficiently through the City of Havelock. Candidate projects may include those recommended in the City of Havelock Draft Comprehensive Transportation / Land Use Plan.	Continually coordinate with representatives of NCDOT to ensure projects recommended in the City of Havelock Comprehensive Transportation / Land Use Plan are programmed for implementation.	ongoing	Planning Director, RPO representative, NCDOT
4.1.2	The City of Havelock strongly supports construction of the US 70 Bypass to relieve congestion along existing US 70.	Provide support, when needed, to NCDOT and the US 70 Corridor Commission for expediting construction of the proposed US 70 Bypass around Havelock.	ongoing	Board of Commissioners
4.1.3	The City should strive to maintain and update annually a Five Year Capital Improvements Plan (CIP) for the City of Havelock that includes a component for transportation. This section of the CIP should be based on data, standards, and projects recommended in the City of Havelock Comprehensive Transportation / Land Use Plan completed in 2007.	Identify and prioritize transportation projects for the five year planning horizon. Update priorities and construction costs annually.	ongoing	City Manager
4.1.4	Pursue “spot safety funds” from the North Carolina Department of Transportation to address the most severe crash locations in the City, including Fontana Boulevard at Roosevelt Boulevard, Slocum Road at US 70, Fontana Boulevard at Cunningham Drive, Greenfield Heights Boulevard at Catawba Road, and the intersection of Lake Road/Miller Road/Church Road.	Submit formal request to NCDOT for intersection improvements in the city funded with "spot safety funds".	short term	Grant Manager
4.1.5	The City of Havelock should continue to be an active member of the US 70 Corridor Commission and support reasonable conclusions and recommendations for the long-term, mutual interest of the Commission and the Board of Commissioners to retrofit the US 70 corridor as North Carolina’s next major access managed highway.	Continue to attend regular meeting and be an active participant in the initiatives of the Commission.	ongoing	City-appointed representative

4.1.6	The City should support reasonable conclusions and recommendations from the model access management ordinance included in the US 70 Corridor Access Management Handbook that was developed to administer and enforce consistent access management standards along the entire highway between Johnston and Carteret Counties.	Adopt the model access management ordinance for US 70 through Havelock.	short term	Board of Commissioners
4.2.1	A traffic impact study shall be required for any development or redevelopment project expected to generate 500 vehicles or more (entering/exiting combined) in a 24-hour period or 100 vehicles or more (entering/exiting combined) during either the adjacent road's peak hour(s) or the development's peak hour(s).	Amend the City's Subdivision Ordinance to include rules and requirements for a traffic impact study that accompanies certain development applications.	short term	Board of Commissioners
4.2.2	Preserve and protect the character of neighborhoods from the avoidable intrusion of "cut through" traffic with implementation of appropriate traffic calming measures. Traffic calming will be installed, where warranted, after proper review of citizen requests measures, completion of a formal traffic calming study, and confirmation that funds are available to construct the needed improvements.	Complete neighborhood traffic calming studies for high-priority areas in the City. Annually program improvements in the City's Capital Improvements Plan based on the recommendations from local neighborhood traffic calming studies.	short term	Board of Commissioners
4.2.3	The City of Havelock should support locating driveways on municipal streets in compliance with the Driveway Manual published by the North Carolina Department of Transportation, as amended.	Amend subdivision ordinance to require compliance with NCDOT Driveway Manual.	short term	Board of Commissioners
4.2.4	To the maximum extent possible, the number of driveways or curb cuts serving a property shall be minimized and shared-use driveways should be encouraged on major roads, including US 70, NC 101, and Miller Boulevard.	Work with developer during sketch design phase of review.	ongoing	Board of Commissioners, Planning Board, Planning Director

4.2.5	Develop supplemental engineering design and construction standards for providing minimum acceptable standards and specifications for implementing desired complete street design principles.	Amend Subdivision Ordinance to include such standards.	short term	Board of Commissioners
4.3.1	Bicycle parking should be considered for all new development. Incentives should be written into land use regulations that provide for bicycle facilities (i.e. one vehicular space may be exchanged for bicycle facilities).	Amend Land Use Regulations to include such standards.	short term	Board of Commissioners
4.3.2	Sidewalks or greenways should be constructed to optimize pedestrian movements between buildings in a non-residential development, and connect with existing pedestrian sidewalks or greenways adjacent to the site where they currently exist.	Amend Subdivision Ordinance to require installation of sidewalks and/or greenways as determined by the BOC. Reference Greenway Map in the Comprehensive Parks and Recreation Master Plan when determining locations for greenway construction.	short term	Board of Commissioners
4.3.3	Safe and convenient crossings shall be provided across all public and private roads internal to a non-residential development, and at all driveways leading to the site.	Amend Subdivision Ordinance to require developer to provide crossings at these locations.	short term	Board of Commissioners
4.3.4	All existing railroad and utility corridors in the City should be studied for their potential to become future multi-use trails.	Conduct study.	medium term	Parks and Recreation Department
4.3.5	The City of Havelock should consider funding and seek grant monies from the North Carolina Department of Transportation to complete pedestrian and bicycle projects recommended in the City of Havelock Comprehensive Parks and Recreation Master Plan and the City of Havelock Comprehensive Transportation / Land Use Plan.	Research and apply for available grants. Establish a fund.	short term	Board of Commissioners, Grant Manager

4.3.6	The City of Havelock is committed to provide safe routes to school for local schools in the community. Upon formal request by the citizenry and determination of adequate funding, the City will contact the Craven County School Board and work cooperatively to evaluate existing walking conditions around the school consistent with guidance from the Manual on Uniform Traffic Control Devices (MUTCD) Chapter 7A for preparing individual school traffic control plans. The City will act upon the reasonable conclusions and recommendations from the study and program appropriate improvements in the City's Capital Improvements Plan to ensure safe walking conditions are maintained for students.	Comprise a Steering Committee to evaluate existing walking conditions. Appropriate funds to address the recommendations from the study.	medium term	Board of Commissioners, Craven County School Board, steering committee
4.3.7	City officials should participate in pedestrian and bicycle planning programs for the North Carolina Department of Transportation.	Register for workshops offered by NCDOT throughout the year.	ongoing	City Officials
4.3.8	Coordinate with the North Carolina Department of Transportation to satisfy the needs of non-motorized transportation modes as a part of major road improvement projects.	Stay involved and up-to-date on all major road improvement projects that occur within the study area.	ongoing	Board of Commissioners
4.4.1	Develop a small area plan for the interchange proposed at Lakeview Road on the US 70 Bypass, intended to manage access and reduce congestion around the interchange.	Submit a request for proposal (RFP), select a consultant, and budget for plan construction in CIP.	long term	Consultant, Planning Director
4.4.2	City officials should limit the number of cul-de-sacs in areas where topography, environment, or existing development make other street connections prohibitive.	Amend Subdivision Ordinance to include such provisions.	short term	Board of Commissioners
4.4.3	City officials should encourage more efficient travel between complementary land uses by promoting development patterns that favor higher densities and intensities, a mix of land uses, and an environment that accommodates bicycles and pedestrians.	Amend Subdivision Ordinance to allow for mixed-use development and strengthen regulations regarding alternative modes of transportation.	short term	Board of Commissioners, Planning Board, Planning Director

4.4.4	Evaluate the appropriateness of adopting a street connectivity ordinance to support local efforts to increase street, sidewalk, and greenway connections within and between developments.	Determine effectiveness of current connectivity requirements.	medium term	Board of Commissioners, Planning Board, Planning Director
COMMUNITY FACILITIES AND SERVICES				
5.1.1	The City of Havelock should pursue an interlocal agreement with the City of New Bern to ensure adequate capacity is reserved to serve the magnitude and timing of anticipated development in the FLUM through the short-term planning horizon (2013).	Continue ongoing negotiations and finalize agreement.	short term	City Manager, Board of Commissioners
5.1.2	Where deemed fiscally prudent, maintain corrective measures that minimize storm water inflow and infiltration for the City's waste water collection system.	Continue to work funded by USDA grant. Reevaluate conditions after project is completed. Seek additional funding if needed to address additional issues.	short term	WWTP Operator/Supervisor
5.1.3	Seek all available federal, state, and local funding sources deemed fiscally prudent for use by the City to correct existing deficiencies in the sanitary sewer system.	Research and apply for available funding.	ongoing	Grant Manager
5.1.4	Where deemed fiscally prudent, allocate funds in the City's Capital Improvement Plan on an annual basis to implement projects that improve the City's sanitary sewer system.	Allocate funding in CIP.	short term	City Manager
5.2.1	Strive to implement corrective measures at the City's waste water treatment plant consistent with recommendations in the Havelock Wastewater Treatment Plant Process Evaluation Report, and coordinate with partners in the region to ensure adequate capacity is reserved to serve the magnitude and timing of anticipated development in the FLUM through the long-term planning horizon (2030).	Follow phasing of improvements schedule described in report. Open the lines of communication with other service providers in the area to discuss feasibility of service provision.	ongoing	WWTP Supervisor/Operator, City Manager
5.2.2	Encourage future development and redevelopment in portions of the urban service area already served, or programmed to be served, by the City's sewer system.	Determine urban service area boundaries and only extend service to areas within the established boundary.	ongoing	City Manager, Planning Director, Board of Commissioners

5.2.3	Continue to reduce the number of residents relying on private septic systems in close proximity to existing, or programmed, sewer service. Priority should be given to those areas designated by the Craven County Health Department as “problem areas” with failing septic tanks.	Include "problem areas" in urban service area boundary.	ongoing	Craven County Health Department, Planning Director, Public Works
5.2.4	Begin the formal process to request a new discharge permit from the North Carolina Division of Water Quality (DWQ) for the City’s waste water treatment plant. The new discharge permit will move the current discharge point at Slocum Creek to the Neuse River.	Initiate discussions with DWQ staff.	short term	Planning Director
5.3.1	Monitor annually the amount of waste water reaching the City’s waste water treatment plant, and prepare a process evaluation plan when 80% of plant capacity is reached and an implementation strategy (i.e., construction documents, funding plan, and interlocal agreements) when 90% of plant capacity is reached.	Continuously monitor average daily use at the plant. Set aside funds to create evaluation plan and implementation strategies when deemed appropriate.	ongoing	WWTP Supervisor/ Operator, consultant
5.3.2	Continue to reduce the number and severity of annual sanitary sewer overflows reported to the North Carolina Division of Water Quality.	Perform sewer system cleaning and maintenance, repair broken or leaking service lines, continue plant upgrades, and construct storage and treatment facilities to treat excess flows.	ongoing	WWTP Supervisor/Operator
6.1.1	Continue efforts to replace dead-end distribution lines in the City’s water system with an interconnected distribution system that efficiently moves water throughout the city.	Continue to keep identification and replacement of dead-end lines on CIP.	ongoing	Public Services Department, City Manager
6.1.2	Consideration should be given for construction of a 12-inch water main and an elevated water tank in the western extremes of the city to improve capacity and increase water pressure.	Allocate funding for construction in CIP.	short term	Public Services Department, City Manager

6.1.3	Evaluate the feasibility of installing treated re-use (grey) water lines throughout the City for irrigation of landscaping.	Amend the subdivision ordinance to include language that encourages the use of grey water. Consider incentives that may entice such use.	medium term	Board of Commissioners, Planning Board, Planning Director
6.1.4	Develop a long range strategic plan for system maintenance and expansion through 2030.	Begin work on plan development.	short term	Public Services Department
6.1.5	Encourage future development and redevelopment in portions of the urban service area already served, or programmed to be served, by the City's water system.	Determine urban service area boundaries and only extend service to areas within the established boundary.	ongoing	City Manager, Planning Director, Board of Commissioners
6.1.6	Where deemed fiscally prudent, allocate funds in the City's Capital Improvements Plan on an annual basis to implement projects that improve the City's potable water system.	Allocate funding in CIP.	short term	City Manager
7.1.1	Evaluate the City's current solid waste collection system (i.e., sticker system) and determine if changes are necessary to improve system efficiency or equity.	Prepare a report that compares costs and savings of different disposal methods.	medium term	Public Services Department
7.1.2	Encourage private waste haulers serving non-residential and multi-family development inside city limits to implement a recycling program.	Discuss feasibility of recycling program implementation with private waste haulers.	medium term	Public Services Department
7.1.3	Implement strategies and incentives to increase compliance with the City's existing recycling program.	Develop a Compliance Assurance Plan to increase recycling rates.	medium term	City Manager, Public Services Department
7.2.1	Coordinate with representatives for the Tuscarora Landfill to ensure adequate capacity is reserved to serve the magnitude and timing of anticipated development in the Future Land Use Map.	Develop contingency plan with Tuscarora Landfill and/or other private companies to serve the needs of residents when existing landfill reaches capacity.	long term	City Manager

7.2.2	Promote programs in partnership with other solid waste haulers in the region that minimize the amount of solid waste reaching the multi-county landfill.	Coordinate with representatives for Craven County and surrounding collection providers in the region to project future year demands and develop applicable solutions.	medium term	Craven County, Public Services Department, private waste haulers
8.1.1	Implement and enforce state regulations related to storm water quantity and quality, especially in relation to special provisions adopted for the Neuse River Basin.	Work with Division of Water Quality on permitting and enforcement of state regulations.	ongoing	Planning Director, Public Services Department
8.1.2	Continue to participate in the National Flood Insurance Program and enforce the minimum rules and requirements set forth in the Flood Damage Prevention Ordinance.	Enforce the City's Flood Damage Prevention Ordinance.	ongoing	Floodplain Administrator
8.1.3	Continue to coordinate with the North Carolina Division of Water Quality (DWQ) regarding state storm water regulations and permits required during the development review process.	Work with Division of Water Quality on permitting and enforcement of state regulations.	ongoing	Planning Director, Public Services Department
8.1.4	Evaluate new cost-effective programs for minimizing flood damage, including modification of construction setback requirements and other site design techniques.	Review and revise the City's Flood Damage Prevention Ordinance.	short term	Floodplain Administrator
8.2.1	Prepare a storm water master plan (SWMP) that identifies and prioritizes storm water problem areas and targets capital improvements to mitigate them. The content and format of the SWMP shall exceed the minimum rules and requirements set forth under the National Pollution Discharge Elimination System (NPDES) for a Phase 1 Permit and the Neuse River Nutrient Sensitive Waters Management Strategy.	Develop a Request for Proposal (RFP) for storm water master plan and dedicate funding for the plan in the CIP.	medium term	City Manager, consultant
8.2.2	Provide an annual report to the Board of Commissioners and the North Carolina Division of Water Quality on updates and changes to the SWMP since approval of the NPDES permit.	Review and revise the SWMP on an annual basis.	ongoing	Public Services Department
8.2.3	Where deemed fiscally prudent, allocate funds in the City's Capital Improvements Plan on an annual basis to implement recommendations from the local Storm Water Management Plan (SWMP).	Allocate funding in CIP.	short term	City Manager

9.1.1	Consider construction of a new police and fire substation on US 70, north of Catawba Road, to improve service delivery in western portions of the City.	Develop plans for new substation and submit to Technical Advisory Committee for review and approval.	short term	City Manager, Planning Director, Technical Advisory Review Committee
9.1.2	Coordinate with representatives for Craven County to ensure inmate capacity at the county jail is sufficient to handle average daily arrests in the region.	Project future needs and develop a plan to ensure those needs are adequately met.	ongoing	Police Chief, City Manager
9.1.3	Institute new programs and policies that increase the presence of police in areas of the city prone to violent, non-violent, and property crimes.	Initiate neighborhood watch programs and additional police department programs and services.	medium term	Police Department, residents
9.1.4	Consider investing additional resources in neighborhood watch programs.	Establish a dedicating funding source for neighborhood watch programs.	medium term	City Manager, Police Department, homeowner's associations
9.1.5	Where deemed fiscally prudent, allocate funds in the City's Capital Improvements Plan on an annual basis to implement projects that improve the City's police protection.	Allocate funding in CIP.	short term	City Manager
9.2.1	Improve the ISO rating for the city, especially related to programming a new fire station on US 70, north of Catawba Road, in the western portion of the City.	Determine the current and future need and location of new stations, equipment, etc throughout the City.	ongoing	Fire & Rescue Department
9.2.2	Maintain a mutual-aid agreement with Craven County to ensure quality response to all locations in the fire service area.	Initiate service agreement negotiations with the County.	short term	City Manager, Craven County, Fire & Rescue Department
9.2.3	Where deemed fiscally prudent, allocate funds in the City's Capital Improvements Plan on an annual basis to implement projects that improve the City's fire service protection.	Allocate funding in CIP.	short term	City Manager
9.3.1	Where deemed fiscally prudent, allocate funds in the City's Capital Improvements Plan on an annual basis to implement projects that improve the City's provision of emergency medical services.	Allocate funding in CIP.	short term	City Manager

9.3.2	Strive to maintain an interlocal agreement with Craven County to provide City EMS service to unincorporated areas of the county.	Honor provisions of the interlocal agreement. Renew if and when necessary.	ongoing	Board of Commissioners, City Manager, EMS
PARKS AND RECREATION				
10.1.1	Strive to implement recommendations from the City of Havelock Comprehensive Parks and Recreation Master Plan for new park locations, services, and amenities desired by local residents.	Follow action plan and timeline outlined in Plan.	ongoing	Parks and Recreation Department
10.1.2	Maintain and update annually a Five Year Capital Improvements Plan (CIP) for the City of Havelock that includes a component for parks, recreation facilities, and permanent open space. This section of the CIP should be based on data, standards, and projects recommended in the City of Havelock Comprehensive Parks and Recreation Master Plan.	Review Comprehensive Parks and Recreation Master Plan and include a parks, recreation facilities, and open space component in all future CIPs.	ongoing	City Manager
10.1.3	Maintain a balance of active parks, passive parks, and natural open space to meet the needs and expectations of City residents, and seek opportunities to increase the number of parks and natural areas throughout the City.	Implement action plan outlined in Comprehensive Parks and Recreation Master Plan and update the plan annually. Pursue donations (money and land) from local residents and non-profit organizations. Include open space provisions in Subdivision Ordinance. Apply for available parks and recreation funding and grants.	ongoing	Parks and Recreation Department, Grant Manager

10.1.4	Ensure recreation facilities are well-managed and well-maintained, and that quality recreation programs are available to all residents. This shall be partially achieved by keeping up-to-date the inventory of park facilities and sites and re-administering the parks and recreation needs survey completed for the City of Havelock Parks and Recreation Master Plan.	Actively monitor and inspect existing facilities and programs. Continuously update inventory of park facilities and sites and re-administer survey in 5 years to gauge changes in needs.	ongoing	Parks and Recreation Department
10.1.5	All plans for development or redevelopment of land with park resources or recreation facilities shall incorporate creative concepts of urban design and landscape compatible with unique natural features of the site. The design shall provide a circulation system to minimize conflict between pedestrians and vehicles and adequate landscape and screening to protect the integrity of established residential areas while enhancing community appearance.	Amend Subdivision Ordinance to include such provisions.	short term	Board of Commissioners, Planning Board, Planning Director, Appearance Commission
10.1.6	Continue to coordinate with county, state, and federal agencies and private landowners to protect and enhance natural areas and environmentally-sensitive land within the City.	Work with private landowners who are interested donating land to the city or granting easements on their property. Apply for available funding and grants.	ongoing	Grant Manager
10.1.7	Maximize grant funding for all future City park and recreation projects.	Research and apply for all available grants.	ongoing	Grant Manager
10.2.1	Public parks and recreation facilities shall be designed and constructed compatible with the character and quality of on-site natural resources.	Amend Subdivision Ordinance to require developers to indicate natural resources on site plans for these facilities.	short term	Board of Commissioners, Planning Board, Planning Director
10.2.2	Develop a schedule for providing parking spaces for automobiles and bicycles at parks and recreational facilities where they are now lacking or inadequate.	Inventory existing facility needs.	medium term	Parks and Recreation Department

ENVIRONMENT AND NATURAL RESOURCES				
11.1.1	All federal, state, and county water quality standards shall continue to be enforced in the City of Havelock.	Stay abreast and involved in changes to any federal, state, and/or county policies and regulations and enforce them effectively, especially in the development review process.	ongoing	Technical Advisory Review Committee, Planning Director
11.1.2	Consider revisions to the City of Havelock Land Use Regulations to preserve and enhance the functions of natural groundwater aquifer recharge and natural drainage features and to protect water quality.	Amend ordinances to reflect such initiatives.	short term	Board of Commissioners, Planning Board, Planning Director
11.1.3	Ensure that water conservation booklets and brochures are readily available at City Hall and other public facilities for review by local residents and business owners.	Request materials from applicable agencies to make available or prepare materials specific to the City.	ongoing	Public Works Department
11.2.1	Manage environmentally sensitive natural systems in the City, including, but not limited to, water resources, wetlands, and native habitats of flora and fauna through prudent land use planning and land development regulations.	Ensure Zoning and Subdivision Ordinance regulations effectively manage natural systems in the City.	short term	Board of Commissioners, Planning Board, Planning Director
11.2.2	Enforce state and federal laws and policies regarding land uses and development for Areas of Environmental Concern identified in the City.	Coordinate with state and federal agencies.	ongoing	Board of Commissioners, Planning Board, Planning Director
11.2.3	Support reasonable initiatives of the Neuse River Foundation to protect the integrity of the river for future generations, including participation in the annual Neuse River Cleanup Campaign.	Check website routinely and sign up for newsletter mailings. Volunteer to help with events as applicable.	ongoing	residents, local organizations
11.2.4	Continue to coordinate with federal, state, and county agencies concerned with managing natural resources that protect the values and functions of these systems.	Keep lines of communication open with all applicable agencies.	ongoing	Planning Director

11.2.5	Increase public awareness of critical wildlife areas and natural preserves by distributing public education materials, allowing appropriate access, and reporting violations of the rules and regulations to appropriate agencies.	Request materials from applicable agencies to make available or prepare materials specific to the City. Coordinate efforts with area agencies to make presentations in the community.	ongoing	agency representatives, Planning Department staff
11.2.6	Any new project or development shall demonstrate that it does not create substantial adverse impact to the environment.	Ensure impacts from new development are enumerated during the development review process.	ongoing	Technical Advisory Review Committee
11.3.1	Wetlands suitable for protection will be identified based on the type, function, size, condition, location, and overall resource value. These wetlands shall be used for purposes compatible with their natural values and functions, and land development regulations shall be adopted to provide these areas with the maximum feasible protection, using tools such as compensatory wetland mitigation and dedication of conservation easements for preserving open space. Activities in wetland areas may be warranted provided all applicable federal, state, and county environmental agency permits have been obtained and one of the following standards is satisfied: [description of standards]	All wetlands must be identified on site plans. Amend Subdivision Ordinance to include tools that protect wetlands from development whenever possible.	short term	Board of Commissioners, Planning Board, Planning Director
11.3.2	Consideration should be given for buffers that protect the presence and function of pristine wetlands on a development site.	Amend Zoning Ordinance to include such requirements.	short term	Board of Commissioners, Planning Board, Planning Director
11.4.1	Cooperate with county, state, and federal agencies in protecting wildlife and plant species listed as endangered, threatened, rare, or of special concern, and support their efforts to protect and conserve the habitats in which they reside.	Coordinate GIS mapping of known flora and fauna habitats and coordinate with agencies during the development review project if development will impact species or habitat.	ongoing	Technical Review Advisory Committee

11.4.2	Revise the City's Land Use Regulations to protect wildlife and vegetative habitats that are endangered, threatened, or species of special concern. The City shall further protect these habitats by promoting public acquisition and the dedication of conservation easements or reservations.	Amend Land Use Regulations to require developers to reveal habitats on site plans.	short term	Board of Commissioners, Planning Board, Planning Director
11.4.3	Development plans shall be conditioned to require that all required state and federal permits pertaining to listed flora and fauna species be obtained and filed with the City prior to clearing and grading or building activities on the site.	Amend Subdivision Ordinance to include such language.	short term	Board of Commissioners, Planning Board, Planning Director
11.4.4	Increase public appreciation and awareness of native flora and fauna in and around the community through newspaper articles, brochures, presentations, workshops, and other means of education, and how residents can help enhance those habitats.	Offer educational workshops in schools and to the general public. Work with non-profit organizations to obtain materials and conduct presentations.	ongoing	non-profit organizations
11.5.1	Develop and refine nitrogen reduction strategies for point and non-point source polluters/pollution.	Utilize resources available through the N.C. Division of Water Quality.	short term	Planning Board
11.5.2	Evaluate the potential for implementation of appropriate best management practices (BMPs) to reduce nutrient and sediment loading in the watershed.	Review BMP options and their applicability in Havelock.	short term	Planning Director, Planning Board, Board of Commissioners
11.5.3	Provide educational workshops on local water quality issues.	Conduct annual workshops on local water quality issues.	ongoing	Planning Director, Planning Board, non-profit groups
11.5.4	Support the Division of Water Quality's (DWQ) efforts to determine a safe way to remove and dispose of hazardous waste stored at MCAS – Cherry Point.	Participate in all meetings/discussions initiated by DWQ.	ongoing	City Manager

12.1.1	Coordinate with public, quasi-public, private, and non-profit groups to increase the quantity and quality of access points to public trust waters in the city, including consideration for access easements or fee simple purchase of strategic locations.	Identify candidate sites for public access to public trust waters in the City. Initiate dialog with private land owners and advocacy groups to secure access easements or purchase property.	ongoing	Planning Director, public, quasi-public, private, and non-profit groups
12.1.2	Seek all available federal, state, and local funding sources deemed fiscally prudent for use by the City to promote local access to public trust waters.	Research and apply for available funding.	ongoing	Grant Manager
12.1.3	Both residential and non-residential development adjacent to public trust waters shall include at least one public access point to the water body, unless demonstrated to be detrimental to nearby environmentally-sensitive lands or impractical because of other goals and policies stated in the Comprehensive Plan.	Amend Subdivision Ordinance to require the inclusion of a public access point when adjacent to public trust waters. Include exceptions when such requirement would be detrimental or impractical.	short term	Board of Commissioners, Planning Board, Planning Director
13.1.1	Review adequacy of zoning, subdivision, and flood damage prevention ordinances for control of flooding hazards.	Review land development regulations and make amendments where appropriate.	short term	Planning Director, Planning Board
13.1.2	Actively support full participation in the County's Special Needs Registry.	Provide information about registry in water bills and in pamphlets available at City Hall. Hold annual meetings to inform citizens of registry.	ongoing	City Manager
13.1.3	Update the Parks and Recreation Master Plan to incorporate purchase and development of flood-prone lands for recreational activities as a priority.	Review and revise goals and priorities of Parks and Recreation Master Plan.	short term	Parks and Recreation Department, Planning Board

13.1.4	Work with NCDOT Division Four Highway Operations unit and convene a working group to develop solutions to localized drainage issues caused (in part or in whole) by NCDOT maintained drainage facilities.	Initiate contact with NCDOT.	short term	City Manager, Planning Director
13.1.5	Review "Firewise" zoning and subdivision standards and report on their appropriateness for incorporation into zoning and subdivision ordinances.	Review standards and incorporate in land development regulations where appropriate.	short term	Planning Director, Board of Commissioners, Planning Board
13.1.6	Continue to undertake public education efforts designed to help inform the public of their exposure to natural hazards and to inform them of actions they can take to mitigate the damages to their health and property from natural hazards.	Conduct annual presentations and workshops in the community.	ongoing	Planning Director, Planning Board
13.1.7	Work with Craven County to convene a working group with electric service providers to produce a report that addresses the issues of disaster preparedness techniques and communication with County officials during and immediately after a natural hazard event that results in loss of electrical power.	Initiate coordination with Craven County. Elect members to working group.	short term	City Manager
13.1.8	Apply for funding from HMGP or other Federal/State funding for at least two of the top priority ANHRE identified in Section III of the Hazard Mitigation Plan IF they are eligible and in a project category identified by the State of North Carolina as being of high priority.	Research and apply for available funding.	ongoing	Grant Manager
13.1.9	Ensure that elevation certificate data, data related to mitigation measures implemented, and floodplain data are available through the Internet on the County's GIS website.	Initiate coordination with Craven County.	ongoing	Floodplain Manager
13.1.10	Encourage surveyors, local government officials, engineers, and land planners to become familiar with the NFIP land use and building standards by attending annual workshops presented by the NC Division of Emergency Management (DCM).	Disseminate information about workshop opportunities as they become available.	ongoing	Planning Director
13.1.11	Continue to participate in the Community Rating System (CRS) program of the National Flood Insurance Program (NFIP).	Complete appropriate documentation annually and submit to regional FEMA office.	ongoing	City Manager, Floodplain Manager, Planning Director

13.1.12	Designate a representative (member and alternate) to a County-wide Mitigation Advisory Committee and ensure those representatives complete the tasks detailed in the Hazard Mitigation Plan.	Select representatives and schedule routine coordination meetings to ensure tasks are completed.	ongoing	City-appointed representatives, City Manager
HISTORIC AND CULTURAL RESOURCES				
14.1.1	Encourage protection of all identified, and yet to be identified, historical and archeological structures and sites within the City through appropriate land development regulations, comprehensive review of development applications, public acquisition decisions, and historic designations. Initial sites should include the historic Havelock Railroad Station and African-American School House.	Complete a historical property assessment for areas of the City and adopt incentivizes for rehabilitating historic structures and preserving significant archeological sites.	medium term	Planning Director
14.1.2	Actively support all public efforts to purchase additional historically- and environmentally-sensitive parcels of land for preservation, passive recreation, or public access. The City should investigate and sponsor grant applications for this purpose, whenever feasible.	Provide assistance to outside advocacy groups looking to purchase or rehabilitate historically- and environmentally-sensitive parcels in the City.	ongoing	City Manager, Planning Director
14.2.1	Coordinate with state and federal government agencies in developing programs for identifying, preserving, and enhancing sites of historical and archaeological significance.	Provide local assessments, historical records, etc. supportive of efforts by state and federal governments.	ongoing	City Manager, Planning Director
14.2.2	Development activities shall include provisions necessary to prevent adverse impacts to historic or archaeological sites of significance.	Map areas identified as historically significant. Refer to map throughout the development review process.	ongoing	Technical Review Advisory Committee
ECONOMIC DEVELOPMENT				

15.1.1	Treat land supportive of retail, dining, and employment centers as a critical and limited resource, and protect this resource through capital investment and rules and requirements in the local zoning and subdivision ordinances.	Ensure necessary infrastructure (water, sewer, roads, etc) is planned or in place in identified areas. Maintain or increase the amount of land allocated as retail, dining, and employment centers.	short term	Board of Commissioners, Planning Board, Planning Director
15.1.2	Identify and prioritize keys areas in city limits for infill development or redevelopment as new retail, dining, or employment centers.	Work with building and landowners to create a credible inventory of available properties and marketing materials. Engage the local and regional commercial real estate brokerage community to market the properties.	short term	Planning Director
15.2.1	Foster a positive entrepreneurial environment for business start-up and expansion and support retention of existing businesses.	Offer assistance and incentives to small business owners. Establish a Community Business Association.	ongoing	Chamber of Commerce
15.2.2	Support regulatory reform in the City that strikes a balance between the financial impact of regulation on business and developers, and maintaining the appropriate level of safeguards for furthering the vision of the community toward sustainable growth and development.	Review existing development controls and determine if inequitable obstacles exist. Amend ordinances to address these obstacles.	short term	Board of Commissioners, Planning Board, Planning Director
15.2.3	Consider ways to achieve greater predictability and efficiency in the review of development permit applications, consistent with goals and policies of this plan and implementing zoning and subdivision ordinances.	Revise Technical Advisory Committee review procedures and policies.	medium term	Technical Advisory Committee members

15.2.4	Recognize the importance of maintaining and enhancing the City's tax base, including property taxes, sales taxes, and business and occupation taxes, to provide funds for capital facilities and city services necessary for existing and future populations.	Undertake a fiscal impact analysis to quantify revenues and expenditures by land use associated with providing city services. Implement reasonable recommendations from the study.	medium term	Chamber of Commerce, City Manager
15.2.5	Enhance the City's ability to recruit new business and industry and work cooperatively with the Havelock Chamber of Commerce, Craven County Economic Development Commission, and other local economic development partners on actions such as maintaining a database of available sites and buildings, identification of target industries and potential economic clusters, and consistent and effective marketing efforts.	Cooperate activities with Chamber of Commerce, Craven County Economic Development Commission, and other local economic development partners.	ongoing	Chamber of Commerce, Craven County Economic Development Commission
15.2.6	Support efforts to attract military-based business and industry that support the needs of Marine Corps Air Station Cherry Point.	Target military-based businesses and industries in marketing efforts.	ongoing	Chamber of Commerce, Craven County Economic Development Commission
15.2.7	Assess the effects of City policy regarding taxes, fees, or utility rates on economic development goals at least every five years, considering the balance between economic development, financial health of city government, cumulative debt, tax burden on local residents and businesses, and the goals and policies of this Comprehensive Plan.	Review the effectiveness of existing policies at least every five years.	ongoing	Chamber of Commerce
15.3.1	The City will coordinate with the Havelock Chamber of Commerce and the Craven County Economic Development Commission on their efforts to assure that the local work force is trained in fields that meet demand for local businesses.	Facilitate public/private partnership opportunities between local businesses and area schools.	ongoing	Chamber of Commerce, Craven County Economic Development Commission
15.3.2	The City will partner with businesses, labor, and educational institutions to develop competency-based education and training programs for Havelock citizens that meet the needs of business, including vocational training programs, apprenticeship programs, entrepreneurial skills training, and technical and vocational preparatory programs in local high schools.	Actively seek out opportunities to work with partnering agencies to develop training programs.	ongoing	City Manager, Planning Director

15.3.3	Seek all available federal, state, and local funding sources deemed fiscally prudent for use by the City to promote local economic development initiatives.	Research and apply for available and appropriate funding.	ongoing	Grant Manager
15.3.4	Encourage a variety of businesses to locate in Havelock that improve job opportunities for a wide spectrum of the community.	Actively market and create an incentives package for recruiting businesses that expand the economic base of the City of Havelock.	short term	Chamber of Commerce, Craven County Economic Development Commission
15.4.1	Recognize Havelock's cultural resources, including institutions, traditions, historic sites, and creative people as important contributors to the City's economic vitality.	Actively seek out non-traditional means and resources for maintaining, attracting, and enhancing new sources of economic activity in the city.	ongoing	Chamber of Commerce, Craven County Economic Development Commission, Havelock Historic Preservation Society
15.4.2	Work with the Havelock Chamber of Commerce and Craven County Economic Development Commission to target new tourist attractions appropriate for the community.	Identify internally within the city a list of desirable regional tourist attractions. Actively partner with local, regional, and state economic development agencies to recruit those types of uses to the city.	short term	Chamber of Commerce, Craven County Economic Development Commission
15.4.3	The City should support and encourage "high-profile" local festivals and events that bring attention to the city.	Strengthen and promote recreation facilities and community amenities that could host events and help to rally community behind events.	ongoing	Chamber of Commerce, City Manager
15.4.4	The City will be a partner in supporting the initiatives of the Havelock Tourist and Event Center for attracting new visitors to the area.	Increase marketing efforts.	ongoing	Havelock Tourist and Event Center staff

15.4.5	Partner with the Havelock Chamber of Commerce, Craven County Economic Development, and Marine Corps Air Station Cherry Point to promote the City as a tourism destination within the region.	Develop a tourism plan for the City.	medium term	Chamber of Commerce, Craven County Economic Development Commission, MCAS-Cherry Point representative
CAPITAL IMPROVEMENTS				
16.1.1	Prepare and adopt a Five Year Capital Improvements Plan (CIP) and a One Year Capital Budget as part of the City's annual budgeting process.	Adopt CIP and update CIP annually.	short term	City Manager and all city department heads
16.1.2	Ensure that all public capital revenue and/or secured developer commitments are in place to provide public facilities and services necessitated by development.	Require development applications enumerate their impacts to surrounding public facilities and services and mitigate as necessary their proportionate share of new impacts on various systems.	ongoing	Finance Department, Planning Director
16.1.3	Seek viable grant monies and private development contributions whenever possible to provide additional capital revenues for implementation of the City's Five Year Capital Improvements Plan.	Research and apply for available grant monies.	ongoing	Grant Manager
16.1.4	Assess all funding mechanisms and revenue sources available under North Carolina General Statute to bear a proportion of the costs for providing public facilities and services necessitated by existing development, redevelopment, and new development anticipated for the planning jurisdiction.	Complete an annual funding gap analysis for projects recommended in the CIP. Inventory funding sources and funding mechanisms available under NCGS to help identify the funding gap.	ongoing	Grant Manager

16.2.1	All City decisions regarding land use and development patterns should ensure availability of public facilities and services necessary to support such development prior to approval by the Board of Commissioners by means of the City's Zoning and Subdivision Ordinances.	Require developers complete an impact study for public facilities and services in support of the development application. Maintain a database of committed demand to ensure that existing plus committed demand are used for evaluating available capacity.	ongoing	WTP Operator, WWTP Operator, Planning Director
16.2.2	Coordinate with road, utility, and school providers in the area to ensure necessary capital projects are scheduled concurrent with anticipated growth patterns.	Coordinate local plans with regional initiatives to ensure adequate supply is available concurrent with demand.	ongoing	Public Services Director, Planning Director
16.2.3	Continue to encourage expedited installation of sewer infrastructure improvements necessary to increase the capacity of the City's current system.	Continue coordination with the City of New Bern to secure capacity for critical projects within the city.	ongoing	City Manager, Assistant City Manager, Planning Director
16.2.4	Repair and upgrade public facilities and services managed by the City according to generally accepted engineering principles and guidelines, and ensure that facilities and service providers operating in the City are held to the standard.	Assess existing system, prioritize improvements, and program funds for addressing system deficiencies. Adopt minimum engineering design standards for the city related to water, sewer, and street design.	ongoing	City Manager, Public Services Director
16.3.1	Incur debt within generally accepted municipal finance principles and guidelines, and only in relation to the City's ability to pay for new capital assets or to significantly extend the life expectancy of a capital asset.	Continually monitor debt service for the city and implement procedures that implement prudent fiscal management policies.	ongoing	Finance Department

16.3.2	Any increase to operating costs for a new or enhanced capital project shall be considered when evaluating debt incurred for a new public facility or service.	Require candidate capital projects considered for the CIP identify and address associated operating costs.	ongoing	Finance Department
16.3.3	The City shall not provide a public facility or service, nor accept ownership from others, if it cannot pay for the subsequent annual operation and maintenance costs of the facility or service.	Practice the principles of true cost accounting for estimating the total cost of a capital improvement including operating and maintenance costs.	ongoing	Finance Department
16.3.4	The City's net general obligation debt as defined in G.S. 159-55, is statutorily limited to eight percent (8%) of the assessed valuation of the taxable property within the City. The City will utilize a self-imposed ceiling of 3%.	Monitor annual debt service for the city.	ongoing	Finance Department

Plan Consistency Matrix

The Plan Consistency Matrix found in Appendix D ensures that the goals, objectives, and policies detailed in the City of Havelock Comprehensive Plan support the goals of the Coastal Management Area Act. Policies set forth in *The City of Havelock Comprehensive Plan* address all of the state's Land Use Plan Management Topics, including Public Access, Land Use Compatibility, Infrastructure Carrying Capacity, Natural Hazard Areas, Water Quality, and Local Areas of Concern. All policies are consistent with future land use development patterns, the natural systems analysis, and the land suitability analysis. Therefore, no mitigation strategies are necessary.

Schedule of Capital Improvements

Table 7.2, Five-Year Schedule of Capital Improvements (SCI), lists those projects identified throughout the Comprehensive Plan to address existing deficiencies and future needs for each type of public facility and/or service for which the City has operation and maintenance responsibility. These projects, plus improvements by other governmental entities charged with operation and maintenance of certain infrastructure within the City, should ensure adequate capacity is reserved to serve the magnitude and timing of anticipated development in the Future Land Use Map.

Projects included in the SCI are categorized by a target planning horizon for implementation. The two planning horizons maintained for this SCI are short-term (FY 2008-FY 2013) and long-term (beyond FY 2013).

Table 7-2

City of Havelock Comprehensive Plan
Five Year Schedule of Capital Improvements

Capital Project	Need Classification	Planning Level Cost Estimate	Planning Horizon
Community Design			
Implement streetscape improvements for US 70 (Main Street) and Lakeview Road as gateway corridors to the City.	FN	$500,000	Long-Term
Redevelop portions of the City to include central gathering places for medium-sized community events.	FN	$200,000	Long-Term
Transportation			
Implement roadway improvements from the Draft Comprehensive Transportation / Land Use Plan.	ED	$200,000 *	Long-Term
Implement bicycle and pedestrian improvements from the Draft Comprehensive Transportation / Land Use Plan and Comprehensive Parks and Recreation Master Plan.	ED	$600,000 *	Short-Term
Implement transit improvements from the Draft Comprehensive Transportation / Land Use Plan.	ED	$50,000	Long-Term
Implement safety improvements for the following intersections: Fontana Boulevard at Roosevelt Boulevard, Fontana Boulevard at Cunningham Drive, Slocum Road at US 70, Greenfield Heights at Catawba Road, and the intersection of Lake Road / Miller Road / Church Road.	ED	$250,000 *	Short-Term
Complete feasibility study for the US 70/Slocum Gate flyover concept and implement recommendations from the plan.	FN	$500,000 *	Short-Term
Maintain existing City roads.	OM	$1,000,000	Short-Term
Implement miscellaneous traffic calming projects recommended in neighborhood traffic calming studies.	FN	$50,000	Long-Term
Implement miscellaneous projects in support of safe routes to school.	ED	$50,000	Short-Term
Community Facilities and Services			
Sanitary Sewer			
Implement corrective measures that minimize inflow and infiltration in local waste water collection system.	ED	$1,100,000	Short-Term
Implement projects that correct deficiencies at local waste water treatment plant as well as waste water collection system.	ED	$698,560	Short-Term
Continue vehicle and equipment replacement program for Public Works Department.	FN	$285,000	Short-Term
Potable Water			
Replace dead-end distribution lines in the local water distribution system.	ED	$50,000	Short-Term
Continue vehicle and equipment replacement program for Public Works Department.	FN	$75,000	Short-Term

Construct a 12-inch water main and elevated water tank in the western extremes of the City.	ED	$1,445,000	Short-Term
Implement projects that correct deficiencies at local water treatment plant as well as water distribution system.	ED	$3,393,908	Short-Term
Solid Waste			
Continue vehicle and equipment replacement program for Public Works Department.	FN	$173,000	Short-Term
Storm Water Management			
Implement corrective measures for high-prone flood areas in the City.	ED	$1,000,000	Short-Term
Emergency Services (Police, Fire, and EMS)			
Construct a new public safety building on US 70 at Catawba Road.	ED	$3,275,000	Short-Term
Renovate existing public safety building.	ED	$200,000	Short-Term
Continue vehicle and equipment replacement program for fire station.	FN	$1,400,000	Short-Term
Continue vehicle and equipment replacement program for police station.	FN	$366,000	Short-Term
Parks and Recreation			
Implement recommendations for new park locations in the Comprehensive Parks and Recreation Master Plan.	FN	$250,000	Long-Term
Imlement recommendations for new recreation facilities in the Comprehensive Parks and Recreation Master Plan.	FN	$150,000	Long-Term
Construct additional vehicle and bicycle parking where it is now lacking or inadequate.	FN	$100,000	Long-Term
Repave parking lot for Recreation Center Complex.	OM	$180,000	Short-Term
Continue vehicle and equipment replacement program for parks and recreation department.	ED	$5,500	Short-Term
Economic Development			
Implement improvements recommended for the Tourist Events Center.	FN	$45,000	Long-Term
City Government			
Continue purchase of computers and software to support government services.	FN	$322,000	Short-Term
Buildings and Grounds			
Continue vehicle and equipment replacement program for Public Works Department.	ED	$110,000	Short-Term

Notes:

ED = Existing Deficiency
OM = Operation and Maintenance
FN = Future Need
* = Funding partner is anticipated to implement project.

Roles and Responsibilities

Successful implementation of the Comprehensive Plan will depend to a great extent on the ability of local, private, and governmental entities to work together in collaboration. As shown in the plan implementation matrix, many agencies play a role in ensuring successful implementation of all policies throughout the lifetime of the plan.

The action plan details the long range functions of the Comprehensive Plan. The plan provides guidance in planning public expenditures for developing capital improvement projects, determining new projects and programs, and revising the City's land development regulations.

In addition to these long range functions, the Plan should be a tool referenced by property owners, developers, staff, City boards, and the public when making day-to-day development decisions. Below is a description of how each of these entities should utilize the plan on a daily basis.

Property owners and developers should reference the policies and FLUM to determine the types of land use desired by the City. By referencing these tools, developers will design and formulate development proposals that are consistent with the Plan, increasing the chances of project approval. Property owners can reference these tools to gain an understanding of the capabilities and limitations of their property.

Planning and development staff should review development proposals against the policies outlined in the Plan and the FLUM. Staff can advise review boards of policies both supported and in conflict with the proposal and use these tools to formulate a recommendation to their planning board and elected officials.

The general public can reference the policies and FLUM in determining whether to support or oppose a development proposal in the City. Also, these tools help the public gain a better understanding of the development proposals being brought before their local boards.

Planning boards will use these tools to determine consistency of development proposals. Planning boards shall refer to these tools before making a recommendation regarding a development request.

The Board of Commissioners will use these tools to determine consistency of development proposals. The Board of Commissioners shall refer to these tools before taking action on a development request.

Evaluation and Monitoring

Evaluation and monitoring are a critical step in assessing the effectiveness of the Comprehensive Plan. Two years after the date of Coastal Resources Commission (CRC) certification, the City must submit a two year implementation status report for review. Additionally, the Coastal Area Management Act requires the CRC to review the land use planning rules every five years. If the CRC changes the rules, the local government then has six years to update their plan to meet the new/revised rules. Although no additional updates are required, the City of Havelock is encouraged to review and evaluate the plan annually to evaluate the regulatory effectiveness of existing tools and modify, delete, or add policy statements as needed.

Any desired amendments to the plan must be submitted to CRC for review. Only the amended portions of the plan must be submitted, unless the local government amends half or more of the

plan's policies. For details on the amendment process the City should review Section .0900 of Subchapter 7B- Land Use Planning Guidelines of the Coastal Area Management Act rules.

Appendix A

Citizen Participation Plan

Comprehensive Plan

Citizen Participation Plan

Adopted June 20, 2006

Revised by BOC Adoption on March 24, 2008

INTRODUCTION

The City of Havelock is developing a Comprehensive Plan for the planning jurisdiction that will also comply with the minimum rules and requirements of the Coastal Area Management Act (CAMA) for preparing a Core Land Use Plan. One tool for guiding the planning process is a Citizen Participation Plan – created to keep the community informed and encouraged throughout the planning process. Development of the Comprehensive Plan relies extensively on background data and public outreach planned for the Comprehensive Transportation/Land Use Plan. Collectively, these two documents will build grassroots support for guiding anticipated growth and development, while instilling a "sense of place" that defines the City's identity.

The Citizen Participation Plan is available at City Hall throughout the planning process for review by the public.

LEAD PLANNING GROUP

By designation of the Mayor and the Board of Commissioners, the lead planning group responsible for supervision of the planning process will be the Advisory Committee established for the City of Havelock Comprehensive Transportation/Land Use Plan. The principle points of contact for preparing the CAMA Core Land Use Plan will be Charles Barnard, representative for the Advisory Committee; Scott Chase, Planning Director; and Jim Freeman, City Manager. The names and addresses for all members of the Advisory Committee are listed in Attachment A.

The Advisory Committee is responsible for providing overall leadership and guidance for preparing the Comprehensive Plan. Members of the Advisory Committee have the following specific duties and responsibilities:

- Regular attendance at monthly coordination meetings;
- Provide overall guidance for developing the Comprehensive Plan;
- Review technical planning materials to ensure that they accurately represent current conditions and development trends in Havelock;
- Actively participate in defining the future, long-term vision for growth and development within Havelock – summarized in community concerns and aspirations, a community vision,

a future land use map, and goals, objectives, and policies for guiding future growth and development towards a common vision;

- Assist with organization, management, and facilitation of public participation events;
- Publicize outreach events and tools within the community and recruit residents and business owners to attend; and
- Recommend to the City of Havelock Planning Board and Board of Commissioners a Comprehensive Plan for submittal to the North Carolina Coastal Resource Commission for certification.

The Advisory Committee will meet monthly throughout the planning process. Meetings are scheduled for the third Thursday of each month, between 5:30 – 7:00 p.m., beginning in May 2008. Meetings will be held in the conference room of the Planning and Inspections Department, located at 1 Governmental Avenue (adjacent to City Hall).

All regular meetings of the Advisory Committee will allocate time to hear comments from the public related to development of the Comprehensive Plan. A list of the names of speakers offering public comment and a copy of any written comments provided to the Advisory Committee will be kept on file by the City's Planning and Inspections Department and provided to the North Carolina Division of Coastal Management District Planner to supplement their review of the draft land use plan.

Attachment B provides an outline of the meeting schedule and discussion topics for each meeting.

INITIAL PUBLIC INFORMATION MEETING

The initial public information meeting for the Comprehensive Plan is scheduled for August 17, 2006. Written notice of the meeting date, time, and location will be published in a newspaper of general circulation within the planning jurisdiction (i.e., Havelock News or Sun Journal) at least twice prior to holding the public information meeting. The first notice will appear not less than 30 days prior to the meeting. The second notice will appear not less than 10 days prior to the meeting. Notice of the meeting should also be conveyed to local North Carolina Coastal Resources Advisory Council members and to the North Carolina Division of Coastal Management District Planner.

The City of Havelock is solely responsible for advertising the initial public information meeting in accordance with the rules and requirements for preparing a CAMA Core Land Use Plan.

The purpose of the public information meeting is to educate the community about the purpose of the Comprehensive Plan, present a series of baseline conditions to serve as the foundation for future decision-making, and to seek input from the general public for guiding the planning process. Specific topics to be addressed during the initial public information meeting include:

- CAMA land use planning 101
- City land use profile (presentation of composite maps and demographic data)
- Land suitability analysis
- Review of City's current CAMA Core Land Use Plan
- Brainstorming (issues/opportunities & goals/objectives for leading the planning process)
- Vision statement

Together, these planning efforts seek to translate community ideas and values into shared and concrete goals for guiding development of the comprehensive plan.

COMMUNICATION STRATEGIES

The following communication strategies will be used at set milestones during the planning process to convey information and seek public input.

Advisory Committee

The Advisory Committee (AC) provides guidance to City staff and the consultant hired to lead the planning process. Members represent diverse interests within the community, but they are all encouraged to maintain a broad view for guiding the planning document towards the betterment of the entire community. Representatives for the North Carolina Department of Transportation (NCDOT) and the North Carolina Division of Coastal Management (NCDEM) will be invited to all AC meetings.

The Advisory Committee will meet monthly for development of the planning document. The consultant hired to lead the planning process will provide information and all appropriate communications to the AC. Technical studies for the project and draft report materials will be provided to the Advisory Committee periodically for review and comment. Meetings of the Advisory Committee will be noticed per normal city requirements.

Public Workshops

Two publicly-noticed workshops will be hosted during the planning process. These meetings will be held at separate locations and span a late afternoon and evening. The purpose of the first workshop is to present and receive feedback/community affirmation regarding current baseline conditions and issues to be addressed with development of the Comprehensive Plan. The second workshop will be used to evaluate draft recommendations and policies prepared in both plans for refinement in the public setting.

The format for the public workshops will be a combination of a formal presentation, question and answer period, and "drop-by-anytime" displays staffed by members of the Advisory Committee, City staff, or representatives of the consultant hired to assist with preparing the Comprehensive Plan. The content of the presentations may be repeated multiple times in the same meeting to ensure that senior citizens, residents, business owners, and commuters stopping by the event are afforded an opportunity to hear and provide comments for plan development.

Stakeholder Interviews

Stakeholder interviews will be scheduled over a two-day period with representatives of key focus groups within the City to educate them on the process of developing the Comprehensive Plan and to seek their input on key issues facing the community for consideration in developing the plan. These interviews will be conducted by the consultant hired to assist with preparing the Comprehensive Plan with assistance from City staff. Twelve individuals identified for stakeholder interviews include:

- Robin Maxbauer, City of Havelock Interim Planning Director
- Jim Freeman, City of Havelock Manager
- Joy Mason, City of Havelock Chamber of Commerce
- Brenda Wilson, Century 21 – Residential Sales
- Lee Tillman, City of Havelock Finance Director
- Tyler Harris, Marine Corps Air Station Cherry Point Community Liaison
- Dave Smith, City of Havelock Parks and Recreation Director
- Dave Harvell, City of Havelock Public Services Director
- Harvey Hurst, Century 21 – Commercial Sales

- Martin Cieszko, Commercial Real Estate Developer
- George Liner, Homeowner
- Raine Lewis, Homeowner

Subsequent to the stakeholder interviews, the consultant hired to assist with preparing the Comprehensive Plan will summarize the comments volunteered at these meetings into official "records of contact" that will be referred to routinely during development of the plan.

Project Website

A project website has been set up for the combined efforts to develop a Comprehensive Transportation/Land Use Plan and Comprehensive Plan. It can be accessed at www.kimley-horn.com/projects/Havelock. Information included on the website is organized according to the following general headings: background, meetings, maps/presentations, recommendations, public survey, and contact information.

The website will remain active for the life of the project.

Citizen Surveys

A mail-out citizen survey has been developed for the City of Havelock Comprehensive Plan. The survey will be tested with the Advisory Committee before distribution to citizens at the public information meeting and subsequent public workshops. A copy of the citizen survey has also been uploaded to the project website for more wide-spread distribution among the community.

Results from the citizen survey will be tabulated and incorporated into both the City of Havelock Comprehensive Plan.

Media Outlets

The City of Havelock will periodically issue press releases and make efforts to notify the local media of available information regarding the update to the Comprehensive Plan. Information will be released to recipients on the local "sunshine list", including local radio, television, and newspaper outlets and the local Chamber of Commerce.

CPP MONITORING

The Mayor and the Board of Commissioners will evaluate the Citizen Participation Plan throughout the planning process. Adjustments will be made, as necessary, to maintain a minimum level of public participation desired by elected officials to build grassroots support for the Comprehensive Plan.

A major review and evaluation of the Citizen Participation Plan will be conducted at the conclusion of Phase I of the Comprehensive Plan (anticipated in June 2007).

Attachment A

Transportation/Land Use Advisory Committee Members

Jackie Attaway
518 Webb Boulevard
Havelock, NC 28532

Sue Faught
217 Wildwood Road
Havelock, NC 28532

Marshell Lavoie
230 Hollywood Boulevard
Havelock, NC 28532

Mike Moody
103 Sumter Drive
Havelock, NC 28532

Trina Sage
204 Charles Street
Havelock, NC 28532

Eva Sermons
218 Bryan Boulevard
Havelock, NC 28532

Danny Walsh
(Commission Representative)
706 Lee Drive
Havelock, NC 28532

Tyler Harris
(MCAS Representative)
MCAS Cherry Point
PSC Box 8003
Havelock, NC 28532

Robert Emerson
126A E. Sherwood Drive
Havelock, NC 28532

Jerry Jackson
P.O. Box 1025
Havelock, NC 28532

Reine Lewis
212 Belltown Road
Havelock, NC 28532

Jean Nast
117 Church Road
Havelock, NC 28532

Gwen Schultz
102 Roosevelt Boulevard
Havelock, NC 28532

Misty Yoder
11 Donnell Avenue
Havelock, NC 28532

Charles Barnard
(Planning Board Representative)
514 Red Fox Court
Havelock, NC 28532

Scott Chase
(Planning Director)
1 Government Avenue
Havelock, NC 28532

Attachment B

Meeting Schedule / Discussion Topics

Meeting	Discussion Topics
August 2006	CAMA Land Use Planning 101, Demographic Profile, Land Suitability Analysis, Evaluate Current CAMA Land Use Plan Policies
September 2006	Review Draft Background Reports
October 2006	Develop Future Land Use Map
December 2006	Review Draft Comprehensive Plan (Ph I CAMA Requirements)
May 2007	Review Draft Goals, Objectives, and Policies
June 2007	Review Draft Action Plan/Implementation Strategies
June 2007	Review Draft Comprehensive Plan (Ph I & II CAMA Requirements)
June 2007	Presentation of Phase 1 Draft Materials
May 2008	Presentation of Goals, Objectives, and Policies; Action Plan; and Implementation Strategies
July 2008	Endorsement of the Draft CAMA Land Use Plan

Appendix B

Citizen Mail-Out Survey Results

The Board of Commissioners needs your input concerning the future of Havelock. We are developing a Comprehensive Plan for the planning jurisdiction that will serve as the official adopted statement of the community – representing a blueprint for long-term, sustainable growth. The citizen survey that follows is voluntary, but your input is essential to building grassroots support for the document. Your candidate responses will be combined with other background materials collected during the planning process to shape goals and policies in the Comprehensive Plan that will affect all new development and redevelopment within the community.

Completed surveys should be returned in the same envelope with your monthly water bill payment, or if paying your water bill in person you may return the survey at the payment window. Please direct all questions related to the Comprehensive Plan to Scott Chase, Planning Director, at the City of Havelock. He can be reached via telephone at 444-6411.

1. Which of the following best describes your relationship to the City of Havelock: *(check all that apply)*

   ☐ Permanent Resident
   ☐ Non-Resident Property Owner
   ☐ Owner/operator of a business in the City of Havelock
   ☐ Shop within the City

2. Please provide address, neighborhood or development name. If a business owner, please provide the business address.

   _____

3. If a resident, how long have you lived in the City of Havelock? *(check one)*

   ☐ Less than one year
   ☐ 1-5 years
   ☐ 5-10 years
   ☐ More than 10 years
   ☐ Do not reside in Havelock

4. Do you work within the City?

   ☐ Yes
   ☐ No

5. How far is your commute to work? (*check one*)

   ☐ Within a mile
   ☐ 1-5 miles
   ☐ 5-10 miles
   ☐ More than 10 miles

6. How would you rate the following transportation issues in the City of Havelock? *(check one)*

	Excellent	Good	Fair	Poor
Condition of Roads	☐	☐	☐	☐
Traffic Congestion Levels	☐	☐	☐	☐
Attractiveness of Roads	☐	☐	☐	☐
Traffic Safety Measures	☐	☐	☐	☐
Sidewalks/Crosswalks	☐	☐	☐	☐
Bicycle Paths/Lanes/Greenways	☐	☐	☐	☐
Signal System (i.e., traffic lights)	☐	☐	☐	☐
Transit Services	☐	☐	☐	☐

7. How would you rate the quality-of-life in the City for the following? (*check one*)

	Excellent	Good	Fair	Poor
Neighborhoods	☐	☐	☐	☐
Housing	☐	☐	☐	☐
Employment Opportunities	☐	☐	☐	☐
Parks/Recreation	☐	☐	☐	☐
Community events/Activities	☐	☐	☐	☐
Natural Environment	☐	☐	☐	☐
Sense of Community	☐	☐	☐	☐
Safety/Security	☐	☐	☐	☐
Schools/Education	☐	☐	☐	☐
Air Quality	☐	☐	☐	☐
Community Safety	☐	☐	☐	☐
Entertainment/Restaurants	☐	☐	☐	☐

8. How would you rate the quality of the following services in the City of Havelock? (*check one*)

	Excellent	Good	Fair	Poor
Drinking Water	☐	☐	☐	☐
Sanitary Sewer	☐	☐	☐	☐
Schools	☐	☐	☐	☐
Police	☐	☐	☐	☐
Fire	☐	☐	☐	☐
Drainage	☐	☐	☐	☐
Trash Collection	☐	☐	☐	☐
Parks & Open Space	☐	☐	☐	☐
Libraries	☐	☐	☐	☐
Recreational Opportunities	☐	☐	☐	☐

(More questions on back)

9. Which of the following are NEEDED in the City of Havelock? *(check one)*

	Yes	No	No Opinion
Hotels	☐	☐	☐
Business Offices	☐	☐	☐
Shopping Malls	☐	☐	☐
Supermarkets	☐	☐	☐
Movie Theaters	☐	☐	☐
More Parks/Open Space	☐	☐	☐
Downtown/City Center	☐	☐	☐
Daycare Facilities	☐	☐	☐
Hospital/Medical Services	☐	☐	☐
Schools	☐	☐	☐
Historic District	☐	☐	☐
Affordable Housing	☐	☐	☐
Restaurants	☐	☐	☐
Manufacturing	☐	☐	☐

Other (*please specify*) _____

10. What additional services would you like the City to provide?

_____

11. Please rank the following list of improvements that should be made by the City.

SERVICE	RANK 1-10 (1=Highest)
Plant trees along streets	_____
City 'Gateway' features	_____
Improve storm drainage facilities	_____
Neighborhood traffic calming	_____
Additional parks & rec facilities	_____
Bicycle facilities	_____
Sidewalks	_____
Greenway system	_____
Establish a Downtown/City Center	_____
Increase jobs and per capita tax base	_____
Other (Please specify) _____	_____

12. What do you LIKE most about the City of Havelock?

_____

13. What do you DISLIKE most about the City of Havelock?

_____

14. What type of residential development is desired in Havelock? *(check one)*

☐ Single family
☐ Multi family
☐ Townhouse/Condominium
☐ Traditional Neighborhoods with mixed uses

15. What price ranges for housing do you think are important for the City and its neighborhoods? *(check one or more)*

☐ Less than $75,000
☐ $75,000 - $100,000
☐ $100,000 - $150,000
☐ $150,000 - $200,000
☐ $200,000 - $250,000
☐ $250,000 - $300,000
☐ More than $300,000

16. Should the City regulate architecture, materials, and designs of buildings? *(check one)*

	Yes	No	No Opinion
Commercial	☐	☐	☐
Business Offices	☐	☐	☐
Industrial	☐	☐	☐
Residential-Multifamily	☐	☐	☐

17. Do you feel that existing codes and ordinances administered in the City of Havelock are sufficiently protecting your property interests? *(check one)*

☐ Yes
☐ No
☐ Area for improvement

Comprehensive Plan Update

Citizen Survey Results

The City of Havelock is developing a Comprehensive Plan for the planning jurisdiction that will serve as the official adopted statement for the Board of Commissioners and a blueprint for long-term, sustainable growth within the community. Looking forward twenty-five years, the plan ensures that local character and values are instilled in every future decision impacting the community.

Preparation of the City's Comprehensive Plan is guided by a Citizen Participation Plan (CPP) adopted by the Board of Commissioners on July 24, 2006. The CPP provides a framework for maintaining significant opportunities for public involvement throughout the planning process. One of many tools employed in the CPP is a mail-out citizen survey, designed to document concerns and aspirations within the community that will guide development of the Comprehensive Plan.

The survey questionnaire was developed by the consultant hired to prepare the Comprehensive Plan with guidance from City staff. A copy of the survey instrument and a map depicting concentrations of returned surveys within the community are attached with this summary report. Questionnaires were included in the City's water and sewer utility bills mailed to customers on November 30, 2006. Approximately 435 valid surveys were returned from the initial distribution to 5,158 water and sewer customers. This represents a response rate of 8.4 percent. Typically, a one time mail-out survey will achieve a response rate of three percent or less.

The results of the survey were entered into an electronic database and tabulated. A summary of the survey results and an analysis of the responses are presented below. Community concerns and aspirations voiced through the mail-out survey will be combined with comments recorded earlier at the initial public information meetings held for the project. Together, this information will guide development of the goals and objectives included in the Comprehensive Plan.

Question No. 1

Which of the following best describes your relationship to the City of Havelock?

	Responses	
	Number	Percent
Permanent resident	394	91%
Non-resident property owner	18	4%
Non-resident military	3	1%
Owner/operator of business in the City	18	4%
Shop within the City	1	0%
No response	1	0%
Total	435	100%

Inference: The overwhelming majority of survey respondents are permanent residents. These individuals have a direct interest in seeing through a vision developed for the community, and will demand implementation of the core vision and policies formed by the Comprehensive Plan.

City of Havelock
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Question No. 2

Please provide address, neighborhood or development name. If a business owner, please provide the business address.

A database of addresses, neighborhoods, and development names volunteered by survey respondents was used to validate the results and the geographic distribution of opinions registered from members of the community. A map illustrating the general distribution of survey respondents is attached.

Inference: The attached map confirms that all areas of the city are represented within the survey results.

Question No. 3

If a resident, how long have you lived in the City of Havelock?

	Responses	
	Number	Percent
Less than one year	35	8%
1 - 5 years	84	19%
5 - 10 years	46	11%
More than 10 years	253	58%
Do not reside in Havelock	8	2%
No response	9	2%
Total	435	100%

Inference: More than 69% of the respondents in the survey have lived in Havelock for more than 5 years. These individuals are well integrated into the community fabric, and represent viewpoints from the populace that are based on sustained exposure to existing conditions and service delivery standards prevalent within Havelock.

Question No. 4

Do you work within the City?

	Responses	
	Number	Percent
Yes	237	54%
No	155	36%
Retired	37	9%
No response	6	1%
Total	435	100%

Inference: A majority of survey respondents work within city limits or are retired; however, a relatively large percentage (36%) must leave the city daily for employment opportunities. Results from the commute to work question (see below) indicate that many of these people are traveling 10 miles or more between home and work.

City of Havelock
Growing With Our Future in Mind

Question No. 5

How far is your commute to work?

	Responses	
	Number	Percent
Within a mile	53	12%
1 - 5 miles	175	40%
5 - 10 miles	31	7%
More than 10 miles	86	20%
Retired	46	11%
No response	44	10%
Total	435	100%

Inference: A majority of survey respondents live within relatively close proximity to their employer. Minimizing the distance between home and work is an excellent opportunity to promote walking, bicycling, and a community transit system. Removing even a small percentage of total trips less than 5 miles in length (52%) from the City's road network during peak travel times would have a positive benefit on current traffic conditions.

Question No. 6

How would you rate the following transportation issues in the City of Havelock?

		Excellent	Good	Fair	Poor	No Response
Condition of Roads						
	Responses	8	154	199	64	10
	Percent	2%	35%	46%	15%	2%
Traffic Congestion Levels						
	Responses	6	159	187	72	11
	Percent	1%	37%	43%	17%	3%
Attractiveness of Roads						
	Responses	6	117	201	97	14
	Percent	1%	27%	46%	22%	3%
Traffic Safety Measures						
	Responses	19	199	148	54	15
	Percent	4%	46%	34%	12%	3%
Sidewalk/Crosswalks						
	Responses	4	85	136	194	16
	Percent	1%	20%	31%	45%	4%
Bicycle Paths/Lanes/Greenways						
	Responses	1	57	109	240	28
	Percent	0%	13%	25%	55%	6%
Signal System						
	Responses	12	156	170	87	10
	Percent	3%	36%	39%	20%	2%
Transit Services						
	Responses	1	29	66	267	72
	Percent	0%	7%	15%	61%	17%

Inference: Overall, survey respondents see a significant need for improving the local transportation system. Most components of the transportation system received a rating of "fair" to "poor". The Comprehensive Plan should compliment recommendations in the Comprehensive Transportation/Land Use Study (completed in 2007) for improving the local transportation system.

Question No. 7

How would you rate the quality-of-life in the City for the following?

		Excellent	Good	Fair	Poor	No Response
Neighborhoods						
	Responses	42	287	88	7	11
	Percent	10%	66%	20%	2%	3%
Housing						
	Responses	17	283	108	14	13
	Percent	4%	65%	25%	3%	3%
Employment Opportunities						
	Responses	4	57	198	150	26
	Percent	1%	13%	46%	34%	6%
Parks/Recreation						
	Responses	28	184	158	54	11
	Percent	6%	42%	36%	12%	3%
Community Events/Activities						
	Responses	17	179	171	54	14
	Percent	4%	41%	39%	12%	3%
Natural Environment						
	Responses	16	193	168	36	22
	Percent	4%	44%	39%	8%	5%
Sense of Community						
	Responses	25	194	158	48	10
	Percent	6%	45%	36%	11%	2%
Safety/Security						
	Responses	43	251	111	19	11
	Percent	10%	58%	26%	4%	3%
Schools/Education						
	Responses	49	225	115	20	26
	Percent	11%	52%	26%	5%	6%
Air Quality						
	Responses	53	271	87	8	16
	Percent	12%	62%	20%	2%	4%
Community Safety						
	Responses	37	260	108	19	11
	Percent	9%	60%	25%	4%	3%
Entertainment/Restaurants						
	Responses	2	36	134	254	9
	Percent	0%	8%	31%	58%	2%

Inference: Overall, survey respondents seem content with the quality-of-life being supported within the City of Havelock. Most indicators for the health of the community were rated "good". Two areas for improvement are "employment opportunities" and "entertainment/restaurants". This message is consistent with other responses throughout the survey.

Question No. 8

How would you rate the quality of the following services in the City of Havelock?

		Excellent	Good	Fair	Poor	No Response
Drinking Water						
	Responses	21	194	123	92	5
	Percent	5%	45%	28%	21%	1%
Sanitary Sewer						
	Responses	17	101	265	37	15
	Percent	4%	23%	61%	9%	3%
Schools						
	Responses	47	234	100	23	31
	Percent	11%	54%	23%	5%	7%
Police						
	Responses	81	255	70	22	7
	Percent	19%	59%	16%	5%	2%
Fire						
	Responses	100	271	51	2	11
	Percent	23%	62%	12%	0%	3%
Drainage						
	Responses	7	85	166	167	10
	Percent	2%	20%	38%	38%	2%
Trash Collection						
	Responses	38	197	130	62	8
	Percent	9%	45%	30%	14%	2%
Parks & Open Space						
	Responses	30	204	146	47	8
	Percent	7%	47%	34%	11%	2%
Libraries						
	Responses	96	238	74	13	14
	Percent	22%	55%	17%	3%	3%
Recreation Opportunities						
	Responses	21	159	158	83	14
	Percent	5%	37%	36%	19%	3%

Inference: Survey respondents generally agree that public facilities and services provided within Havelock are "good" or "excellent". Two areas for improvement relate to "drainage" and "sanitary sewer" infrastructure. Specific comments recorded under Question 10 validate these results.

City of Havelock
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Question No. 9

Which of the following are NEEDED in the City of Havelock?

		Yes	No	No Opinion	No Response
Hotels					
	Responses	55	253	98	29
	Percent	13%	58%	23%	7%
Business Offices					
	Responses	107	172	118	38
	Percent	25%	40%	27%	9%
Shopping Malls					
	Responses	322	62	30	21
	Percent	74%	14%	7%	5%
Supermarkets					
	Responses	248	120	38	29
	Percent	57%	28%	9%	7%
Movie Theaters					
	Responses	133	194	74	34
	Percent	31%	45%	17%	8%
More Parks/Open Space					
	Responses	218	119	68	30
	Percent	50%	27%	16%	7%
Downtown/City Center					
	Responses	201	131	74	29
	Percent	46%	30%	17%	7%
Daycare Facilities					
	Responses	113	142	150	30
	Percent	26%	33%	34%	7%
Hospital/Medical Services					
	Responses	282	68	59	26
	Percent	65%	16%	14%	6%
Schools					
	Responses	123	184	95	33
	Percent	28%	42%	22%	8%
Historic District					
	Responses	117	180	107	31
	Percent	27%	41%	25%	7%
Affordable Housing					
	Responses	236	90	78	31
	Percent	54%	21%	18%	7%
Restaurants					
	Responses	380	25	19	11
	Percent	87%	6%	4%	3%
Manufacturing					
	Responses	251	90	68	26
	Percent	58%	21%	16%	6%

Inference: Survey respondents send a clear message for the target businesses and services desired within the community. Land uses in the Future Land Use Map (FLUM) should be made to accommodate additional shopping malls, supermarkets, parks, a hospital, affordable housing, restaurants, manufacturing uses, and affordable housing. Conversely, survey respondents perceive sufficient land use already exists for hotels, office, movie theaters, and schools. A designed historic district is not supported by the survey results.

Question No. 10

What additional services would you like the City to provide?

This was an open-ended question within the survey. A database of additional services requested within the community represents a wide variety of responses. Generalized themes summarized by the consultant after reviewing the survey results include:

- A need for more active and passive recreation opportunities citywide
- Support voiced for aesthetic improvements within the community that reinforce a brand or identity that is unique to Havelock
- A need for better code enforcement (eg, trash, noise, and speeding)
- Program more free community events throughout the year
- Improve the delivery of government services
- Address drainage problems common within the city (eg., localized flooding)
- Expand current social service programs available to teens and single parents
- Enhance the existing public transportation system and improve access for teens and senior citizens
- Evaluate current fee structure for trash collection services within city limits
- Attract more commercial retail and restaurant options for serving the community

Inference: Repeated comments in the survey results strongly support the list of deficiencies noted above. Plans, programs, and policies contained within the Comprehensive Plan should set forth a plan of action for addressing these community concerns.

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Question No. 11

Please rank the following list of improvements that should be made by the City.

	1 (Highest)	2	3	4	5	6	7	8	9	10 (Lowest)
Plant trees along the street										
Responses	12	5	5	12	16	18	12	13	17	29
Percent	9%	4%	4%	9%	12%	13%	9%	9%	12%	21%
City gateway features										
Responses	2	4	2	11	8	12	18	19	33	30
Percent	1%	3%	1%	8%	6%	9%	13%	14%	24%	22%
Improve storm drainage facilities										
Responses	50	28	20	8	7	6	5	7	1	7
Percent	36%	20%	14%	6%	5%	4%	4%	5%	1%	5%
Neighborhood traffic calming										
Responses	9	16	17	18	11	14	19	16	13	6
Percent	6%	12%	12%	13%	8%	10%	14%	12%	9%	4%
Additional parks & recreation										
Responses	4	7	20	24	15	27	16	13	6	7
Percent	3%	5%	14%	17%	11%	19%	12%	9%	4%	5%
Bicycle facilities										
Responses	2	15	17	20	28	14	16	10	8	9
Percent	1%	11%	12%	14%	20%	10%	12%	7%	6%	6%
Sidewalks										
Responses	18	24	14	20	23	18	6	9	4	3
Percent	13%	17%	10%	14%	17%	13%	4%	6%	3%	2%
Greenway system										
Responses	2	6	8	9	14	10	21	29	27	13
Percent	1%	4%	6%	6%	10%	7%	15%	21%	19%	9%
Establish a downtown/city center										
Responses	6	6	18	6	9	9	19	16	20	30
Percent	4%	4%	13%	4%	6%	6%	14%	12%	14%	22%
Increase jobs/tax balance										
Responses	37	28	17	9	10	9	5	6	8	10
Percent	27%	20%	12%	6%	7%	6%	4%	4%	6%	7%

Note: 68% of total survey respondents (296 people) choose not to fully answer this question. Percentages shown above represent a pool of 139 survey respondents.

Inference: Based on weighted response averages, the final rankings (from highest to lowest) for the ten most desired improvements are as follows: improve storm drainage facilities, increase jobs/tax base, sidewalks, bicycle facilities/neighborhood traffic calming (tie), additional parks and recreation, plant trees along the street, establish a downtown/city center, greenway system, and city gateway features.

Question No. 12

What do you LIKE most about the City of Havelock?

This was an open-ended question within the survey. A database of additional services requested within the community represents a wide variety of responses. Generalized themes summarized by the consultant after reviewing the survey results include:

- It is a safe, convenient, and close-knit community for raising children and living as a family
- Close proximity to MCAS – Cherry Point, New Bern, and Morehead City (beach)
- Low cost-of-living, property taxes, and crime rate
- High-quality city services, especially police and fire

Inference: Repeated comments in the survey results strongly support the list of positive amenities noted above. Plans, programs, and policies contained within the Comprehensive Plan should build on these community assets.

City of Havelock
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Question No. 13

What do you DISLIKE most about the City of Havelock?

This was an open-ended question within the survey. A database of additional services requested within the community represents a wide variety of responses. Generalized themes summarized by the consultant after reviewing the survey results include:

- Shopping needs and the desire to visit a restaurant force citizens to leave the City for New Bern and Morehead City
- The general appearance of the city is unattractive, especially the US 70 Corridor
- We need more high-paying jobs in Havelock
- The drainage system routinely fails during heavy rains.

Inference: Repeated comments in the survey results strongly support the list of critical issues noted above. Plans, programs, and policies contained within the Comprehensive Plan should set forth a plan of action for addressing these community concerns.

Question No. 14

What type of residential development is desired in Havelock?

	Responses	
	Number	Percent
Single family	205	47%
Multi family	10	2%
Townhouse/Condominium	12	3%
Traditional neighborhoods w/ mixed uses	172	40%
No response	36	8%
Total	435	100%

Inference: The preferences for future residential development within the planning jurisdiction are generally in line with current residential housing types (80% single family / 20% multifamily). However, survey respondents voice a significant desire to see new development patterns emerge based on the principles of new urbanism (i.e., higher densities, mix of land uses, and connected street patterns).

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Question No. 15

What price ranges for housing do you think are important for the City and its neighborhoods (check one or more)?

	Responses	
	Number	Percent
Less than $75,000	65	11%
$75,000 - $100,000	168	28%
$100,000 - $150,000	207	35%
$150,000 - $200,000	108	18%
$200,000 - $250,000	34	6%
$250,000 - $300,000	12	2%
More than $300,000	3	0%
Total	597	100%

Inference: Results from Question 15 support a need to continue supplying housing stock at the price points accustomed to Havelock. Several stakeholders interviewed throughout the planning process voiced a need to stay within the limits of the off-base housing allowance available to enlisted member of MCAS – Cherry Point.

Question No. 16

Should the City regulate architecture, materials, and designs of buildings?

		Yes	No	No Opinion	No Response
Commercial					
	Responses	256	81	73	25
	Percent	59%	19%	17%	6%
Business Offices					
	Responses	232	88	83	32
	Percent	53%	20%	19%	7%
Industrial					
	Responses	241	81	81	32
	Percent	55%	19%	19%	7%
Residential - Multifamily					
	Responses	176	173	62	24
	Percent	40%	40%	14%	6%

Inference: There is strong support among survey respondents to regulate architecture, materials, and design for all types of development. The Comprehensive Plan should take this into consideration when recommending plans, programs, and policies that will instill a sense of place unique for the community.

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Question No. 17

Do you feel that existing codes and ordinances administered in the City of Havelock are sufficiently protecting your property interests?

	Responses	
	Number	Percent
Yes	175	40%
No	56	13%
Area for improvement	174	40%
No opinion	6	1%
No response	24	6%
Total	435	100%

Inference: The majority of survey respondents (53%) voiced concern for existing codes and ordinances administered within Havelock. The Comprehensive Plan should include policies that establish a planning framework for future projects budgeted by the City to update the existing land development code.

Appendix C

Environmental and Land Suitability Analysis Evaluation Matrix

City of Havelock Comprehensive Plan
Environmental and Land Suitability Analysis
Evaluation Matrix

The attached matrix is used to weight community preferences for certain features of land suitability that influence future development and redevelopment within the city. The process for weighting the relationship between land suitability features makes use of a constant-sum, paired comparison evaluation matrix. This matrix is designed to compare each feature to the remaining fourteen for determining the overall importance of the feature in relation to the total list. For your convenience, each of the land suitability features is defined on the attached sheet.

You are asked to assign a "bundle" of ten points between each pair of features identified in the matrix. For example, if you feel that developing along major roads is far more important than developing where there are existing water supply lines, enter a score of "10" for major roads and a score of "0" for water supply lines (see Example 1 below). If, on the other hand, you feel that developing along major roads is about equal in importance to developing where there are existing water supply lines, enter a score of "5" for major roads and "5" for water supply lines (see Example 2 below). There are no restrictions for the assignment of points within each square so long as the numeric relationship adds up to ten.

In the matrix, all scores entered in the lower left portion of the square correspond to features listed vertically along the left side of the matrix. Scores entered in the upper right portion of the square correspond to the features listed horizontally along the top of the matrix.

Example 1 (Strong preference for major roads)

	Water Supply Lines
Major Roads	10 / 0

Example 2 (Equal preference for two features)

	Water Supply Lines
Major Roads	5 / 5

Please return completed evaluation matrices to Robin Maxbauer at the City of Havelock Planning Department. Your completed matrix is appreciated before September 1, 2006.

City of Havelock
Growing With Our Future in Mind

City of Havelock Comprehensive Plan
Environmental and Land Suitability
Feature Definitions

Proximity to Major Roads: Measures your preference for focusing new development and/or redevelopment along existing major roads within the study area. Major roads represent all collector and arterial streets identified in the draft City of Havelock Comprehensive Transportation/Land Use Plan.

Proximity to Water Supply Lines: Measures your preference for focusing new development and/or redevelopment near existing water supply lines serving the study area. Existing water supply lines are those represented in the state's database maintained by the North Carolina Center for Geographic Information and Analysis (NC CGIA).

Proximity to Sewer Lines: Measures your preference for focusing new development and/or redevelopment near existing sanitary sewer lines serving the study area. Existing sanitary sewer lines are those represented in the state's database maintained by the North Carolina Center for Geographic Information and Analysis (NC CGIA).

Location in Designated Aircraft Protection Zones: Represents those areas of the city located within aircraft protection zones, designated jointly by the Marine Corps Air Station Cherry Point and the City of Havelock. Additional development controls in these areas maintain safe flight operations for military planes and safeguard surrounding land uses against possible catastrophes.

Environmental Suitability Analysis Class II: Land that has hazards and limitations for development that can be addressed by restrictions on land uses, special site planning, or the provision of public services, such as water and sewer. Land in this class will generally support only the less intensive uses, such as low-density residential, without significant investment in services.

Environmental Suitability Analysis Class III: Land that has serious hazards and limitations. Land in this class will generally support very low-intensity uses such as conservation and open space.

Steep Slope Areas: Represents areas of the city with measured slopes greater than 10%. Development on slopes greater than 10% is not impossible, but disturbing those areas creates new challenges for the environment in a coastal community.

Unsuitable Soils for Development: Represents areas of the city identified by the US Department of Agriculture's Natural Resources Conservation Service as "very limited" for supporting certain types of development. Engineering technologies could mitigate impacts to unsuitable soils for development; however, these are generally very expensive and sometimes fail – resulting in negative impacts to the property and the surrounding environment.

City of Havelock
Growing With Our Future in Mind

Soils with Septic Limitations: Represents soils identified with low percolation rates for supporting septic systems. These locations require additional land area to absorb the impacts of a single septic system. Soils with septic limitations are generally designated either for conservation uses or very low residential development in most communities.

Designated Conservation Areas: Represents those areas formally designated and managed by federal, state, and local governmental agencies as permanent conservation areas or open space.

Proximity to Significant Natural Heritage Sites: Represents those areas designed by federal, state, and local governments as areas of significance to the city's natural heritage. Examples for natural heritage sites may include threatened/endangered plant and animal habitats and areas of environmental concern.

Location in the 100-year Floodplain: Represents those areas of the city located within the 100-year flood plain designated by the Federal Emergency Management Agency (FEMA). These areas have a 1% chance of flooding from annual storm events.

Location in Designated Wetland Area: Represents those areas of the city located within wetlands designated by the North Carolina Division of Coastal Management. These lands flood consistently with normal rain events.

Location in Designated Storm Surge Area: Represents those areas of the city where water from the Neuse River and/or its tributaries may reach inland from tropical storms or hurricanes that hit the State of North Carolina.

Location in Public Trust Waters Buffer: From the Division of Coastal Management's Area of Environmental Concern for Coastal Shorelines. The Public Trust Waters Buffer is defined as all lands within 30 feet of the normal high water level of public trust waters which are located inland of the dividing line between coastal fishing waters and inland fishing waters. In Havelock, this pertains to Slocum and Hancock Creeks.

Location in Estuarine Waters Buffer: From the Division of Coastal Management's Area of Environmental Concern for Coastal Shorelines. The Estuarine Waters Buffer is defined as all lands within 75 feet of the normal high water level of estuarine water. In Havelock, this pertains to Slocum and Hancock Creeks.

Appendix D

Plan Consistency Matrix

Plan Consistency Matrix

CAMA Management Topics

Policy #	Policy	Management Topic	Impact	Mitigation Strategy (for detrimental impacts only)
1.1.1	The following future land use categories depicted on the City's Future Land Use Map are identified, and the use and development standards for each defined, below: [description of future land use categories]	Land Use Compatibility	neutral	
1.1.2	Development potential for parcels within the City of Havelock shall be determined in conformance with the City of Havelock Land Use Regulations. Consistent with these regulations, development potential for land uses depicted on the future land use map shall be enumerated based on the net number of acres available for development; assuming removal of environmentally-sensitive lands, water bodies, rights-of-way, etc. (see City's Zoning Ordinance for detailed rules and procedures).	Land Use Compatibility	neutral	
1.1.3	Houses of worship or other permitted non-residential uses continue to be allowed in all residential categories on the FLUM; however, if located in or near neighborhoods, adverse impacts to the tranquility of the residents around the allowed use and in the surrounding neighborhood must be minimized to the maximum extent possible. Therefore, in residential land use areas, houses of workshop and other permitted non-residential uses are allowed on a conditional basis.	Land Use Compatibility	neutral	
1.1.4	Small-scale public facilities and utilities intended to serve the immediate needs of the community continue to be allowed in all future land use categories subject to adequate design and buffering requirements determined by the City.	Land Use Compatibility	neutral	
1.1.5	Home occupations may be approved in all residential land use categories provided that the activity is secondary and incidental to the primary residential use, maintains a residential appearance, does not adversely impact the surrounding neighborhood, and complies with all other applicable criteria contained in the City Land Use Regulations.	Land Use Compatibility	neutral	
1.1.6	No amendments to the City's Future Land Use Map shall be approved that increase densities or intensities beyond those already indicated for the parcel without proper analysis to determine impacts to supporting public facilities and services.	Land Use Compatibility	beneficial	

1.2.1	Encourage infill development and redevelopment within city limits to accommodate a significant portion of population growth anticipated through 2030.	Land Use Compatibility	beneficial	
1.2.2	Consider only purposeful expansion of development into the extraterritorial planning jurisdiction, managed by the size and timing of capital improvements proposed for the area.	Land Use Compatibility	beneficial	
1.2.3	Encourage low impact development (a.k.a. conservation-based design or cluster development) in areas of the planning jurisdiction characterized by environmentally-sensitive lands, pristine natural areas, or near lakes and streams.	Land Use Compatibility	beneficial	
1.2.4	New development should not be approved that adversely strains existing or committed community facilities and services.	Land Use Compatibility	beneficial	
1.3.1	The Board of Commissioners shall prepare and adopt a new Unified Development Ordinance (combines current zoning and subdivision ordinances) for the City that is consistent with the future land use map and goals, objectives, and policies of this comprehensive plan. This document will provide business owners, residents, and developers with a clear and concise set of zoning and subdivision regulations for implementing Havelock's future vision.	Land Use Compatibility	beneficial	
1.3.2	The City of Havelock will continue to coordinate with Craven County, the North Carolina Department of Transportation, and other government agencies for regulations related to the subdivision of property within the planning jurisdiction.	Land Use Compatibility	neutral	
1.3.3	Implement recommendations from the East Coast Joint Land Use Study for limiting critical encroachment issues created by development pressures within Accident Potential Zones (APZs) and Air Installation Compatible Use Zones (AICUZs) designated for Marine Corps Air Station Cherry Point, including: [list of recommendations]	Land Use Compatibility	beneficial	
1.4.1	Expand the extraterritorial jurisdiction (ETJ) for the City to the extents depicted in Exhibit A, and enforce all powers within the area granted under Section 160A-360, N.C.G.S. – including zoning, subdivision regulations, enforcement of state building codes, acquisition of open space, and minimum housing codes.	Land Use Compatibility	beneficial	

1.4.2	The City Manager or his designee shall routinely coordinate and cooperate with the representatives for Marine Corps Air Station – Cherry Point on matters related to the mission footprint of the base, and potential encroachment issues related to existing development, new development, or potential redevelopment in the area.	Land Use Compatibility	neutral	
2.1.1	Encourage low impact development (a.k.a. conservation-based design or cluster development) in areas of the planning jurisdiction characterized by environmentally-sensitive lands, pristine natural areas, or near lakes and streams.	Local Areas of Concern	beneficial	
2.1.2	Redevelop portions of the City so they include central gathering places for medium-sized community events (e.g., movies in the park, small concerts, etc.)	Local Areas of Concern	beneficial	
2.1.3	Civic projects should set the example for quality development in the City by constructing new buildings, or refurbishing existing buildings, with an iconic architecture style.	Local Areas of Concern	neutral	
2.1.4	Provide public streetscape improvements and strongly encourage private property improvements to maintain and improve the attractiveness of the City.	Local Areas of Concern	beneficial	
2.1.5	Continue to improve the image of Havelock by encouraging property owners to improve and maintain landscaping and, as a City, plant trees and maintain landscaping in public rights-of-way.	Local Areas of Concern	beneficial	
2.1.6	Develop an image and branding strategy for the City that reinforces the pride of the community and expectations for visitors when they arrive. Recommendations from a image and branding study should be applied to a new City logo, government website, gateway signage, wayfinding signage and banners, and print materials among other applications.	Local Areas of Concern	beneficial	
2.2.1	Encourage residential and non-residential property owners to maintain their properties through pro-active enforcement of regulations, neighborhood clean-up campaigns, and recycling events.	Local Areas of Concern	beneficial	
2.2.2	Commission a study of the built environment that results in a set of general design priorities and core design principles in a design guidelines manual that can be adapted to individual circumstances of site and subdivision layout.	Local Areas of Concern	beneficial	
3.1.1	Continue to provide land use designations in the future land use map and zoning designations in the official zoning map to ensure a variety of housing types (e.g., single family, duplex, and multi-family housing units) are allowed within the City.	Local Areas of Concern	neutral	

3.1.2	Preserve the integrity of established single-family residential neighborhoods with public investments that reinforce community character and maintain high-quality infrastructure.	Local Areas of Concern	beneficial	
3.1.3	Support continued multi-family development initiatives in the planning jurisdiction on a case-by-case basis to increase and improve housing choice.	Local Areas of Concern	beneficial	
3.1.4	Coordinate with officials for Marine Corps Air Station – Cherry Point to ensure adequate variety and housing stock is available to meet the needs of military families.	Local Areas of Concern	beneficial	
3.2.1	Minimize potential blight of existing residential neighborhoods through the use of good land use planning, urban design, landscaping in the development review, and pro-active code enforcement.	Local Areas of Concern	beneficial	
3.2.2	Preserve existing housing stock and enhance existing neighborhoods by identifying unsafe or substandard structures, advising property owners of available rehabilitation programs and pursuing prompt, corrective action.	Local Areas of Concern	beneficial	
3.2.3	Ensure that housing stock within the City of Havelock meets minimum criteria set forth in the Standard Building Code adopted by the State of North Carolina (1994 Edition).	Local Areas of Concern	beneficial	
3.2.4	Support the utilization of county, state, and federal housing programs to provide home repair and/or home purchase opportunities for current and future residents.	Local Areas of Concern	beneficial	
3.3.1	Assist not-for-profit entities that seek to promote and provide affordable housing opportunities in the City of Havelock.	Local Areas of Concern	beneficial	
3.3.2	The City should consider funding and work with a committee of architects, engineers, landscape architects, and other housing professionals to develop a design manual for building and promoting more attractive and cost-efficient affordable housing in the City of Havelock.	Local Areas of Concern	neutral	
4.1.1	Continue to work with officials for the North Carolina Department of Transportation to promote the inclusion of projects in mutually accepted plans, programs, and policies that adequately provide future capacity for moving people safely and efficiently through the City of Havelock. Candidate projects may include those recommended in the City of Havelock Draft Comprehensive Transportation / Land Use Plan.	Infrastructure Carrying Capacity	beneficial	
4.1.2	The City of Havelock strongly supports construction of the US 70 Bypass to relieve congestion along existing US 70.	Infrastructure Carrying Capacity	beneficial	

4.1.3	The City should strive to maintain and update annually a Five Year Capital Improvements Plan (CIP) for the City of Havelock that includes a component for transportation. This section of the CIP should be based on data, standards, and projects recommended in the City of Havelock Comprehensive Transportation / Land Use Plan completed in 2007.	Infrastructure Carrying Capacity	beneficial	
4.1.4	Pursue "spot safety funds" from the North Carolina Department of Transportation to address the most severe crash locations in the City, including Fontana Boulevard at Roosevelt Boulevard, Slocum Road at US 70, Fontana Boulevard at Cunningham Drive, Greenfield Heights Boulevard at Catawba Road, and the intersection of Lake Road/Miller Road/Church Road.	Infrastructure Carrying Capacity	beneficial	
4.1.5	The City of Havelock should continue to be an active member of the US 70 Corridor Commission and support reasonable conclusions and recommendations for the long-term, mutual interest of the Commission and the Board of Commissioners to retrofit the US 70 corridor as North Carolina's next major access managed highway.	Infrastructure Carrying Capacity	beneficial	
4.1.6	The City should support reasonable conclusions and recommendations from the model access management ordinance included in the US 70 Corridor Access Management Handbook that was developed to administer and enforce consistent access management standards along the entire highway between Johnston and Carteret Counties.	Infrastructure Carrying Capacity	beneficial	
4.2.1	A traffic impact study shall be required for any development or redevelopment project expected to generate 500 vehicles or more (entering/exiting combined) in a 24-hour period or 100 vehicles or more (entering/exiting combined) during either the adjacent road's peak hour(s) or the development's peak hour(s).	Infrastructure Carrying Capacity	beneficial	
4.2.2	Preserve and protect the character of neighborhoods from the avoidable intrusion of "cut through" traffic with implementation of appropriate traffic calming measures. Traffic calming will be installed, where warranted, after proper review of citizen requests measures, completion of a formal traffic calming study, and confirmation that funds are available to construct the needed improvements.	Infrastructure Carrying Capacity	beneficial	
4.2.3	The City of Havelock should support locating driveways on municipal streets in compliance with the Driveway Manual published by the North Carolina Department of Transportation, as amended.	Infrastructure Carrying Capacity	neutral	

4.2.4	To the maximum extent possible, the number of driveways or curb cuts serving a property shall be minimized and shared-use driveways should be encouraged on major roads, including US 70, NC 101, and Miller Boulevard.	Infrastructure Carrying Capacity	beneficial	
4.2.5	Develop supplemental engineering design and construction standards for providing minimum acceptable standards and specifications for implementing desired complete street design principles.	Infrastructure Carrying Capacity	beneficial	
4.3.1	Bicycle parking should be considered for all new development. Incentives should be written into land use regulations that provide for bicycle facilities (i.e. one vehicular parking space may be exchanged for bicycle facilities).	Infrastructure Carrying Capacity	beneficial	
4.3.2	Sidewalks or greenways should be constructed to optimize pedestrian movements between buildings in a non-residential development, and connect with existing pedestrian sidewalks or greenways adjacent to the site where they currently exist.	Infrastructure Carrying Capacity	beneficial	
4.3.3	Safe and convenient crossings shall be provided across all public and private roads internal to a non-residential development, and at all driveways leading to the site.	Infrastructure Carrying Capacity	beneficial	
4.3.4	All existing railroad and utility corridors in the City should be studied for their potential to become future multi-use trails.	Infrastructure Carrying Capacity	beneficial	
4.3.5	The City of Havelock should consider funding and seek grant monies from the North Carolina Department of Transportation to complete pedestrian and bicycle projects recommended in the City of Havelock Comprehensive Parks and Recreation Master Plan and the City of Havelock Comprehensive Transportation / Land Use Plan.	Infrastructure Carrying Capacity	beneficial	
4.3.6	The City of Havelock is committed to provide safe routes to school for local schools in the community. Upon formal request by the citizenry and determination of adequate funding, the City will contact the Craven County School Board and work cooperatively to evaluate existing walking conditions around the school consistent with guidance from the Manual on Uniform Traffic Control Devices (MUTCD) Chapter 7A for preparing individual school traffic control plans. The City will act upon the reasonable conclusions and recommendations from the study and program appropriate improvements in the City's Capital Improvements Plan to ensure safe walking conditions are maintained for students.	Infrastructure Carrying Capacity	beneficial	
4.3.7	City officials should participate in pedestrian and bicycle planning programs for the North Carolina Department of Transportation.	Infrastructure Carrying Capacity	beneficial	

4.3.8	Coordinate with the North Carolina Department of Transportation to satisfy the needs of non-motorized transportation modes as a part of major road improvement projects.	Infrastructure Carrying Capacity	beneficial	
4.4.1	Develop a small area plan for the interchange proposed at Lakeview Road on the US 70 Bypass, intended to manage access and reduce congestion around the interchange.	Infrastructure Carrying Capacity	beneficial	
4.4.2	City officials should limit the number of cul-de-sacs in areas where topography, environment, or existing development make other street connections prohibitive.	Infrastructure Carrying Capacity	beneficial	
4.4.3	City officials should encourage more efficient travel between complementary land uses by promoting development patterns that favor higher densities and intensities, a mix of land uses, and an environment that accommodates bicycles and pedestrians.	Infrastructure Carrying Capacity	beneficial	
4.4.4	Evaluate the appropriateness of adopting a street connectivity ordinance to support local efforts to increase street, sidewalk, and greenway connections within and between developments.	Infrastructure Carrying Capacity	beneficial	
5.1.1	The City of Havelock should pursue an interlocal agreement with the City of New Bern to ensure adequate capacity is reserved to serve the magnitude and timing of anticipated development in the FLUM through the short-term planning horizon (2013).	Infrastructure Carrying Capacity	beneficial	
5.1.2	Where deemed fiscally prudent, maintain corrective measures that minimize storm water inflow and infiltration for the City's waste water collection system.	Infrastructure Carrying Capacity	beneficial	
5.1.3	Seek all available federal, state, and local funding sources deemed fiscally prudent for use by the City to correct existing deficiencies in the sanitary sewer system.	Infrastructure Carrying Capacity	beneficial	
5.1.4	Where deemed fiscally prudent, allocate funds in the City's Capital Improvement Plan on an annual basis to implement projects that improve the City's sanitary sewer system	Infrastructure Carrying Capacity	beneficial	
5.2.1	Strive to implement corrective measures at the City's waste water treatment plant consistent with recommendations in the Havelock Wastewater Treatment Plant Process Evaluation Report, and coordinate with partners in the region to ensure adequate capacity is reserved to serve the magnitude and timing of anticipated development in the FLUM through the long-term planning horizon (2030).	Infrastructure Carrying Capacity	beneficial	

5.2.2	Encourage future development and redevelopment in portions of the urban service area already served, or programmed to be served, by the City's sewer system.	Infrastructure Carrying Capacity	beneficial	
5.2.3	Continue to reduce the number of residents relying on private septic systems in close proximity to existing, or programmed, sewer service. Priority should be given to those areas designated by the Craven County Health Department as "problem areas" with failing septic tanks.	Water Quality	beneficial	
5.2.4	Begin the formal process to request a new discharge permit from the North Carolina Division of Water Quality (DWQ) for the City's waste water treatment plant. The new discharge permit will move the current discharge point at Slocum Creek to the Neuse River.	Infrastructure Carrying Capacity	beneficial	
5.3.1	Monitor annually the amount of waste water reaching the City's waste water treatment plant, and prepare a process evaluation plan when 80% of plant capacity is reached and an implementation strategy (i.e., construction documents, funding plan, and interlocal agreements) when 90% of plant capacity is reached.	Infrastructure Carrying Capacity	beneficial	
5.3.2	Continue to reduce the number and severity of annual sanitary sewer overflows reported to the North Carolina Division of Water Quality.	Water Quality	beneficial	
6.1.1	Continue efforts to replace dead-end distribution lines in the City's water system with an interconnected distribution system that efficiently moves water throughout the city.	Infrastructure Carrying Capacity	beneficial	
6.1.2	Consider construction of a 12-inch water main and an elevated water tank in the western extremes of the city to improve capacity and increase water pressure.	Infrastructure Carrying Capacity	beneficial	
6.1.3	Evaluate the feasibility of installing treated re-use (grey) water lines throughout the City for irrigation of landscaping.	Infrastructure Carrying Capacity	beneficial	
6.1.4	Develop a long range strategic plan for system maintenance and expansion through 2030.	Infrastructure Carrying Capacity	beneficial	
6.1.5	Encourage future development and redevelopment in portions of the urban service area already served, or programmed to be served, by the City's water system.	Infrastructure Carrying Capacity	beneficial	
6.1.6	Where deemed fiscally prudent, allocate funds in the City's Capital Improvements Plan on an annual basis to implement projects that improve the City's potable water system.	Infrastructure Carrying Capacity	beneficial	
7.1.1	Evaluate the City's current solid waste collection system (i.e., sticker system) and determine if changes are necessary to improve system efficiency or equity.	Infrastructure Carrying Capacity	beneficial	

7.1.2	Encourage private waste haulers serving non-residential and multi-family development inside city limits to implement a recycling program.	Infrastructure Carrying Capacity	beneficial	
7.1.3	Implement strategies and incentives to increase compliance with the City's existing recycling program.	Infrastructure Carrying Capacity	beneficial	
7.2.1	Coordinate with representatives for the Tuscaroora Landfill to ensure adequate capacity is reserved to serve the magnitude and timing of anticipated development in the Future Land Use Map.	Infrastructure Carrying Capacity	beneficial	
7.2.2	Promote programs in partnership with other solid waste haulers in the region that minimize the amount of solid waste reaching the multi-county landfill.	Infrastructure Carrying Capacity	beneficial	
8.1.1	Implement and enforce state regulations related to storm water quantity and quality, especially in relation to special provisions adopted for the Neuse River Basin.	Water Quality	neutral	
8.1.2	Continue to participate in the National Flood Insurance Program and enforce the minimum rules and requirements set forth in the Flood Damage Prevention Ordinance.	Natural Hazard Areas	beneficial	
8.1.3	Continue to coordinate with the North Carolina Division of Water Quality (DWQ) regarding state storm water regulations and permits required during the development review process.	Water Quality	neutral	
8.1.4	Evaluate new cost-effective programs for minimizing flood damage, including modification of construction setback requirements and other site design techniques.	Natural Hazard Areas	beneficial	
8.2.1	Prepare a storm water master plan (SWMP) that identifies and prioritizes storm water problem areas and targets capital improvements to mitigate them. The content and format of the SWMP shall exceed the minimum rules and requirements set forth under the National Pollution Discharge Elimination System (NPDES) for a Phase 1 Permit and the Neuse River Nutrient Sensitive Waters Management Strategy.	Water Quality	beneficial	
8.2.2	Provide an annual report to the Board of Commissioners and the North Carolina Division of Water Quality on updates and changes to the SWMP since approval of the NPDES permit.	Water Quality	beneficial	
8.2.3	Where deemed fiscally prudent, allocate funds in the City's Capital Improvements Plan on an annual basis to implement recommendations from the local Storm Water Management Plan (SWMP).	Water Quality	beneficial	
9.1.1	Consider construction of a new police and fire substation on US 70, north of Catawba Road, to improve service delivery in western portions of the City.	Infrastructure Carrying Capacity	beneficial	

9.1.2	Coordinate with representatives for Craven County to ensure inmate capacity at the county jail is sufficient to handle average daily arrests in the region.	Infrastructure Carrying Capacity	beneficial	
9.1.3	Institute new programs and policies that increase the presence of police in areas of the city prone to violent, non-violent, and property crimes.	Infrastructure Carrying Capacity	beneficial	
9.1.4	Consider additional resources in neighborhood watch programs.	Infrastructure Carrying Capacity	beneficial	
9.1.5	Where deemed fiscally prudent, allocate funds in the City's Capital Improvements Plan on an annual basis to implement projects that improve the City's police protection.	Infrastructure Carrying Capacity	beneficial	
9.2.1	Improve the ISO rating for the city, especially related to programming a new fire station on US 70, north of Catawba Road, in the western portion of the City.	Infrastructure Carrying Capacity	beneficial	
9.2.2	Maintain a mutual-aid agreement with Craven County to ensure quality response to all locations in the fire service area.	Infrastructure Carrying Capacity	beneficial	
9.2.3	Where deemed fiscally prudent, allocate funds in the City's Capital Improvements Plan on an annual basis to implement projects that improve the City's fire service protection.	Infrastructure Carrying Capacity	beneficial	
9.3.1	Where deemed fiscally prudent, allocate funds in the City's Capital Improvements Plan on an annual basis to implement projects that improve the City's provision of emergency medical services.	Infrastructure Carrying Capacity	beneficial	
9.3.2	Strive to maintain an interlocal agreement with Craven County to provide City EMS service to unincorporated areas of the county.	Infrastructure Carrying Capacity	beneficial	
10.1.1	Strive to implement recommendations from the City of Havelock Comprehensive Parks and Recreation Master Plan for new park locations, services, and amenities desired by local residents.	Local Areas of Concern	beneficial	
10.1.2	The City should strive to maintain and update annually a Five Year Capital Improvements Plan (CIP) for the City of Havelock that considers a component for parks, recreation facilities, and permanent open space. This section of the CIP should be based on data, standards, and projects recommended in the City of Havelock Comprehensive Parks and Recreation Master Plan.	Infrastructure Carrying Capacity/Local Areas of Concern	beneficial	
10.1.3	Maintain a balance of active parks, passive parks, and natural open space to meet the needs and expectations of City residents, and seek opportunities to increase the number of parks and natural areas throughout the City.	Infrastructure Carrying Capacity/Local Areas of Concern	beneficial	

10.1.4	Ensure recreation facilities are well-managed and well-maintained, and that quality recreation programs are available to all residents. This shall be partially achieved by keeping up-to-date the inventory of park facilities and sites and re-administering the parks and recreation needs survey completed for the City of Havelock Parks and Recreation Master Plan.	Infrastructure Carrying Capacity/Local Areas of Concern	beneficial	
10.1.5	All plans for development or redevelopment of land with park resources or recreation facilities shall incorporate creative concepts of urban design and landscape compatible with unique natural features of the site. The design shall provide a circulation system to minimize conflict between pedestrians and vehicles and adequate landscape and screening to protect the integrity of established residential areas while enhancing community appearance.	Infrastructure Carrying Capacity/Local Areas of Concern	beneficial	
10.1.6	Continue to coordinate with county, state, and federal agencies and private landowners to protect and enhance natural areas and environmentally-sensitive land within the City.	Local Areas of Concern	beneficial	
10.1.7	Maximize grant funding for all future City park and recreation projects.	Infrastructure Carrying Capacity/Local Areas of Concern	beneficial	
10.2.1	Public parks and recreation facilities shall be designed and constructed compatible with the character and quality of on-site natural resources.	Local Areas of Concern	beneficial	
10.2.2	Develop a schedule for providing parking spaces for automobiles and bicycles at parks and recreational facilities where they are now lacking or inadequate.	Infrastructure Carrying Capacity/Local Areas of Concern	beneficial	
11.1.1	All federal, state, and county water quality standards shall continue to be enforced in the City of Havelock.	Water Quality	neutral	
11.1.2	Consider revisions to the City of Havelock Land Use Regulations to preserve and enhance the functions of natural groundwater aquifer recharge and natural drainage features and to protect water quality.	Water Quality	beneficial	
11.1.3	Ensure that water conservation booklets and brochures are readily available at City Hall and other public facilities for review by local residents and business owners.	Infrastructure Carrying Capacity	beneficial	
11.2.1	Manage environmentally sensitive natural systems in the City, including, but not limited to, water resources, wetlands, and native habitats of flora and fauna through prudent land use planning and land development regulations.	Natural Hazard Areas/Local Areas of Concern/Water Quality	beneficial	

11.2.2	Enforce state and federal laws and policies regarding land uses and development for Areas of Environmental Concern identified in the City.	Local Areas of Concern	neutral	
11.2.3	Support reasonable initiatives of the Neuse River Foundation to protect the integrity of the river for future generations, including participation in the annual Neuse River Cleanup Campaign.	Water Quality	beneficial	
11.2.4	Continue to coordinate with federal, state, and county agencies concerned with managing natural resources that protect the values and functions of these systems.	Local Areas of Concern	neutral	
11.2.5	Increase public awareness of critical wildlife areas and natural preserves by distributing public education materials, allowing appropriate access, and reporting violations of the rules and regulations to appropriate agencies.	Local Areas of Concern	beneficial	
11.2.6	Any new project or development shall demonstrate that it does not create substantial adverse impact to the environment.	Local Areas of Concern	beneficial	
11.3.1	Wetlands suitable for protection will be identified based on the type, function, size, condition, location, and overall resource value. These wetlands shall be used for purposes compatible with their natural values and functions, and land development regulations shall be adopted to provide these areas with the maximum feasible protection, using tools such as compensatory wetland mitigation and dedication of conservation easements for preserving open space. Activities in wetland areas may be warranted provided all applicable federal, state, and county environmental agency permits have been obtained and one of the following standards is satisfied: [description of standards]	Water Quality/Local Areas of Concern	neutral	
11.3.2	Consideration should be given for buffers that protect the presence and function of pristine wetlands on a development site.	Water Quality	beneficial	
11.4.1	Cooperate with county, state, and federal agencies in protecting wildlife and plant species listed as endangered, threatened, rare, or of special concern, and support their efforts to protect and conserve the habitats in which they reside.	Local Areas of Concern	neutral	
11.4.2	Revise the City's Land Use Regulations to protect wildlife and vegetative habitats that are endangered, threatened, or species of special concern. The City shall further protect these habitats by promoting public acquisition and the dedication of conservation easements or reservations.	Local Areas of Concern	beneficial	

11.4.3	Development plans shall be conditioned to require that all required state and federal permits pertaining to listed flora and fauna species be obtained and filed with the City prior to clearing and grading or building activities on the site.	Local Areas of Concern	beneficial	
11.4.4	Increase public appreciation and awareness of native flora and fauna in and around the community through newspaper articles, brochures, presentations, workshops, and other means of education, and how residents can help enhance those habitats.	Local Areas of Concern	beneficial	
11.5.1	Develop and refine nitrogen reduction strategies for point and non-point source polluters/pollution.	Water Quality	beneficial	
11.5.2	Evaluate the potential for implementation of appropriate best management practices (BMPs) to reduce nutrient and sediment loading in the watershed.	Water Quality	beneficial	
11.5.3	Provide educational workshops on local water quality issues.	Water Quality	beneficial	
11.5.4	Support the Division of Water Quality's (DWQ) efforts to determine a safe way to remove and dispose of hazardous waste stored at MCAS – Cherry Point.	Water Quality	beneficial	
12.1.1	Coordinate with public, quasi-public, private, and non-profit groups to increase the quantity and quality of access points to public trust waters in the city, including consideration for access easements or fee simple purchase of strategic locations.	Public Access	beneficial	
12.1.2	Seek all available federal, state, and local funding sources deemed fiscally prudent for use by the City to promote local access to public trust waters.	Public Access	beneficial	
12.1.3	Residential and non-residential development adjacent to public trust waters shall include at least one public access point to the water body, unless demonstrated to be detrimental to nearby environmentally-sensitive lands or impractical because of other goals and policies stated in the Comprehensive Plan.	Public Access	beneficial	
13.1.1	Review adequacy of zoning, subdivision, and flood damage prevention ordinances for control of flooding hazards.	Natural Hazard Areas	neutral	

13.1.2	Actively support full participation in the County's Special Needs Registry.	Natural Hazard Areas	neutral	
13.1.3	Update the Parks and Recreation Master Plan to incorporate purchase and development of flood-prone lands for recreational activities as a priority.	Natural Hazard Areas	neutral	
13.1.4	Work with NCDOT Division Four Highway Operations unit and convene a working group to develop solutions to localized drainage issues caused (in part or in whole) by NCDOT maintained drainage facilities.	Natural Hazard Areas	neutral	
13.1.5	Review "Firewise" zoning and subdivision standards and report on their appropriateness for incorporation into zoning and subdivision ordinances.	Natural Hazard Areas	neutral	
13.1.6	Continue to undertake public education efforts designed to help inform the public of their exposure to natural hazards and to inform them of actions they can take to mitigate the damages to their health and property from natural hazards.	Natural Hazard Areas	neutral	
13.1.7	Work with Craven County to convene a working group with electric service providers to produce a report that addresses the issues of disaster preparedness techniques and communication with County officials during and immediately after a natural hazard event that results in loss of electrical power.	Natural Hazard Areas	neutral	
13.1.8	Apply for funding from HMGP or other Federal/State funding for at least two of the top priority ANHRE identified in Section III of the Hazard Mitigation Plan IF they are eligible and in a project category identified by the State of North Carolina as being of high priority.	Natural Hazard Areas	neutral	
13.1.9	Ensure that elevation certificate data, data related to mitigation measures implemented, and floodplain data are available through the Internet on the County's GIS website.	Natural Hazard Areas	neutral	

13.1.10	Encourage surveyors, local government officials, engineers, and land planners to become familiar with the NFIP land use and building standards by attending annual workshops presented by the NC Division of Emergency Management (DCM).	Natural Hazard Areas	neutral	
13.1.11	Continue to participate in the Community Rating System (CRS) program of the National Flood Insurance Program (NFIP).	Natural Hazard Areas	neutral	
13.1.12	Designate a representative (member and alternate) to a County-wide Mitigation Advisory Committee and ensure those representatives complete the tasks detailed in the Hazard Mitigation Plan.	Natural Hazard Areas	neutral	
14.1.1	Encourage protection of all identified, and yet to be identified, historical and archeological structures and sites within the City through appropriate land development regulations, comprehensive review of development applications, public acquisition decisions, and historic designations. Initial sites should include the historic Havelock Railroad Station and African-American School House.	Local Areas of Concern	beneficial	
14.1.2	Actively support all public efforts to purchase additional historically- and environmentally-sensitive parcels of land for preservation, passive recreation, or public access. The City should investigate and sponsor grant applications for this purpose, whenever feasible.	Local Areas of Concern	beneficial	
14.2.1	Coordinate with state and federal government agencies in developing programs for identifying, preserving, and enhancing sites of historical and archaeological significance.	Local Areas of Concern	neutral	
14.2.2	Development activities shall include provisions necessary to prevent adverse impacts to historic or archaeological sites of significance.	Local Areas of Concern	beneficial	
15.1.1	Treat land supportive of retail, dining, and employment centers as a critical and limited resource, and protect this resource through capital investment and rules and requirements in the local zoning and subdivision ordinances.	Local Areas of Concern	beneficial	
15.1.2	Identify and prioritize keys areas in city limits for infill development or redevelopment as new retail, dining, or employment centers.	Local Areas of Concern	beneficial	

15.2.1	Foster a positive entrepreneurial environment for business start-up and expansion and support retention of existing businesses.	Local Areas of Concern	beneficial	
15.2.2	Support regulatory reform in the City that strikes a balance between the financial impact of regulation on business and developers, and maintaining the appropriate level of safeguards for furthering the vision of the community toward sustainable growth and development.	Local Areas of Concern	beneficial	
15.2.3	Consider ways to achieve greater predictability and efficiency in the review of development permit applications, consistent with goals and policies of this plan and implementing zoning and subdivision ordinances.	Local Areas of Concern	beneficial	
15.2.4	Recognize the importance of maintaining and enhancing the City's tax base, including property taxes, sales taxes, and business and occupation taxes, to provide funds for capital facilities and city services necessary for existing and future populations.	Local Areas of Concern	beneficial	
15.2.5	Enhance the City's ability to recruit new business and industry and work cooperatively with the Havelock Chamber of Commerce, Craven County Economic Development Commission, and other local economic development partners on actions such as maintaining a database of available sites and buildings, identification of target industries and potential economic clusters, and consistent and effective marketing efforts.	Local Areas of Concern	beneficial	
15.2.6	Support efforts to attract military-based business and industry that support the needs of Marine Corps Air Station Cherry Point.	Local Areas of Concern	beneficial	
15.2.7	Assess the effects of City policy regarding taxes, fees, or utility rates on economic development goals at least every five years, considering the balance between economic development, financial health of city government, cumulative debt, tax burden on local residents and businesses, and the goals and policies of this Comprehensive Plan.	Local Areas of Concern	beneficial	
15.3.1	The City will coordinate with the Havelock Chamber of Commerce and the Craven County Economic Development Commission on their efforts to assure that the local work force is trained in fields that meet demand for local businesses.	Local Areas of Concern	beneficial	
15.3.2	The City will partner with businesses, labor, and educational institutions to develop competency-based education and training programs for Havelock citizens that meet the needs of business, including vocational training programs, apprenticeship programs, entrepreneurial skills training, and technical and vocational preparatory programs in local high schools.	Local Areas of Concern	beneficial	

15.3.3	Seek all available federal, state, and local funding sources deemed fiscally prudent for use by the City to promote local economic development initiatives.	Local Areas of Concern	beneficial	
15.3.4	Encourage a variety of businesses to locate in Havelock that improve job opportunities for a wide spectrum of the community.	Local Areas of Concern	beneficial	
15.4.1	Recognize Havelock's cultural resources, including institutions, traditions, historic sites, and creative people as important contributors to the City's economic vitality.	Local Areas of Concern	beneficial	
15.4.2	Work with the Havelock Chamber of Commerce and Craven County Economic Development Commission to target new tourist attractions appropriate for the community.	Local Areas of Concern	beneficial	
15.4.3	The City should support and encourage "high-profile" local festivals and events that bring attention to the city.	Local Areas of Concern	beneficial	
15.4.4	The City will be a partner in supporting the initiatives of the Havelock Tourist and Event Center for attracting new visitors to the area.	Local Areas of Concern	beneficial	
15.4.5	Partner with the Havelock Chamber of Commerce, Craven County Economic Development, and Marine Corps Air Station Cherry Point to promote the City as a tourism destination within the region.	Local Areas of Concern	beneficial	
16.1.1	Prepare and adopt a Five Year Capital Improvements Plan (CIP) and a One Year Capital Budget as part of the City's annual budgeting process.	Local Areas of Concern	beneficial	
16.1.2	Ensure that all public capital revenue and/or secured developer commitments are in place to provide public facilities and services necessitated by development.	Local Areas of Concern	beneficial	
16.1.3	Seek viable grant monies and private development contributions whenever possible to provide additional capital revenues for implementation of the City's Five Year Capital Improvements Plan.	Local Areas of Concern	beneficial	
16.1.4	Assess all funding mechanisms and revenue sources available under North Carolina General Statute to bear a proportion of the costs for providing public facilities and services necessitated by existing development, redevelopment, and new development anticipated for the planning jurisdiction.	Infrastructure Carrying Capacity	beneficial	
16.2.1	All City decisions regarding land use and development patterns should ensure availability of public facilities and services necessary to support such development prior to approval by the Board of Commissioners by means of the City's Zoning and Subdivision Ordinances.	Infrastructure Carrying Capacity	beneficial	

16.2.2	Coordinate with road, utility, and school providers in the area to ensure necessary capital projects are scheduled concurrent with anticipated growth patterns.	Infrastructure Carrying Capacity	beneficial	
16.2.3	Continue to encourage expedited installation of sewer infrastructure improvements necessary to increase the capacity of the City's current system.	Infrastructure Carrying Capacity	beneficial	
16.2.4	Repair and upgrade public facilities and services managed by the City according to generally accepted engineering principles and guidelines, and ensure that facilities and service providers operating in the City are held to the standard.	Infrastructure Carrying Capacity	beneficial	
16.3.1	Incur debt within generally accepted municipal finance principles and guidelines, and only in relation to the City's ability to pay for new capital assets or to significantly extend the life expectancy of a capital asset.	Local Areas of Concern	beneficial	
16.3.2	Any increase to operating costs for a new or enhanced capital project shall be considered when evaluating debt incurred for a new public facility or service.	Local Areas of Concern	beneficial	
16.3.3	The City shall not provide a public facility or service, nor accept ownership from others, if it cannot pay for the subsequent annual operation and maintenance costs of the facility or service.	Local Areas of Concern	beneficial	
16.3.4	The City's net general obligation debt as defined in G.S. 159-55, is statutorily limited to eight percent (8%) of the assessed valuation of the taxable property within the City. The City will utilize a self-imposed ceiling of 3%.	Local Areas of Concern	beneficial	

Appendix E

Existing CAMA Land Use Plan Policy Review Matrix

City of Havelock Comprehensive Plan
Review of Current CAMA Land Use Policies

Management Topic: Public Access

City of Havelock 1996 Land Use Plan Update

Policy Section	Topical Area	Policy Statement	Measurable Target	Implementation Toolbox	Regulatory Effectiveness	Comments
Resource Protection	Development of Sound and Estuarine Islands	A policy on the development of sound and estuarine system islands is not applicable to Havelock.	Not applicable.	Not applicable.	Not applicable. The City of Havelock does not have sound and estaurine system islands within its planning jurisdiction.	Remove policy statement from new Comprehensive Plan.
Resource Production and Management	Marine Resource Areas	The City of Havelock supports the use standards for estuarine and public trust areas as specified in 15A NCAC 7H.0207.	Number of approvals/denials for site applications within city limits that directly or indirectly block or impair existing navigation channels, increase shoreline erosion, deposit spoils below mean high tide, or cause degradation of shell fish waters.	Rely on Division of Coastal Management	Good	majority of property adjacent to waterways is owned by MAS-Cherry Point
Economic and Community Development Policies	General	Support the development and enhancement of waterfront areas, while ensuring such projects are compatible with all local, state, and federal environmental requirements.	Provisions in the Land Development Code for promoting low impact development near waterfront areas; number of environmental mitigation plans submitted as part of the application review process.	Zoning and Subdivision regulations. NC DCM	Good	Low density zoning designation adjacent to waterways. Cherry Point owns majority.
Economic and Community Development Policies	Estuarine Access	Study the feasibility of identifying, selecting, and developing additional sites for public access on the rivers and other significant bodes of water.	Completion of siting study for increasing public access to rivers and other significant bodies of water.	Planning Dept. Grants Writer & Parks Director	Poor	No funding available for Access Study
Economic and Community Development Policies	Estuarine Access	Continue to undertake efforts with the state Division of Coastal Management and Office of Water Resources to obtain public trust water access assistance in funding the planning, land acquisition, and site development of these improvements.	Amount of funding secured from Division of Coastal Management or Office of Water Resources since 1996.	Planning Dept. Grants Writer & Parks Director	Good	$54,933 from CAMA
Economic and Community Development Policies	Tourism	Havelock will support projects that will increase public access to shoreline areas.	Number of projects/initiatives approved by the Board of Commissioners for increasing public access to shoreline areas.	Board of Commissioners	Good	One

City of Havelock Comprehensive Plan
Review of Current CAMA Land Use Policies

Management Topic: Land Use Compatibility

City of Havelock 1996 Land Use Plan Update

Policy Section	Topical Area	Policy Statement	Measurable Target	Implementation Toolbox	Regulatory Effectiveness	Comments
Resource Protection	Soils	Development in areas where the soil types have limited bearing capacity will not be encouraged. However, the city will permit development in such areas, as long as such development complies with other local, state, and federal environmental regulations.	Provisions in the Land Development Code to limit development in poor soil areas; measures to mitigate impacts to poor soils when development is feasible; demonstrated coordination with state and federal agencies.	Rely on Craven Co Health department for Septic Approval. Rely on Army Corps for 404 Wetlands	Good	City of Havelock Subdivision Ordinance
Resource Protection	Flood Hazard Areas	The City of Havelock will continue to coordinate all development within flood hazard areas with the city's Inspections Department, North Carolina Division of Coastal Management, FEMA, and the U.S. Corps of Engineers.	Number of site applications transmitted to Division of Coastal Management, FEMA, and U.S. Corps of Engineers for review and comment regarding flood hazard areas.	Planning Dept.	Good	none have been submitted to us therefore nothing has been transmitted
Resource Protection	Flood Hazard Areas	The City of Havelock realizes the inevitability of some development occurring in flood prone areas. Therefore, the City will continue to participate in the National Flood Insurance Program and enforce its "regular" Flood Damage Prevention Ordinance through the city building inspection program. Proposed developments shall provide protective measures which comply with flood insurance requirements.	Number of site applications reviewed in accordance with the rules and regulations of the Flood Damage Prevention Ordinance; type and magnitude of protective measures required as a condition of site plan approval.	Planning Dept.	Good	25: residential development, low magnitude
Resource Protection	Groundwater/Protection of Potable Water Supplies	Land uses near groundwater sources are regulated by the North Carolina Division of Environmental Management through 15A NCAC Subchapter 2L and 2C. Havelock recognizes the importance of protecting potable water supplies and therefore supports the enforcement of these regulations. Also, the city may consider adopting controls which will discourage development that may encroach upon potable water supply wells.	Adoption of development regulations to discourage development near public water supply wells beyond minimum state standards.	Zoning	Good	Wells are located in Residentially zoned areas. City has draft policy on Wellhead Protection Program
Resource Protection	Groundwater/Protection of Potable Water Supplies	Ensure that the city's land development review and inspection process examines all land use proposals to determine their impact on the city's potable water supplies and resources.	Established procedures within the site plan review process for quantifying the impacts of proposed potable water demands and available remaining capacity in the system to serve the development program.	Zoning	Good	Ample water supply to serve future development
Resource Protection	Industrial Impacts on Fragile Areas	Industrial development which can comply with the use standards specified by 15A NCAC 7H, the City of Havelock land use control ordinance, and federal regulations may be located within conservation classified areas. Havelock aggressively encourages the development of industry. The city does not want any policies contained within this plan to prohibit industrial development which meets all applicable state and federal regulations.	Number of industrial developments approved by the Board of Commissioners in a conservation area; follow-up studies to quantifying impacts of locating industrial development in a conservation area.	Zoning	Good	Industrial park is not located near AEC's. Is located near Croatan Forest.
Resource Protection	Industrial Impacts on Fragile Areas	The City of Havelock, in cooperation with Craven County, will continue to support an active industrial recruitment program, as currently conducted by the Craven County Committee of 100, seeking low pollution, light manufacturing industries and those which do not require large commitments of water and/or sewer.	Number of new industries that have come to Havelock since 1996; measured impacts of new industrial uses on public water and sewer systems.	Public Services Planning Dept	Good	minimal impact
Resource Protection	Industrial Impacts on Fragile Areas	The City believes that all industrial prospects should be given a fair, case-by-case assessment in order to carefully compare possible economic benefits with possibly negative environmental effects.	Development of cost-benefit criteria for reviewing proposed industrial development applications in Havelock.	Board of Commissioners	Poor	No criterias have been developed
Resource Protection	Package Treatment Plant Use	The location of any proposed package treatment plants within the extraterritorial jurisdiction which would impact Havelock shall be approved by the City provided that they meet or exceed the following criteria: said development is consistent with the City's policies and ordinances, the system meets or exceeds the state and federal permitting requirements, the project will not have adverse impacts beyond its boundaries, and the perpetual operation and maintenance of the system is guaranteed without obligation to the City in any way.	Number of package treatment plants approved in the ETJ since 1996; compliance with the rules and requirements set forth by the City for approving package treatment plants in the ETJ.	Board of Commissioners	N/A	No treatments package plants

Resource Protection	Marina and Floating Home Development	Havelock will allow the construction and expansion of marinas, including upland marinas, in all areas which satisfy the use standards for marinas as specified in 15A NCAC 7H and the Havelock building/land use regulation codes and ordinances. This shall include marinas proposed for location within Conservation areas.	Number of new construction/marina expansions approved since 1996; follow-up studies to quantifying impacts of locating industrial development in a conservation area.	Zoning	Good	No new Marinas
Resource Protection	Marina and Floating Home Development	Havelock will allow construction of dry stack storage facilities for boats associated either with or independent of marinas. All applicable state/federal regulations and Havelock building/land use regulation codes and ordinances must by satisfied.	Number of new dry stack storage facilities for boats approved since 1996.	N/A	N/A	No new dry-stack marinas. Most likely never will
Resource Protection	Bulkhead Construction	Havelock supports the construction of bulkheads as long as they fulfill the use standards set forth in 15A NCAC 7H.	Implementation of bulkheads since 1996 that meet CAMA standards; number of permit denials based on CAMA requirements.	N/A	N/A	No bulkhead, unless on base
Resource Protection	Sea Level Rise	The City of Havelock will continuously monitor the effects of sea level rise and update land use plan policies as necessary to protect the city's public and private properties from rising water levels.	Annual report documenting the effects of sea level rise; revisions to the land use plan based on the conclusions and recommendations from this report.	N/A	N/A	N/A
Resource Protection	Sea Level Rise	The City of Havelock will support bulkheading on the mainland to protect its shoreline areas from intruding water resulting from rising sea level.	Number of bulkheads constructed on the mainland to protect the shoreline since 1996.	N/A	N/A	No bulkhead, unless on base
Resource Production and Management Policies	Productive Agricultural Lands	Employ the land classification system to encourage and guide the location of intensive land development activities in areas of the city and the ETJ which are currently served by public utilities (or may be served in the future).	Completion of land classification system within the planning jurisdiction; provisions to discourage development outside of areas served by public utilities.	Zoning	Good	Low density zoning in ETJ area.
Resource Production and Management Policies	Solid Waste	Havelock supports a regional multi-county approach to solid waste management.	Coordination with Craven and Carteret Counties to provide a regional solid waste management facility.	Public Services	Poor	Currently in regional facility RFP has been sent out for new solid waste ordinance and how solid waste is collected.
Resource Production and Management Policies	Solid Waste	Havelock favors the siting of recycling centers, transfer stations and solid waste collection sites within all land classifications except those with the conservation category when the facility(ies) is (are) consistent with the City of Havelock Zoning Ordinance.	New locations for recycling centers, transfer stations, and solid waste collections site since 1996.	Public Services	Poor	No new locations needed RFP has been sent out for new solid waste ordinance may indentify possible areas for such
Resource Production and Management Policies	Productive Forest Lands	Employ the land classification system to encourage and guide the location of intensive land development activities in areas of the city and the ETJ which are served by public utilities and facilities.	Number of site applications inside and outside of public utility service areas approved since 1996.	N/A		
Resource Production and Management Policies	Residential, Commercial, and Industrial Development Impacts on Resources	Residential, commercial, and industrial development which meets 15A NCAC 7H use standards will be allowed in estuarine shoreline, estuarine water, and public trust areas. In all other areas, development will be allowed that is consistent with applicable local, state, and federal regulations.	Number of new developments built in the estuarine shoreline, estuarine water, and public trust areas; routine coordination with state and federal agencies for reviewing proposed development programs.	Zoning	Good	Only one major subdivision development along Esturine shoreline
Economic and Community Development Policies	General	The city encourages and supports all types of economic development land uses that are in accordance with all applicable ordinances and which can be shown to complement, and not adversely impact, the existing demographic, economic, and environmental base within Havelock.	Number of new projects associated with positive economic development since 1996.	Zoning	Good	Construction of Wal-Mart has sparked some economic development including the Branchside Commercial Subdivision just north of Tourist Center Drive.

Economic and Community Development Policies	General	The City of Havelock will support the following general locational characteristics for economic development activities: encourage location of new commercial/retail uses in vacant commercial buildings downtown, encourage new residential, commercial, and recreational development to take the form of infill in the downtown area as prescribed by the subdivision and zoning ordinances, continue to support and fund development of affordable housing in the Havelock area, continue to encourage a variety of choice in existing neighborhoods through a balance of preservation, rehabilitation, and new development, continue to ensure enforcement of housing construction and maintenance codes, explore alternatives to demolition of substandard housing, emphasizes the importance of locating the new economic development in and around the existing urban area where public infrastructure and systems can be reasonably extended, encourages the redevelopment and revitalization of existing underutilized industrially and commercially developed areas, placing an emphasis on (1) improving areas which currently exhibit	Economic development initiatives incorporated into recruitment, ordinance modification, and incentives for certain development markets since 1996.	Zoning	Good	Various infill development commercial development. Limited residential development.
Economic and Community Development Policies	Water Supply	The City of Havelock supports the construction of lines to and through conservation areas to serve development which meets all applicable state and federal regulations.	Length of new service lines through conservation areas; demonstrated coordination with state and federal agencies to limit environmental impacts with these projects.	Public Services	Good	No new lines
Economic and Community Development Policies	Redevelopment of Developed Areas	The city will apply for Community Development Block Grant Community Revitalization and North Carolina Housing Finance Agency funds.	Amount of CDBG and NC Housing Finance Agency Funds grant monies secured by the City since 1996.	Planning Dept	Good	No funding secured, Applications have been submitted
Economic and Community Development Policies	Redevelopment of Developed Areas	All redevelopment efforts will be coordinated with the City of Havelock Planning Department.	Designation of a contact person within the planning department for redevelopment efforts; number of redevelopment projects coordinated by the planning department since 1996.	Planning Dept	Good	No redevelopment areas designated. May not have qualifying areas
Economic and Community Development Policies	Redevelopment of Developed Areas	Pursue the establishment of a local nonprofit housing development corporation that would assist in the rehabilitation and new construction of affordable housing units within older neighborhoods.	Creation of a local non-profit housing development corporation; number of new affordable housing units introduced to the market since 1996.	Planning Dept	Poor	No program has been established
Economic and Community Development Policies	Redevelopment of Developed Areas	Promote funding for downtown revitalization and implementation in an effort to attract new development to the central business district.	List of new policies and initiatives incorporated by the City for recruiting redevelopment interests to the central business district.	N/A		No downtown
Economic and Community Development Policies	Redevelopment of Developed Areas	The city will be pro-active in pursuing state and federal assistance and other methods of funding to be utilized for revitalization and other improvements as deemed appropriate.	Amount of state and federal assistance secured for revitalization and other improvements since 1996.	Planning Dept	Good	City received grant for Economic Diversification study
Economic and Community Development Policies	Types and Locations of Desired Industry	Havelock supports all industrial development which satisfies applicable state/federal regulations and local regulations. The city will pursue the development of industries which support the Global Transpark.	New industrial development since 1996, especially supportive of the Global Transpark.	Board of Commissioners	Fair	No economic development related to GTP

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Policy Section	Topical Area	Policy Statement	Measurable Target	Implementation Toolbox	Regulatory Effectiveness	Comments
Resource Production and Management Policies	Community Attitude Toward Resource Production and Management	Resource production should not adversely affect Havelock's conservation areas. The city will implement policies which support resource production and management. In its pursuit of industrial development, the city will emphasize the following: development of industry in non-residential areas, location of industry with direct access to major thoroughfares, recruitment of clean, non-polluting industries, and preference will be given to industries producing only domestic waste.	Implementation of rules and policies that protect designated conservation areas from direct and indirect impacts of development; creation of specific policies and incentives to recruit sustainable, clean industrials to designated areas of the city.	Board of Commissioners	Good	Industrial Park

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Management Topic: Infrastructure Carrying Capacity

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Policy Section	Topical Area	Policy Statement	Measurable Target	Implementation Toolbox	Regulatory Effectiveness	Comments
Resource Protection	Soils	Enforce all current regulations of the North Carolina State Building Code and Craven County Health Department relating to building construction and septic tank installation/replacement in areas with soil restrictions.	Established review procedures for site applications that include state and county review for building construction and septic tank installation/replacement in areas with soil restrictions.	Craven County	Good	All septic approval is through Craven Co
Resource Protection	Soils	In areas with possible septic tank limitations, Havelock will remain committed to decisions rendered by the Craven County Health Department's Sanitarian.	Demonstrated coordination with Craven County Health Department for review of applications in areas with limited septic tank opportunities; number of applications forwarded to the County for review and comment.	Craven County	Good	All septic approval is through Craven Co
Resource Protection	Soils	Support the development of central water and sewer systems in all areas of the city's planning jurisdiction.	Plans, programs, policies, and projects established to centralize the City's water and sewer systems.	Public Services	Good	Citywide system
Resource Protection	Groundwater/Protection of Potable Water Supplies	Periodically update the Wastewater Facilities Plan and standard operating procedures for utilities which would direct future expansion and current maintenance of city water and sewer facilities. Continue to develop water and sewer maps in conjunction with this plan. Water extension will be decided by the City Council based on potential annexation.	Date of last update to the Wastewater Facilities Plan and completion of water and sewer location maps; outcome of water extension requests associated with annexation decisions.	Public Services	Good	2004
Resource Protection	Groundwater/Protection of Potable Water Supplies	Continue the extension and maintenance of public water supplies and distribution systems into selected areas of the city and extraterritorial jurisdiction as required by annexation and standard use. These selected areas are determined by annexation decisions as dictated by City Council.	Locations for expanded water service since 1996; outcome of water extension requests associated with annexation decisions.	Public Services	Good	west end of Havelock that was annexed in 1998
Resource Protection	Package Treatment Plant Use	The city does not support the use of private package sewage treatment plants within the city limits. However, in the ETJ, in special cases where the use of private systems is the only available option, the city may permit the use of private systems only if the associate development meets the following criteria: the said development is consistent with the city's policies and ordinances, the system meets or exceeds the state and federal permitting requirements, the project will have not adverse impacts beyond its boundaries, the perpetual operation and maintenance of the system is guaranteed without obligation to the city in any way, the said development is consistent with the city's policies and ordinances, the system meets or exceeds the state and federal permitting requirements, the project will have not adverse impacts beyond its boundaries, and the perpetual operation and maintenance of the system is guaranteed without obligation to the city in any way.	Number of package treatment plants approved in the ETJ since 1996; compliance with the rules and requirements set forth by the City for approving package treatment plants in the ETJ.	Public Services	Good	No package plants
Resource Protection	Package Treatment Plant Use	Private developers considering the use of private sewer treatment plants within the ETJ must prepare detailed facility impact statements which should include consideration of maintenance and operational requirements for the plant and provisions for the dedication of the plant into the public system, should the private operation fail to meet any and all public guidelines.	Reference to policy statement in local ordinances and implementation policies; number of applications approved/denied based on provisions in the Land Development Code related to private sewer treatment plants.	Public Services	Good	No package plants
Resource Protection	Package Treatment Plant Use	Any request for the approval of a private package treatment facility must be accompanied by environmental assessments or, if required, environmental impact statements and documentation of assurances that all applicable state and federal health requirements will be satisfied.	Reference to policy statement in local ordinances and implementation policies; number of applications approved/denied based on provisions in the Land Development Code related to private sewer treatment plants.	Public Services	Good	No package plants
Resource Protection	Package Treatment Plant Use	All development and subsequent construction of wastewater facilities shall be consistent with the regulations set forth by the Havelock zoning and subdivision ordinances in conjunction with the adopted land use plan.	Compliance of new development required to construct wastewater facilities consistent with provisions in the Land Development Code.	Zoning & Subdivision regs	Good	No package plants

Economic and Community Development Policies	General	The City is committed to providing the appropriate levels of public services, facilities, and infrastructure in the city, in support of economically and environmentally viable commercial and industrial development. As part of the recent annexation plan, the city will provide public infrastructure improvements in accordance with existing city ordinances and the policies of the North Carolina General Statues. The city is pursuing loan and grant programs from state and federal agencies to be used for public service expansion. Havelock also supports the city and county economic development commissions.	Expenditures on public services, facilities, and infrastructure since 1996; mechanisms for determine adequate demand and supply; demonstrated coordination with city/county economic development commissions.	Public Services	Good	no current annexation plans
Economic and Community Development Policies	General	Support the extension of infrastructure into the ETJ as a catalyst for growth.	Locations where public facilities and services have been extended into the ETJ since 1996.	Public Services	Good	no ETJ locations
Economic and Community Development Policies	General	Establish and maintain a Capital Improvements Budget Plan. This should be done in concert with the 1994 City of Havelock Strategic Plan.	Maintenance of a Capital Improvements Budget Plan that is updated annually.	Public Services	Good	just started in 2006
Economic and Community Development Policies	General	Land use and development trends should be compatible with the mission of Cherry Point so as to avoid further/future encroachment on the base. Encroachment should be controlled through careful analysis of the city's water/sewer extension policies, proposed zoning changes, thoroughfare development, and growth policies.	Demonstrated coordination with Marine Corp Air Station Cherry Point on land use conflict issues; mechanisms in place to limit encroachment on the base.	Planning Dept.	Good	Good coordinate with base Through joint efforts have applied for Phase 2 JLUS Grant to strengthen efforts against encroachment through regulatory activities.
Economic and Community Development Policies	General	Havelock supports the buildout of existing development areas as opposed to expansion of development into undeveloped areas. The expansion of city services into undeveloped areas should reviewed on a case-by-case basis.	Number of redevelopment vs. greenfield development projects approved since 1996; location of expanded public facilities and services in undeveloped areas.	Planning Dept.	Poor	no greenfield developments
Economic and Community Development Policies	Water Supply	The city supports the addition of wells to its system to increase water supply.	Number of new water supply well added to the system since 1996.	Public Services	Good	2 new wells
Economic and Community Development Policies	Water Supply	The City of Havelock supports all efforts to secure available state and federal funding for the construction and/or expansion of public and private water systems.	Amount of state and federal assistance secured for public and private water systems since 1996.	Public Services	Good	2002 water plant expansion
Economic and Community Development Policies	Sewer System	The City of Havelock will continue to utilize and amend the City 201 Wastewater Facilities Plan, which would direct future expansion, and current maintenance of city wastewater facilities.	Date of last update to the Wastewater Facilities Plan; adherence to the conclusions and recommendations in the Plan for evaluating, expanding, and maintaining wastewater facilities.	Public Services	Good	2004
Economic and Community Development Policies	Sewer System	The City of Havelock supports the extension of central sewer service into the ETJ, including the construction of lines to and through conservation areas to serve development which meets all applicable state and federal regulations.	Length of new service lines through conservation areas; demonstrated coordination with state and federal agencies to limit environmental impacts with these projects.	N/A	N/A	N/A
Economic and Community Development Policies	Sewer System	The city supports all efforts to secure available state and federal funding for the construction and/or expansion of public and private sewer systems.	Amount of state and federal assistance secured for public and private water systems since 1996.	Public Services	Good	USDA grant for $250,000 and USDA loan for $2,970,000
Economic and Community Development Policies	Sewer System	The city supports the development of a regional wastewater treatment facility.	Coordination with county, state, and federal agencies for permitting/constructing a regional wastewater treatment facility; commitments for supporting construction of the facility.	Board of Commissioners	Good	City would like to regionalize. However coordination is largest hurdle

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Economic and Community Development Policies	Transportation	The City of Havelock supports the following transportation improvements and programs: improve N.C. 101, Havelock Planning Area to Carteret County, improve S.R. 1756 (Lake Road), Havelock Planning Area to Carteret County, construct U.S. 70 Havelock Bypass, N.C. 101 widening, Roosevelt to Cunningham, four lanes to five, N.C. 101 widening, Cunningham to Webb, two lanes to five, Miller Boulevard widening, U.S. 70 to Lake Road, two lanes to four, Cunningham Boulevard extension from U.S. 70 to Lake Road, Greenfield Heights Boulevard extension to U.S. 70, S.R. 1746 (Church Road), replace bridge over Slocum Creek, construction of bridges over Slocum Creek on both the east and west access roads along Highway 70, and all Craven County Regional Airport improvements indicated in the airport's five-year transportation improvement program. This includes, but is not limited to, construction of a new terminal building and extension of runway 13-31.	Coordination with the NCDOT and Craven County to implement recommended projects; number of projects implemented since 1996.	Board of Commissioners	Good	We support policy. Work with DOT and Craven county Increase efforts to have items move up the ladder on TIP
Economic and Community Development Policies	Transportation	Coordinate with NCDOT to ensure that roads and streets in the city are adequately maintained and upgraded in a fashion consistent with the city's code of ordinances and the 1993 lane use plan's land use objectives, as well as the established thoroughfare plan.	Amount of maintenance dollars spent on the state transportation system within the City of Havelock since 1996.	Public Services	Good	zero
Economic and Community Development Policies	Transportation	Initiate a Transportation System Management Study (TSM) directed at studying the impacts of the proposed bypass on secondary roads and other arterial connectors.	Completion of Transportation System Management Study for proposed US 70 Bypass.	Planning Dept. City of Havelock Traffic Committee	Poor	new Transportation plan should address issues City now has Traffic Committtee to assist in implementation
Economic and Community Development Policies	Transportation	Implement studies to develop clear, efficient, and sensitive design and alignment standards for the proposed bypass.	Demonstrated coordination with the NCDOT to ensure that local citizens are represented in the process for evaluating alternative alignments for the proposed US 70 Bypass; completion of independent studies supporting local view points.	Board of Commissioners	Good	Transportation improvements have been coordinated with DOT
Economic and Community Development Policies	Transportation	Havelock supports transportation improvements which will improve access to the Marine Corps Air Station Cherry Point.	Number of projects/amount of money spent by the City for improving access to the Marine Corps Air Station Cherry Point.	Board of Commissioners	Good	0 projects and 0 money Cherry Point has adequate access

Management Topic: Natural Hazard Areas

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Policy Section	Topical Area	Policy Statement	Measurable Target	Implementation Toolbox	Regulatory Effectiveness	Comments
Economic and Community Development Policies	Redevelopment of Developed Areas	The Storm Hazard Mitigation, Post-Disaster Recovery, and Evacuation Plan provides policies for responding to hurricanes or other natural disasters. Those policies address reconstruction needs. The city will allow the reconstruction of any structures demolished by natural disaster when the reconstruction complies with applicable local, state, and federal regulations.	Reference to policy statement in local ordinances and implementation policies.	Planning Dept.	Good	In Chapter 16: Flood Prevention Ordinance and Appendix A: Zoning
Post Disaster Reconstruction Policies	Permitting	Building permits to restore structures located outside of designated AEC areas that were previously built in conformance with local codes, standards, and the provisions of the North Carolina Building Code shall be issued automatically.	Reference to policy statement in local ordinances and implementation policies.	N/A	N/A	N/A
Post Disaster Reconstruction Policies	Permitting	All structures suffering major damages as defined in the city's Damage Assessment Plan shall be repaired or rebuilt to conform with the provisions of the North Carolina Building Code and the Havelock Flood Damage Prevention Ordinance.	Reference to policy statement in local ordinances and implementation policies.	Planning Dept.	Good	In Chapter 16: Flood Prevention Ordinance
Post Disaster Reconstruction Policies	Permitting	All structures suffering minor damage as defined in the Havelock Damage Assessment Plan shall be permitted to be rebuilt to their original state before the storm condition.	Reference to policy statement in local ordinances and implementation policies.	Planning Dept.	Good	In Chapter 16: Flood Prevention Ordinance
Post Disaster Reconstruction Policies	Permitting	For all structures in designated AECs, a determination shall be made for each AEC as to whether the provisions of the North Carolina Building Code, the state regulations for Areas of Environmental Concern and the Havelock Flood Prevention Ordinance apply. For areas where the construction and use requirements appear adequate, permits shall be issued in accordance with permitting policies, 1, 2, and 3. For AECs where the construction and use requirements do not appear to have been adequate in mitigating damages, a Temporary Development Moratorium for all structures located within that specific AEC shall be imposed.	Reference to policy statement in local ordinances and implementation policies.	N/A	N/A	N/A
Post Disaster Reconstruction Policies	Permitting	For all structures located outside of designated AEC's, all provisions of the N.C. Building Code and the Havelock Flood Prevention Ordinance shall be satisfied.	Reference to policy statement in local ordinances and implementation policies.	N/A	N/A	N/A
Post Disaster Reconstruction Policies	Permitting	Permits shall not be issued in areas subject to a Temporary Displacement Moratorium until such a moratorium is lifted by the Havelock Board of Commissioners.	Reference to policy statement in local ordinances and implementation policies.	Planning Dept.	Poor	No reference
Post Disaster Reconstruction Policies	Utility and Facility Reconstruction	When state/federal funds are available, all damaged water and sewer systems (both public and private) shall be repaired so as to be elevated above the 100-year floodplain or shall be floodproofed, with the methods employed and the construction being certified by a registered professional engineer.	Reference to policy statement in local ordinances and implementation policies.	Public Services	Poor	No reference
Post Disaster Reconstruction Policies	Utility and Facility Reconstruction	When state/federal funds are available, all damaged roads used as major evacuation routes in flood hazard areas shall be repaired so as to be elevated at least one foot above the 100-year floodplain elevation.	Reference to policy statement in local ordinances and implementation policies.	Public Services	Poor	No reference
Post Disaster Reconstruction Policies	Utility and Facility Reconstruction	When state/federal funds are available, all local roads that have to be completely rebuilt shall be elevated so as to be above the 100-year floodplain elevation.	Reference to policy statement in local ordinances and implementation policies.	Public Services	Poor	No reference

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Management Topic: Water Quality

City of Havelock 1996 Land Use Plan Update

Policy Section	Topical Area	Policy Statement	Measurable Target	Implementation Toolbox	Regulatory Effectiveness	Comments
Resource Protection	Soils	The City will cooperate with the U.S. Army Corps of Engineers in the regulation/enforcement of the 404 wetlands permit process. However, additional wetlands regulations will not be supported locally or imposed by the city.	Demonstrated coordination with the U.S. Army Corps of Engineers for review of applications in areas subject to 404 wetlands permit requirements; number of applications forwarded to the Corps for review and comment.	Army Corps	Good	
Resource Protection	Groundwater/Protection of Potable Water Supplies	It shall be the policy of Havelock to conserve surficial groundwater resources by enforcing CAMA and North Carolina Division of Environmental Management stormwater runoff regulations, and by coordinating local development activities involving chemical storage or underground storage tank installation/abandonment with Havelock Emergency Management personnel and the Groundwater Section of the North Carolina Division of Environmental Management.	Implementation of provisions in the Land Development Code to promote low impact development surrounding groundwater sources; demonstrated coordination with state/federal agencies for enforcing stormwater runoff; number of applications reviewed by local/state/federal officials for chemical storage or underground storage tank installation/abandonment.	Rely on NCENR	Good	Nothing in City Code addresses issue
Resource Protection	Groundwater/Protection of Potable Water Supplies	Support state efforts to remove leaking underground storage tanks (USTs) and to restore adversely affected water supplies.	Demonstrated coordination with state officials responsible for underground storage tanks, local initiatives/funding to expedite tank removal.	Rely on NCDENR	Good	Nothing in City Code addresses issue
Resource Protection	Manmade Hazards	Havelock will support the technical requirements and state program approval for underground storage tanks as prescribed by 15A NCAC 2H, Criteria and Standards Applicable to Underground Storage Tanks.	Reference to policy statement in local ordinances and implementation policies.	Rely on NCDENR	Good	Nothing in City Code addresses issue
Resource Protection	Manmade Hazards	Continue to support capacity use groundwater monitoring by the Division of Environmental Management.	Reference to policy statement in local ordinances and implementation policies.	Rely on NCDENR	Good	Nothing in City Code addresses issue
Resource Protection	Manmade Hazards	Havelock opposes the disposal of any toxic wastes, as defined by the U.S. Environmental Protection Agency's Listing of Hazardous Substances and Priority Pollutants (developed pursuant to the Clean Water Act of 1977) within its planning jurisdiction.	Reference to policy statement in local ordinances and implementation policies.	Rely on EPA	Good	Nothing in City Code addresses issue
Resource Protection	Stormwater Runoff	Havelock will support state regulations relating to stormwater runoff resulting from development (Stormwater Disposal Policy 15A NCAC 2H.001-.1003).	Reference to policy statement in local ordinances and implementation policies.	Stormwater Management Code Chapter 17	Good	
Resource Protection	Package Treatment Plant Use	Havelock supports the discharge of package treatment plant effluent into 404 wetland areas.	Reference to policy statement in local ordinances and implementation policies.	Rely on Army Corps	Good	
Resource Production and Management Policies	Productive Agricultural Lands	Promote public awareness of U.S. Soil Conservation Service Best Management Practices in the city and surrounding areas, while encouraging farmers to implement such practices to the benefit of their natural resource production activities.	Incorporation of best management practices into the Land Development Code; number of brochures, pamphlets and other media distributed annually by the City to promote environmental stewardship.	Stormwater Management Code Chapter 17	Good	
Resource Production and Management Policies	Marine Resource Areas	The city will support enforcement of current state, federal, and local regulations to improve water quality.	Reference to policy statement in local ordinances and policy statements; number of referred violations to state/federal agencies since 1996.	Sedimentation and Erosion Control Chapter 4A	Good	
Economic and Community Development Policies	Water Supply	Havelock is aware that inappropriate land uses near well fields increase the possibility of well contamination. Land uses near groundwater sources are regulated by the North Carolina Division of Environmental Management through NCAC subchapters 2L and 2C. The city recognizes the importance of protecting potable water supplies, and therefore supports the enforcement of these regulations.	Adoption of development regulations to discourage development near public water supply wells beyond minimum state standards.	rely on DEM	Good	
Economic and Community Development Policies	Sewer System	Havelock supports the discharge of effluent into 404 wetland areas.	Reference to policy statement in local ordinances and implementation policies.	Rely on Army Corps	Good	
Economic and Community Development Policies	Stormwater	The City of Havelock will cooperate with the N.C. Department of Transportation, the N.C. Division of Environmental Management, and other state agencies in mitigating the impact of stormwater runoff on all conservation classified areas.	Adoption of development regulations that provide minimum rules and requirements for mitigating the impact of stormwater runoff into designated conservation areas.	Stormwater Management Code Chapter 17	Good	

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Policy Section	Topical Area	Policy Statement	Measurable Target	Implementation Toolbox	Regulatory Effectiveness	Comments
Resource Protection Policy Statements	Stormwater Runoff	Havelock will support state regulations relating to stormwater runoff resulting from development (stormwater disposal policy 15A NCAC 2H.001.1003).	Adoption of development regulations that provide minimum rules and requirements for mitigating the impact of stormwater runoff into designated conservation areas.	Rely on NCDEM	Good	
Resource Protection Policy Statements	Water Quality Management	Havelock will support improved water quality management, reduction of nutrients in the Neuse River, and restoration of water quality in areas closed to shell fishing.	Adoption of rules and requirements in the Land Development Code to minimize impervious cover in site design, regulate intensive livestock operations, and limit erosion during construction.	Sedimentation and Erosion Control ordinance, Chapter 4A & Stormwater ordinance Chapter 17	Good	

City of Havelock Comprehensive Plan
Review of Current CAMA Land Use Policies

Management Topic: Local Areas of Concern

City of Havelock 1996 Land Use Plan Update

Policy Section	Topical Area	Policy Statement	Measurable Target	Implementation Toolbox	Regulatory Effectiveness	Comments
Resource Protection	Groundwater/Protection of Potable Water Supplies	Develop citizens' awareness of programs related to expanding water supplies and distribution systems, including information promoting access to these systems.	Number of brochures, pamphlets and other media distributed annually by the City to promote awareness of programs related to expanding water supplies and distribution systems.	Board of Commissioners	Not effective	
Resource Protection	Manmade Hazards	Havelock fully supports continued growth and development of both the Cherry Point Marine Corps Air Station and the Craven County Regional Airport.	Reference to policy statement in local ordinances and implementation policies.	Board of Commissioners	Good	
Resource Protection	Manmade Hazards	Havelock supports the continued development of MCAS Cherry Point and the required infrastructure.	Number of joint military/local government infrastructure projects to serve base operations; plans underway to tie the military base into the urban fabric.	Board of Commissioners	Good	
Resource Protection	Manmade Hazards	Development in the vicinity of the Marine Corps Air Station Cherry Point should be compatible with the Cherry Point AICUZ. Permitted uses are defined by the highway commercial-air installation compatible use and light industrial-air installation compatible use zones, which are defined in the City of Havelock Zoning Ordinance.	Reference to policy statement in local ordinances and implementation policies.	Zoning Ordinance - AICUZ	Good	Good coordination with base Through joint efforts have applied for Phase 2 JLUS Grant to strengthen efforts against encroachment through regulatory activities.
Resource Protection	Cultural/Historic Resources	Havelock will coordinate all housing rehabilitation/redevelopment projects with the North Carolina Division of Archives and History, to ensure that any significant architectural details or buildings are identified and preserved.	Number of housing rehabilitation / redevelopment projects submitted to the NC Division of Archives and History prior to construction.	Rely on NCDENR - Archives and history	Good	Two historic buildings (trader Store & Train Station)
Resource Protection	Cultural/Historic Resources	Havelock will coordinate all public works projects with the North Carolina Division of Archives and History, to ensure the identification and preservation of significant historic and archaeological sites.	Number of public works projects submitted to the NC Division of Archives and History prior to construction.	Rely on NCDENR - Archives and history	Good	
Resource Protection	Cultural/Historic Resources	The City of Havelock recognizes the historic significance of Cherry Point to the nation and region. Havelock encourages protection of historic sites such as Gate 6.	Demonstrated coordination with military base to complete historical survey of base amenities; provisions in the Land Development Code to protect historically significant areas; action plan for Gate 6 with the military base.	Rely on NCDENR - Archives and history	Good	
Resource Protection	Industrial Impacts on Fragile Areas	Havelock supports the establishment of natural gas lines to Marine Corps Air Station Cherry Point and other potential users if the service should become available to the region.	Availability of natural gas to the area; number of construction projects to bring natural gas lines to the military base.	Public Services	Good	Natural gas is available for use
Resource Protection	Marina and Floating Home Development	Floating homes are not an issue or problem in the city's planning jurisdiction. However, the city discourages the anchoring of floating homes within its planning jurisdiction. Havelock will investigate the development of an ordinance to regulate floating homes.	Adoption of provisions in the Land Development Code for regulating floating homes.	N/A	N/A	N/A
Resource Production and Management Policies	Recreation Resources	Subject to available funds, the City of Havelock supports a comprehensive recreational program to provide a broad range of recreational facilities for its citizens.	Completion of a citywide Parks and Recreation Master Plan to target priorities for serving citizens.	Public Works	Good	Master plan is currently being developed
Resource Production and Management Policies	Recreation Resources	The city could seek donations of land, bargain sales, or grant funds in order to obtain sites suitable for development as recreational facilities.	Inventory of sites acquired by donation, bargain sale, or grant funds for recreation facilities since 1996.	Public Works Parks & Recreations	Good	Waterfront Park (boat ramp site)
Resource Production and Management Policies	Productive Agricultural Lands	Support state and federal agriculture programs, where applicable, which assist farming and aid in identifying prime agricultural lands in and around Havelock.	Demonstrated coordination with state and federal officials administering agriculture programs; number of local farmers that have received assistance with support from City officials.	N/A	N/A	N/A
Resource Production and Management Policies	Productive Agricultural Lands	Enhance the degree of land use controls on agricultural lands in order to provide opportunities for city or extraterritorial expansion and/or development as described by the Havelock annexation study.	Adoption of development regulations that provide minimum rules and requirements for minimizing the impacts of agriculture uses on the surrounding community.	N/A	N/A	N/A
Resource Production and Management Policies	Productive Agricultural Lands	Encourage the initiation of effort by the Agricultural Extension Service and the Chamber of Commerce to work with the locality to develop farm markets targeted at benefiting local farmers.	Development of a farmer's market program within the city; number of days farmer's market is open annually	N/A	N/A	N/A
Resource Production and Management Policies	Aquaculture	The City of Havelock supports the development of aquaculture and mariculture facilities.	Reference to policy statement in local ordinances and implementation policies.	N/A	N/A	N/A

Resource Production and Management Policies	Off-Road Vehicles	The city supports existing policies and/or regulations directed at the management of off-road vehicles on public land. The existing policies are dictated by the U.S. Forest Service, and as stated, the city fully complies with and supports these policies. However, the city objects to the operation of off-road vehicles in coastal wetlands. The city does not have policies directed at regulating off-road vehicles.	Coordination with the U.S. Forest Service to enforce their policies/regulations for regulating off-road vehicle use on public lands; incorporation additional provisions in the Land Development Code to discourage operation of off-road vehicle in coastal wetlands.	N/A	N/A	N/A
Resource Production and Management Policies	Productive Forest Lands	Support federal protection and management guidelines directed at preservation of the Croatan National Forest.	Reference to policy statement in local ordinances and implementation policies.	N/A	N/A	none of the forest is in our jurisdiction
Resource Production and Management Policies	Productive Forest Lands	Promote public awareness of forestry Best Management Practices in the area, while encouraging the private forestry industry to implement such practices to the benefit of their natural resource production activities.	Number of brochures, pamphlets and other media distributed annually by the City to promote awareness of best management practices in forestry; demonstrated coordination with private forestry industry to conserve natural resource areas.	N/A	N/A	N/A
Resource Production and Management Policies	Marine Resource Areas	Havelock reserves the right to comment on the individual policies and requirements of the North Carolina Division of Marine Fisheries.	Number of policies and requirements reviewed by the City; demonstrated coordination with the NC Division of Marine Fisheries; number of changes to state policy as a result of City comments.	N/A	N/A	N/A
Economic and Community Development Policies	General	The City will provide leadership for commercial and industrial growth by supporting local, regional, and state public interest groups concerned with economic development.	Demonstrated coordination with local, regional, and state economic development groups; lead roles in bringing commercial and industrial growth to Havelock.	Planning Dept.	Good	open to work with any group concerned with economic development
Economic and Community Development Policies	General	Continue to support the Chamber of Commerce in their efforts to market the city's retail and industrial sites.	Coordination with the local Chamber of Commerce; amount of information shared between the two groups, number of joint strategic meetings held since 1996.	Planning Dept.	Poor	0 meetings, no coordination between the two
Economic and Community Development Policies	General	Examine possible development opportunities within the ETJ. Study the opportunities for potential future annexation. Continue to utilize the annexation plan in conjunction with the land development master scheme as shown on the land classification map. Pursue expansion of the existing ETJ based on development trends.	Successful expansion of the ETJ since 1996; adherence to the land development master scheme for expanding into the ETJ; completion of future annexation study.	Planning Dept.	Poor	ETJ has not been expanded in that time period
Economic and Community Development Policies	General	Continue the use of zoning as a mechanism to select, designate, and reserve optimal economic development sites for future industry and commerce.	Adoption of provisions in the Land Development Code to encourage reservation of identified parcels for future economic development; identification of parcels for reservation on an official map, coordination with local property owners.	Planning Dept.	Good	Industrial Park
Economic and Community Development Policies	General	Employ the land classification sites as a means of selecting and designating appropriate areas of the city for future commercial, industrial, and other economic development land uses.	Implementation of the land classification map in the official zoning map; number of approvals/denials for site applications within city limits that comply with the land classification map.	N/A	N/A	no land classification map
Economic and Community Development Policies	General	Expand the city's ETJ to the maximum extent possible.	Successful expansion of the ETJ since 1996.	Planning Dept.	Poor	ETJ has not been expanded in that time period
Economic and Community Development Policies	General	Havelock supports the construction of adequate schools to accommodate area students. The immediate construction of a new middle school in Havelock is needed.	Number of new schools built since 1996; comparison of annual student to student station ratios since 1996.	Board of Education	Good	2 new schools have been constructed
Economic and Community Development Policies	General	The City will aggressively pursue annexation, including additional areas of the Cherry Point Marine Corps Air Station.	Successful annexation since 1996.	Planning Dept.	Good	4 successful annexations Does this include recent annexations adjacent to Industrial Park?
Economic and Community Development Policies	General	Commercial development/congestion around the Slocum Road gate should be controlled.	Demonstrated coordination with the military base; implementation of a plan to mitigate traffic concerns around the Slocum Road Gate; land use controls for implementing a new land use vision near the Slocum Road Gate.	Planning Dept.	Good	impacts on base are always high priority
Economic and Community Development Policies	General	The City discourages any development which may encroach on and interfere with the continued operation of the Cherry Point Marine Corps Air Station.	Adoption of rules and requirements in the Land Development Ordinance that limits development impacts to the military base; demonstrated coordination with military base officials to inventory appropriate development controls.	Planning Dept.	Good	impacts on base are always high priority

Economic and Community Development Policies	Energy Facility Sitting and Development	All proposed electric generating plans shall be reviewed under applicable state and federal guidelines. The City of Havelock fully complies with these regulations.	Provisions in the Land Development Code to send site plans with electric generating plans to the state for review; number of site applications including proposed electric generating plans that were submitted to state and federal agencies for review.	Inspections Dept.	Good	no plans submitted to our department
Economic and Community Development Policies	Energy Facility Sitting and Development	The siting of OCS (Outer Continental Shelf) energy facilities is not an issue with the city at this point in time. If such a facility were proposed, it would be evaluated for consistency with the city's zoning ordinance under the special exception use permit process outline in the city code.	Not applicable.	N/A	N/A	N/A
Economic and Community Development Policies	Commitment to State and Federal Programs	Continue to support and provide public information pertaining to groups such as the Neuse River COG, the Regional Development Institute, and the Small Business Institute at East Carolina University, which provide assistance to economic development projects.	Demonstrated coordination with these agencies, sharing of information to make better decisions; number of incentative packages developed for areas within Havelock.	N/A	N/A	N/A
Economic and Community Development Policies	Assistance in Channel Maintenance	Havelock continues to support state and federal efforts to maintain channels for navigation. The city also supports the private maintenance of channels providing that such action is in accordance with all local, state, and federal environmental regulations.	Reference to policy statement in local ordinances and implementation policies.	N/A	N/A	N/A
Economic and Community Development Policies	Tourism	Havelock will continue to support the activities of the North Carolina Division of Travel and Tourism; specifically, the monitoring of tourism-related industry, efforts to promote tourism-related commercial activity, and efforts to enhance and provide shoreline resources.	Demonstrated coordination with these agencies, sharing of information to make better decisions, increase in tourism-related industries in Havelock since 1996.	N/A	N/A	do not keep stats on tourism
Economic and Community Development Policies	Tourism	Havelock will participate in the "Keep America Beautiful" campaign.	a	Public Services	Poor	not part of campaign
Economic and Community Development Policies	Tourism	Havelock will continue to study and pursue programs aimed at promoting and enhancing levels of tourism and tourism-related development opportunities in the city.	Completion of a strategic plan for bringing increased tourism to Havelock; number of tourism-based businesses locating to Havelock since 1996.	Board of Commissioners	Good	Tourist and Events Center constructed
Economic and Community Development Policies	Tourism	Havelock will support and promote the downtown and waterfront areas as potential locations for seasonal/annual festivals, markets, and recreational activities.	Reference to policy statement in local ordinances and implementation policies; number of City programs of community events in these areas since 1996.	N/A	N/A	no downtown
Economic and Community Development Policies	Tourism	Havelock will continue to support the activities of local and regional public interest groups responsible for promoting tourism in the city such as the Chamber of Commerce and the Convention and Visitors Bureau and the Craven County Tourism and Development Authority.	Demonstrated coordination with these agencies, sharing of information to make better decisions; increase in tourism-related industries in Havelcok since 1996.	N/A	N/A	N/A
Economic and Community Development Policies	Tourism	The City of Havelock's tourism programs should be coordinated with Cherry Point Public Affairs officials. Weekly base tours are conducted for the public and should be advertised locally.	Demonstrated coordination with military base; number of marketing/public awareness materials developed to promote base tours; increase in visitors to the base tour event since 1996.	N/A	N/A	The base no longer gives weekly tours due to security concerns
Economic and Community Development Policies	Tourism	The City of Havelock supports construction of the Cherry Point Marine Corps Air Station Air Museum.	Demonstrated coordination with the military base; assistance in locating the facility, financial assistance towards construction of the facility, opening of the facility to the public.	Board of Commissioners	Good	Good coordination and support but museum folded and Havelock got remaining funds to put Aviation Exhibit at Tourist Center
Economic and Community Development Policies	Transportation	Continue to take proactive steps to develop a series of comprehensive design guidelines for buildings, signage, and landscaping along the city's primary entranceways.	Adoption of design guidelines in the Land Development Code; designation of corridor overlay districts to implement aesthetic guidelines for gateway corridors; grant program set up to encourage private development to come in compliance with new regulations.	Planning Dept.	Poor	no comprehensive design guidelines

Economic and Community Development Policies	Transportation	Evaluate and amend current subdivision regulations to provide incentives for the creation of pedestrian linkages between residential and non-residential developments, such as walkways and bicycle paths, as a means of encouraging alternative modes of transportation. In addition, the subdivision ordinance should be amended to strengthen requirements for roadway connections between subdivisions.	Adoption of rules and requirements in the Land Development Code for promoting pedestrian linkages between residential and non-residential uses, and better street connectivity between residential subdivisions.	Planning Dept.	Good	secured money to fund rewrite of subdivision ordinance Through Phase 2 JLUS Grant, Funding new Unified Development Ordinance
Economic and Community Development Policies	Transportation	The City's transportation planning process should endeavor to create a more pedestrian friendly environment.	Completion of a citywide Pedestrian Master Plan, implementation of projects for improving the pedestrian environment; demonstrated coordination with NCDOT to ensure that all new roadway improvements include provisions for pedestrian activity.	Planning Dept.	Good	Master plan is currently being developed

City of Havelock 1996 Land Use Plan Addendum, 1998

Policy Section	Topical Area	Policy Statement	Measurable Target	Implementation Toolbox	Regulatory Effectiveness	Comments
Economic and Community Development	Community Attitude Toward Economic and Community Development	The City of Havelock desires to expand its economic base, including Cherry Point expansion, tourism, commercial fishing, retail and wholesale trade, real estate and construction, and industrial development. The City will support growth and development at the densities specified in the land classification definitions. The desired pattern of development is shown on the Land Classification Map. Havelock's economic development goals should be compatible with and complementary to Cherry Point's existing and proposed activities. All economic and community development should be consistent with 15A NCAC 7H.	Adoption of permitted use, height, bulk, and density requirements within the Land Development Code for implementing land use classifications; demonstrated coordination with local, regional, state, and federal agencies for working in partnership to increase economic development within Havelock; completion of a joint study with the military base to identify priorities for economic development that best match the needs of the military base with surrounding businesses.	Board of Commissioners	Good	JLUS (Joint Land Use Study) done with Cherry Point Phase 2 of JLUS grant being applied for
Economic and Community Development	Assistance in Interstate Waterways	Havelock supports continued maintenance of the interstate waterway.	Demonstrated coordination with state and federal agencies, creation of land use controls along interstate waterways that improve navigation and minimize negative environmental impacts.	N/A	N/A	ICW not in our jurisdiction

Appendix F

Plan Consistency Review Matrix

City of Havelock Comprehensive Plan

Plan Consistency Review Matrix with Rule 15A NCAC 07B .0702

Required Elements of CAMA Core Land Use Plan	15A NCAC 07B .0702 Reference	Document Reference
Detailed Table of Contents	15A NCAC 07B .0702(a)	Table of Contents, pgs. i-vii
Plan Consistency Matrix	15A NCAC 07B .0702(a)	Appendix F
Description of Dominate Growth Issues	15A NCAC 07B .0702(b)(1)	Chapter 1, Introduction
Identify Key Planning Issues for the Planning Area	15A NCAC 07B .0702(b)(2)	Chapter 1, Introduction, Community Concern and Aspirations, pgs. 8-9
Establish Community Vision for the Planning Area	15A NCAC 07B .0702(b)(3)	Chapter 1, Introduction, Havelock's 2030 Land Use Vision, pg. 9
Population, Housing, and Economy	15A NCAC 07B .0702(c)	Chapter 2, Demographic Profile
Population	15A NCAC 07B .0702(c)(1)(A)	Chapter 2, Population, pgs. 8-15
Permanent Population Growth Trends	15A NCAC 07B .0702(c)(1)(A)(i)	Chapter 2, Population, pgs. 8-12
Permanent and Seasonal Population Estimates	15A NCAC 07B .0702(c)(1)(A)(ii)	Chapter 2, Population, pgs. 12-15
Key Population Characteristics (Age / Income)	15A NCAC 07B .0702(c)(1)(A)(iii-v)	Chapter 2, Population, pg. 7, 11
Housing Stock	15A NCAC 07B .0702(c)(1)(B)	Chapter 2, Housing Units, pgs. 2 -7
Estimate of Current Housing Stock	15A NCAC 07B .0702(c)(1)(B)(i)	Chapter 2, Housing Units, pgs. 6 -7
Building Permit History	15A NCAC 07B .0702(c)(1)(B)(ii)	Chapter 2, Housing Units, pgs. 2 -3
Local Economy	15A NCAC 07B .0702(c)(1)(C)	Chapter 2, Employment, pgs. 15 - 17
Identify Employment by Major Sector	15A NCAC 07B .0702(c)(1)(C)	Chapter 2, Employment, pg. 16
Description of Community Economic Activity	15A NCAC 07B .0702(c)(1)(C)	Chapter 2, Employment, pgs. 16 - 17
Short-Term and Long-Term Population Projections	15A NCAC 07B .0702(c)(1)(D)	Chapter 2, Population, pg. 15
Natural Systems Analysis	15A NCAC 07B .0702(c)(2)	Chapter 3, Havelock Today, Natural Resources, pgs. 34-55
Mapping and Analysis of Natural Features	15A NCAC 07B .0702(c)(2)(A)	Chapter 3, Havelock Today, Figure 3-11 through Figure 3-22
Areas of Environmental Concern	15A NCAC 07B .0702(c)(2)(A)(i)	Chapter 3, Havelock Today, Figures 3-11 & 3-12
Soil Characteristics	15A NCAC 07B .0702(c)(2)(A)(ii)	Chapter 3, Havelock Today, Figure 3-17
EMC Water Quality Classifications	15A NCAC 07B .0702(c)(2)(A)(iii)	Chapter 3, Havelock Today, Table 3-18
Flood and Other Natural Hazard Areas	15A NCAC 07B .0702(c)(2)(A)(iv)	Chapter 3, Havelock Today, Figure 3-13
Storm Surge Areas	15A NCAC 07B .0702(c)(2)(A)(v)	Chapter 3, Havelock Today, Figure 3-14
Non-Coastal Wetlands	15A NCAC 07B .0702(c)(2)(A)(vi)	Chapter 3, Havelock Today, Figures 3-15 & 3-16
Water Supply Watersheds	15A NCAC 07B .0702(c)(2)(A)(vii)	Chapter 3, Havelock Today, pg. 16
Primary Nursery Areas	15A NCAC 07B .0702(c)(2)(A)(viii)	Chapter 3, Havelock Today, pg. 36
Environmental Fragile Areas (Wetlands)	15A NCAC 07B .0702(c)(2)(A)(ix)	Chapter 3, Havelock Today, pgs. 41-44
Environmental Fragile Areas (Natural Heritage Areas)	15A NCAC 07B .0702(c)(2)(A)(ix)	Chapter 3, Havelock Today, pg. 38
Environmental Fragile Areas (Endangered Species Habitat)	15A NCAC 07B .0702(c)(2)(A)(ix)	Chapter 3, Havelock Today, Areas of Environmental Concern, pgs. 34-36
Environmental Fragile Areas (Prime Wildlife Habitat)	15A NCAC 07B .0702(c)(2)(A)(ix)	Chapter 3, Havelock Today, Areas of Environmental Concern, pgs. 34-36
Additional Natural Features Identified by the Local Government	15A NCAC 07B .0702(c)(2)(A)(x)	N/A
Composite Map of Environmental Conditions	15A NCAC 07B .0702(c)(2)(B)	Chapter 3, Havelock Today, pgs. 53-55
Present Environmental Composite Map	15A NCAC 07B .0702(c)(2)(B)(i)	Chapter 3, Havelock Today, Figure 3-22
List Physical Features Included in Class I, II, & III Categories	15A NCAC 07B .0702(c)(2)(B)(ii)	Chapter 3, Environmental Composite Map, pgs. 53-54
Environmental Conditions	15A NCAC 07B .0702(c)(2)(C)	Chapter 3, Havelock Today, Natural Resources, pgs. 34-55
Water Quality	15A NCAC 07B .0702(c)(2)(C)(i)	Chapter 3, Havelock Today, Other Environmental & Natural Resources, pgs. 36-54
Status and Changes of Surface Water Quality	15A NCAC 07B .0702(c)(2)(C)(i)(I)	Chapter 3, Havelock Today, Other Environmental & Natural Resources, pgs. 13-50
Current Situation and Trends on Permanent/Temporary Shellfishing Waters	15A NCAC 07B .0702(c)(2)(C)(i)(II)	Chapter 3, Havelock Today, Other Environmental & Natural Resources, pgs. 51-53
Areas Experiencing Chronic Wastewater Treatment Malfunctions	15A NCAC 07B .0702(c)(2)(C)(i)(III)	Chapter 3, Havelock Today, Community Facilities - Infrastructure, pgs. 9-17
Areas with Water Quality Issues/Public Health Problems Related to Non-Point Source Pollution	15A NCAC 07B .0702(c)(2)(C)(i)(IV)	Chapter 3, Havelock Today, Community Facilities - Infrastructure, pgs. 9-17
Natural Hazards	15A NCAC 07B .0702(c)(2)(C)(ii)	Chapter 3, Havelock Today, Natural Resources, pgs. 34-38
Areas Subject to Storm Hazards (Recurrent Flooding, Storm Surges, & Highwinds)	15A NCAC 07B .0702(c)(2)(C)(ii)(I)	Chapter 3, Havelock Today, Natural Resources, pgs.38-40
Areas Experiencing Significant Shoreline Erosion	15A NCAC 07B .0702(c)(2)(C)(ii)(II)	N/A
Estimates for Public & Private Damage Resulting from Floods & Wind	15A NCAC 07B .0702(c)(2)(C)(ii)(III)	N/A
Natural Resources	15A NCAC 07B .0702(c)(2)(C)(iii)	Chapter 3, Havelock Today, Natural Resources, pgs. 34-55
Environmentally Fragile Areas	15A NCAC 07B .0702(c)(2)(C)(iii)(I)	Chapter 3, Havelock Today, Areas of Environmental Concern, pgs. 34-40
Areas Containing Potentially Valuable Natural Resources	15A NCAC 07B .0702(c)(2)(C)(iii)(II)	Chapter 3, Havelock Today, Areas of Environmental Concern, pgs. 34-40
Analysis of Land Use and Development	15A NCAC 07B .0702(c)(3)	Chapter 5, Havelock Tomorrow, pgs. 2-26
Existing Land Use Map	15A NCAC 07B .0702(c)(3)(A)	Chapter 3, Havelock Today, Land Use, pg. 4
Existing Land Use Analysis	15A NCAC 07B .0702(c)(3)(B)	Chapter 3, Havelock Today, Land Use, pgs. 5-9
Existing Land Use Profile	15A NCAC 07B .0702(c)(3)(B)(i)	Chapter 3, Havelock Today, Table 3-1
Description of Any Land Use Conflicts	15A NCAC 07B .0702(c)(3)(B)(ii)	Chapter 5, Havelock Tomorrow, Land Use Compatibility, pgs. 3-4
Description of Any Land Use / Water Quality Conflicts	15A NCAC 07B .0702(c)(3)(B)(iii)	Chapter 5, Havelock Tomorrow, Land Use Compatibility, pgs. 3-4
Description of Development Trends Using Indicators	15A NCAC 07B .0702(c)(3)(B)(iv)	Chapter 5, Havelock Tomorrow, Land Use Compatibility, pgs. 2-3
Location of Areas Expected to Experience Development During the 5 Years Following CRC Certification	15A NCAC 07B .0702(c)(3)(B)(v)	Chapter 5, Havelock Tomorrow, Desirable Locations for Future Development & Redevelopment Opportunities, pgs. 10-15
Historic, Cultural, and Scenic Areas Designated by the State or Federal Government	15A NCAC 07B .0702(c)(3)(C)	Chapter 3, Havelock Today, Historic Resources, pg. 9
Projection of Future Land Use Needs	15A NCAC 07B .0702(c)(3)(D)	Chapter 5, Havelock Tomorrow, Land Use Demand Forecasts, pgs. 5-11
Analysis of Community Facilities	15A NCAC 07B .0702(c)(4)	Chapter 3, Havelock Today, Community Facilities - Infrastructure & Services, pgs. 9-33
Public & Private Water Supply and Wastewater Treatment Systems	15A NCAC 07B .0702(c)(4)(A)	Chapter 3, Havelock Today, Community Facilities - Infrastructure, pgs. 10-13
Transportation Systems	15A NCAC 07B .0702(c)(4)(B)	Chapter 3, Havelock Today, Community Facilities - Infrastructure, pgs. 17-25
Stormwater Systems	15A NCAC 07B .0702(c)(4)(C)	Chapter 3, Havelock Today, Community Facilities - Infrastructure, pg. 15-17
Other Facilities	15A NCAC 07B .0702(c)(4)(D)	Chapter 3, Havelock Today, Community Facilities - Services, pgs. 25-33

City of Havelock Comprehensive Plan

Plan Consistency Review Matrix with Rule 15A NCAC 07B .0702

Land Suitability Analysis	15A NCAC 07B .0702(c)(5)	Chapter 4, Land Suitability Analysis, pgs. 2-5
Review of Current CAMA Land Use Plan	15A NCAC 07B .0702(c)(6)	Chapter 7, pg. 8, Appendix B
Consistency of Existing Land Use and Development Ordinances with Current CAMA Land Use Policies	15A NCAC 07B .0702(c)(6)(A)	Appendix B
Adoption of the Land Use Plan's Implementation Measures by the Governing Body	15A NCAC 07B .0702(c)(6)(B)	Chapter 7, Inviting Success, pg. 42
Efficacy of Current Policies in Creating Desired Land Use Patterns & Protecting Natural Systems	15A NCAC 07B .0702(c)(6)(C)	Appendix B

Appendix G

Relationship Between Proposed FLUM and Existing Zoning and Development Ordinance Requirements

CITY OF HAVELOCK

LAND USE DESIGNATIONS	Density:	Intensity:	ZONING DISTRICTS	R-20 A	R-20	R-15	R-13 A	R-12	R-10	R-7	R-M	R- MH	H-C	O & I	L-I	I-A	GS	MR	DISCUSSION
			Minimum Lot Size* (sq. ft.):	20,000	20,000	15,000	13,500	12,000	10,000	7,000	*(a)*	5,000	none	none	60,000	90,000	no value	no value	
			Maximum Lot Coverage (sq. ft.):	6,000	6,000	4,500	4,050	4,200	3,500	2,800	3,200 - 4,000	2,500	varies *(b)*	varies *(b)*	30,000	45,000	no value	no value	
			Maximum Building Height (ft.):	35	35	35	35	35	35	35	35	35	50	35	50	50	no value	no value	
Agriculture	.10 du/acre			✗	✗	✗	✗	✗	✗	✗	✗	✗	✗	✗	✗	✗	✗	✗	a new zoning district would have to be created to be compatible with this land use category
Rural Residential	.20 du/acre			✗	✗	✗	✗	✗	✗	✗	✗	✗	✗	✗	✗	✗	✗	✗	a new zoning district would have to be created to be compatible with this land use category
Low-Density Residential	2 du/acre			✗	•	•	•	•	•	•	•	•	✗	✗	✗	✗	✗	✗	
Medium-Density Residential	2.0 to 6.0 du/acre			✗	•	•	•	•	•	•	•	•	✗	✗	✗	✗	✗	✗	
High-Density Residential	6.0 to 12.5 du/acre			✗	✗	✗	✗	✗	✗	✗	•	⊙	✗	✗	✗	✗	✗	✗	
Industrial	-	FAR 2.5		✗	✗	✗	✗	✗	✗	✗	✗	✗	✗	✗	•	•	✗	✗	
Institutional and Public Facility	-	FAR 1.5		⊙	⊙	⊙	⊙	⊙	⊙	⊙	⊙	⊙	⊙	•	⊙	⊙	⊙	⊙	
Business and Office	-	FAR 2.5		✗	✗	✗	✗	✗	✗	✗	✗	✗	•	•	⊙	✗	⊙	⊙	
City Center Mixed-Use	4.0 to 15.0 du/acre	FAR .50 + .10 each additional story		✗	✗	✗	✗	✗	✗	✗	✗	✗	✗	✗	✗	✗	✗	✗	a new zoning district would have to be created to be compatible with this land use category
Neighborhood Mixed-Use	3.0 to 10.0 du/acre	FAR .40 + .10 each additional story		✗	✗	✗	✗	✗	✗	✗	✗	✗	✗	✗	✗	✗	✗	✗	a new zoning district would have to be created to be compatible with this land use category
Parks and Recreation	*(c)*			⊙	⊙	⊙	⊙	⊙	⊙	⊙	⊙	⊙	⊙	⊙	⊙	⊙	•	⊙	
U.S. Military Base	*(d)*			-	-	-	-	-	-	-	-	-	-	-	-	-	-	•	
U.S. National Forest	*(e)*			-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	

• "generally consistent"
⊙ "conditionally consistent"
✗ "inconsistent"
- "not applicable"

(a)- 8,000 plus 2,000 for each dwelling unit over 1
(b) Varies on Lot Size
(c) Max building height for ancillary commercial, recreation, cultural, or entertainment buildings permitted in this category shall not exceed 2 stories.
(d) The City of Havelock specifies no height, bulk, or density controls for this land use category.
(e) The City of Havelock specifies no height, bulk, or density controls for this land use category.

To have any zoning districts that correlate to the agriculture and rural residential land use categories, the density requirements in the zoning ordinance would need to be changed. Currently, the lowest density zoning districts in Havelock have a minimum lot size of 20,000 sq ft. The agriculture and rural residential land use categories would be significantly less dense, at about 1 dwelling unit every 5 or 1 dwelling unit every 10 acres.

Also, to correspond to intensity requirements in the non-residential land use categories, the zoning ordinance would need to be changed (FAR, building heights, etc).

Finally, the current zoning ordinance does not allow for a mix of uses in any zoning districts. One or more zoning districts would have to be created to be compatible with the City Center and Neighborhood Mixed Use land use categories.

Future Land Use Map & Forecasted Growth

Demonstration that FLUM Accommodates Growth Through Long-Term Planning Horizon (2030)

Summary for Residential Land Use Categories

Residential Land Use Profile, Reported by Planning Jurisdiction (2005 & 2030)

	2005 [A]	2030 [B]	Change
Inside City Limits	1,611.17	1,812.90	201.73
Inside Existing Extraterritorial Jurisdiction Boundary	402.41	602.47	200.06
Inside Proposed Extraterritorial Jurisdiction Boundary	169.09	360.21	191.12
Inside Future Urban Service Area	4.48	294.49	290.01
Total	2,187.15	3,070.06	882.91

Notes:

A = Existing Residential Land Use Profile reported in Chapter 3, Table 3-1.

B = Future Year Residential Land Use Profile reported in Chapter 5, Table 5-8

Residential Land Use Profile, Reported by Land Use Category (2005 & 2030)

	2005	2030	New Acreage
Rural Residential	0.00	172.00	172.00
Low Density	636.44	631.55	0.00
Medium Density	1,174.22	1,526.24	352.02
High Density	376.48	353.68	0.00
Neighborhood Mixed Use	0.00	364.86	364.86
City Center	0.00	21.73	21.73
Total	2,187.14	3,070.06	882.91

Housing Supply Profile (2005) & New Housing Demand (2030)

Occupied Housing Units (2005)	7,307
Vacant Housing Units (2005)	425
Total Housing Supply (2005)	7,732
New Housing Demand (2005 - 2030)	3,950
Total Housing Demand (2030)	11,257

Demand for New Residential LU Acreage (Ratio Method)

Existing Population (2005)	24,393
Existing Residential Acreage	2,187.15
Acres / Person Ratio (2005)	0.09
Forecasted Population Growth (2005 - 2030)	35,709
Acres / Person Ratio (2005)	0.09
Future Residential Acreage Need (2030)	3,201.78
New Residential LU Acres Needed in 2030, Ratio Method	1,014.63
New Residential LU Acres Depicted on FLUM (2030)	882.91
Net Surplus/Deficit	-131.72

Build-Out Potential for New Residential Land Use Acreage in FLUM (Dwelling Units)

	Maximum Allowable Density [C]	New DUs
Rural Residential	0.20 d.u. / acre	34
Low Density	2.0 d.u. / acre	0
Medium Density	6.0 d.u. / acre	2,112
High Density	12.5 d.u. / acre	0
Neighborhood Mixed Use	10.0 d.u. / acre	3,649
City Center	Per Redevelopment Site Plan [D]	1,000
	Total	6,795

Notes:

C = Maximum Allowable Density for each Residential Land Use Category reported in Chapter 6, Policy 1.1.1

D = Redevelopment Plan for City Center depicted in Chapter 5, pgs. 5-12 & 5-13

Housing Supply / Demand for the Planning Horizon (2030)

Occupied Housing Units (2005)	7,307
New Housing Demand (2005 - 2030)	3,950
Total Housing Demand (2030)	11,257
Housing Supply, Occupied Units (2005)	7,307
Housing Supply, Vacant Units (2005)	425
Future Year Housing Supply (2030)	6,795
Total Housing Supply (2030)	14,527
Net Surplus / Deficit (2030)	3,270

Future Land Use Map & Forecasted Growth

Demonstration that FLUM Accommodates Growth Through Long-Term Planning Horizon (2030)

Summary for Non-Residential Land Use Categories

Non-Residential Land Use Profile, Reported by Planning Jurisdiction (2005 & 2030)[A]

	2005 [B]	2030 [C]	Change
Inside City Limits	730.47	1,053.16	322.69
Inside Existing Extraterritorial Jurisdiction Boundary	145.88	385.58	239.70
Inside Proposed Extraterritorial Jurisdiction Boundary	46.49	44.91	-1.58
Inside Future Urban Service Area	11.67	196.32	184.65
Total	934.51	1,679.97	745.46

Notes:

A = The following land use categories represented as "Other" in the table were excluded from the analysis: agriculture, parks & recreation, U.S. military base, institution & public facilities, & national parkland.

B = Existing Non-Residential Land Use Profile reported in Chapter 3, Table 3-1.

C = Future Year Non-Residential Land Use Profile reported in Chapter 5, Table 5-8

Non-Residential Land Use Profile, Reported by Land Use Category (2005 & 2030)

	2005	2030	Change
Neighborhood Mixed Use	0.00	302.03	302.03
City Center	0.00	21.72	21.72
Business & Office	355.26	762.81	407.55
Industrial	114.37	346.13	231.76
Institutional & Public Facilities	464.88	306.07	-158.81
Total	934.51	1,738.76	804.25

Non-Residential Sq. Ft. Demand (2005 & 2030) [F]

Retail (2005)	1,665,798
Industrial (2005)	331,113
Office (2005)	190,012
Retail (2030)	1,965,798
Industrial (2030)	631,113
Office (2030)	277,512
New Retail Demand (2005 - 2030)	300,000
New Industrial Demand (2005 - 2030)	300,000
New Office Demand (2005 - 2030)	87,500

Note:

F = Information summarized in Chapter 5, Table 5-5

Demand for New Non-Residential LU Acreage (Ratio Method)

Existing Population (2005)	24,393
Existing Non-Residential Acreage	934.51
Acres / Person Ratio (2005)	0.04
Forecasted Population Growth (2005 - 2030)	35,709
Acres / Person Ratio (2005)	0.04
Future Non-Residential Acreage Need (2030)	1,368.03
New Non-Residential LU Acres Needed in 2030, Ratio Method	433.52
New Non-Residential LU Acres Depicted on FLUM (2030)	745.46
Net Surplus/Deficit	311.94

Build-Out Potential for New Non-Residential Land Use Acreage in FLUM (sq. ft.)

	Maximum Allowable Intensity [D]	New Sq. Ft.
Neighborhood Mixed Use	0.80 FAR (5 stories)	10,525,141
City Center	Per Redevelopment Site Plan [E]	250,000
Business & Office	0.60 FAR (3 stories)	10,651,727
Industrial	0.40 FAR (2 stories)	4,038,186
Institutional & Public Facilities	0.40 FAR (2 stories)	-2,767,105
	Total	22,697,949

Notes:

D = Maximum Allowable Density for each Residential Land Use Category reported in Chapter 6, Policy 1.1.1

E = Redevelopment Plan for City Center depicted in Chapter 5, pgs. 5-12 & 5-13

Supply vs. Demand for New Non-Residential Sq. Ft. (2030)

New Retail Demand (2005 - 2030)	300,000
New Industrial Demand (2005 - 2030)	300,000
New Office Demand (2005 - 2030)	87,500
New Retail Supply (2005 - 2030)	10,713,434
New Industrial Supply (2005 - 2030)	4,038,186
New Office Supply (2005 - 2030)	10,713,434
Net Retail Surplus/Deficit (2030)	10,413,434
Net Industrial Surplus/Deficit (2030)	3,738,186
Net Office Supply/Deficit (2030)	10,625,934

Appendix I

Glossary of Commonly Used Action Words

GLOSSARY OF COMMONLY USED ACTION WORDS

Create: Bring about the desired goal, usually with City staff and Planning Board involved at all levels from planning to implementation. May involve the City's financial assistance.

Consider: To think about or weigh carefully to determine if further action should be taken.

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

Develop: See create.

Encourage: To stimulate or foster a particular condition through direct or indirect action the private sector or through City regulation, staff recommendation and decisions.

Enhance: Improve existing conditions by increasing the quantity or quality of desired features or current regulations and decisions towards a desired state through the use of policies and City staff at all levels of planning. This could include financial support.

Evaluate: Determine the value, significance, or worth of implementing the recommendation.

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

Implement: Actions to guide the accomplishment of the Plan recommendations.

Improve: To strengthen or make better current conditions, regulations, or policies.

Maintain: Keep in an existing state or good condition the desired state of affairs through the use of Town regulations and practices by staff. Financial assistance should be provided if needed.

Prevent: Stop described event through the use of appropriate Town regulations, staff actions, Planning Board actions, and Town finances, if needed.

Promote: Advance the desired state through the use of Town policies and codes and Planning Boards 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 and regulations, 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.

Shall: See statement of legislative intent (pg 6-2).

Should: See statement of legislative intent (pg 6-2).

Strengthen: Improve and reinforce the desired goal through the use of Town policies, staff, and, if necessary, financial assistance.

Support: Supply the needed staff support, policies, and financial assistance at all levels to achieve the desired goal.

Sustain: Uphold the desired state through Town policies, decisions, financial resources, and staff action to achieve the desired goal.

Will: See statement of legislative intent (pg 6-2).

Work: Cooperate and act in a manner through the use of Town staff, actions, and policies to create the desired goal.