

Town of Morehead City North Carolina

Core Land Use Plan

**Adopted by the Morehead City Town Council:
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Prepared by:



THE WOOTEN COMPANY

ENGINEERING | PLANNING | ARCHITECTURE

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SECTION 1 INTRODUCTION AND EXECUTIVE SUMMARY

1.1 Acknowledgement

The preparation of this document was financed, in part, through a grant provided by the North Carolina Coastal Management Program, through funds provided by the Coastal Zone Management Act of 1972, as amended, which is administered by the Office of Ocean and Coastal Resource Management, National Oceanic and Atmospheric Administration.

1.2 General Project Description

The 2005 Town of Morehead City Land Use Plan Update represents an update to the 1999 Town of Morehead City Land Use Plan, which was prepared with assistance from The Wooten Company of Raleigh, North Carolina. The 1999 plan was locally adopted by the Morehead City Council on May 25, 1999, and was certified by the Coastal Resources Commission on May 28, 1999.

The 2005 Town of Morehead City Land Use Plan Update is prepared in accordance with the requirements contained in the North Carolina Coastal Area Management Act (CAMA), the North Carolina Coastal Resources Commission (CRC) Land Use Planning Requirements [15A NCAC7B] and the relevant planning process requirements of Local Planning and Management Grants [15A NCAC 7L]. The Land Use Plan Update also utilizes the methodology and data sources suggested by the Technical Manual for Coastal Land Use Planning, prepared by the North Carolina Department of Environment and Natural Resources (NCDENR).

In November 2001, the CRC adopted revisions to the 1996 Land Use Planning Requirements. The new guidelines are designed to be less complicated than the past guidelines, better tailored to the needs of local governments and more in line with the goals of CAMA. The revised guidelines became effective in August 2002, and are the basis for this planning effort.

The CAMA legislation requires that each of the twenty coastal counties prepare and adopt a land use plan. Municipalities within these counties have the option of adopting individual plans, or the option of falling under the authority of the county plan. Morehead City has chosen to prepare and adopt a separate plan from Carteret County.

A land use plan is intended to provide a framework that will guide local government officials and private citizens as they make day-to-day and long-term decisions affecting development. This Land Use Plan Update serves as an overall "blueprint" for the development of Morehead City that when implemented results in the most suitable and appropriate use of the land and protection of the town's natural resources. In addition to serving as a guide to the overall development of Morehead City, the Land Use Plan will be used by local, state and federal agencies in CAMA permitting decisions, project funding and project consistency determinations. The effective period for the 2005 Land Use Plan Update is for the ten-year period following adoption of the plan.

The Coastal Resources Commission places great emphasis on involving citizens and property owners in the development and implementation of the Land Use Plan. The goal is to involve as many citizens as possible in the development of the plan, and thereby enhance the likelihood

that the plan will be implemented. Accordingly, on October 7, 2003, the Morehead City Council adopted a Citizen Participation Plan (Appendix A) which designated the Land Use Plan Advisory Committee (LUPAC) as the lead group responsible for preparation of the Land Use Plan. The LUPAC is composed of citizens that represent a broad cross-section of the population of Morehead City, as well as members of the City Council and Planning Board. The purpose of the Citizen Participation Plan is to ensure that all interested citizens have an opportunity to participate in the development of the plan. The Citizen Participation Plan describes the public participation tools that are to be used to inform the public of planning progress and to solicit public participation. The Citizen Participation Plan also provides a general outline of the meeting schedule of the Planning Commission for discussion and development of the Land Use Plan.

In accordance with the Citizen Participation Plan, the LUPAC held an Initial Public Information Meeting on December 2, 2003 and a Neighborhood Forum on January 6, 2004. The meetings were held to receive public input from citizens on issues, concerns and opportunities available to the Town and its neighborhoods. In addition, all LUPAC meetings provided time on the agenda for public comment. Regular planning updates to the Morehead City website allowed non-resident property owners to follow the planning process and participate by directing questions and comments to the Morehead City Planning Director.

The *Community Concerns and Aspirations* section of this report is a description of the major land use assets and problems identified by the LUPAC after reviewing technical information on existing and emerging conditions. This information, key planning issues and public comments from the initial public information meeting and neighborhood forum were used by the LUPAC to develop the Community Vision. The Community Vision serves as the foundation for the objectives and policies contained in the Land Use Plan.

The planning process included an analysis of existing and emerging conditions that affect Morehead City and Carteret County, such as current and projected population trends, housing characteristics and economic conditions. Natural systems and environmental hazards were analyzed and compiled into an environmental composite map. This map depicts environmentally sensitive areas where development may already be limited or limited in the future due to public safety issues or protection of the environment. Other factors that were analyzed and considered in the planning process included existing land use and development patterns, projected land use needs and community facilities and utilities.

A land suitability analysis was conducted to determine the relative suitability for development of land in the Morehead City planning jurisdiction. Considerations included proximity to important natural features, existing and planned community services, existing developed areas, and existing local, state and federal regulations affecting growth and development.

A Plan for the Future was developed and includes land use and development goals and policies for Morehead City. This section of the Land Use Plan addressed the CRC's management topics, which include the following: Public Access, Land Use Compatibility, Infrastructure Carrying Capacity, Natural Hazard Areas, Water Quality and Local Areas of Concern. A Future Land Use Map was developed to show areas designated for conservation / open space as well as areas that are expected to see future growth and development.

An implementation strategy or Tools for Managing Development was developed to describe Morehead City's implementation strategies for the updated Land Use Plan. This includes a description of existing ordinances, policies, codes and regulations and how they will be coordinated and employed to implement land use and development policies. This section also

describes additional tools, such as new or amended ordinances, capital improvements, property acquisitions or other specific projects selected by the Town to implement the updated Land Use Plan.

1.3 Executive Summary

1.3.1 Summary of Planning Issues

Key planning issues identified by participants at a neighborhood forum included the following (listed in priority order with the number of votes received on each issue):

Land Use Compatibility

- 4 - Municipal tax district
- 3 - Review zoning ordinance to control development
- 3 - Limit building in wetlands
- 2 - More support of downtown revitalization
- 2 - Study high-rise residential buildings to see what future impact will be
- 1 - Need for more residential building lots
- 1 - Commercial development along Hwy 70 should be done properly (i.e. connecting parking lots, traffic patterns)
- 1 - Balancing property owner rights with the good of the city
- 1 - People who don't want development in community should buy undeveloped lands
- 1 - Revise Morehead City's Land Use Plan to reflect the county's prohibition of hazardous industry

Water Quality

- 8 - Study and improve stormwater runoff (city wide)
- 8 - Sewer plant run-over, improve and clean Calico Creek
- 2 - Possibility of more retention ponds
- 2 - Silting of Calico Creek and Newport River
- 1 - Better maintenance of present retention ponds
- 1 - Stress vegetated as opposed to hard bulkheads

Public Water Access

- 2 - Need more parking at boat ramps
- 2 - Make all street ends cleared and designated like South 16th Street
- 1 - Better access to Calico Creek for boaters and pedestrians
- 1 - More parking at water accesses
- 1 - Remove beachfront debris at South 10th Street and others areas

Infrastructure Carrying Capacity

- 6 - Too many traffic lights on Arendell Street
- 4 - Further extension of Bridges Street
- 3 - Lack of potential sewer capacity
- 2 - Extend sewer on Highway 24 and Business Drive
- 2 - Natural gas service extension
- 1 - Maintenance of streets and sidewalks
- 1 - Improve infrastructure to entice clean industries
- 1 - Trash collection is good
- 1 - Relocate main post office
- 1 - Control sprawl; establish firm geographical boundaries of the city's growth

Natural Hazards

- 10 - Stormwater runoff problems
- 5 - Bridges Street extended / Havelock Bypass

Other Local Issues

- 8 - Road System in to and out of Morehead City
- 3 - Creation of municipal docks downtown
- 2 - Downtown parking needs to be increased
- 1 - Promote development of theme park
- 1 - Aggressive enforcement of building codes and formal monitoring of permit compliance

Other major planning issues identified by the Land Use Plan Advisory Committee and the Morehead City Planning Department staff include the following:

Radio Island Development

- Character of future development: industrial vs. residential vs. recreational
- Town now manages the Newport River Beach Access and plans to make improvements
- County leases a portion of Port property for recreation area on east side of island

Water/Sewer Service

- Waste treatment plant improvements
- Sewer line moratorium - Town is working towards getting it lifted by developing design plans and specifications to upgrade sewer plant.

Transportation

- Connection between 24 and 70 in vicinity of Little Nine Drive, would provide a direct link between the Crystal Coast Business Park and Highway 24.
- Proliferation of traffic lights on Highway 70
- Preserving the functionality of Highway 70 while balancing the right of property owners to develop and redevelop property.
- Alternative Transportation Modes (MATS) (New sidewalk along Bridges Street Extension)
- Sidewalks

Land Use Issues

- Impervious cover limits
- Building heights
- Use separation
- Landscaping

Stormwater Issues

- Flooding (impervious coverage/system maintenance)
- Point and non-point source pollution
- Water quality preservation

Community Cooperation

- Attach water line with Newport in case of emergency in either town.
- Agreement with Beaufort on Radio Island/Pivers Island, water/sewer service, zoning boundaries, etc.
- Carteret County - various issues require cooperation

Concerns Related to Population Increases

- Traffic
- Evacuation Routes
- Density issues
- Housing

Neighborhood Preservation

- Redevelopment of developed lots, both residential and commercial
- Density
- Commercial encroachment

Enforcement (Building/Zoning)

Industrial Development

- Type of growth
- Where
- How much
- Preservation of industrial zoning districts

Water Access

- Improvements to street ends
- Public boat ramps (where)

1.3.2 Summary of Data Collection and Analysis

The data analyzed in Section 3 were collected from a wide variety of sources (see Appendices B and E) including published documents, governmental and private organizations, and individuals. Printed and digital map data were utilized in the preparation of this section of the plan. The major conclusions resulting from the data collection and analysis include:

Population

- The estimated 2002 population of the Morehead City corporate area is 7,726 and approximately 14,000 for the Morehead City planning jurisdiction.
- In 2002, the municipal population of Morehead City, one of eleven incorporated municipalities within Carteret County, comprised approximately 13 percent of the total county population.
- Population in Morehead City has increased steadily since 1910 with the exception of a dip in population between 1960 and 1980, from 5,583 in 1960 to 4,359 in 1980. The population recovered from 1980 to 1990 with a 38.7% growth rate. Part of this can be attributed to annexations. The growth rate has declined slightly to 27.2% in the past decade (1990-2000).

- Morehead City's population growth is lower than many of the municipalities in the immediate region. Six other municipalities in the region had a higher growth rate from 1990-2000
- The estimated 2002 seasonal population of Morehead City is 3,146. The 2002 peak population, which is the sum of the permanent population and the seasonal population, is estimated to be 10,872.
- One of the most notable population trends between 1990 and 2000 in Morehead City is an increase in the average age of the population from 36.5 to 41.1 years.
- The age group with the highest growth rate is 50-59 at 87.7%. Other age groups with high growth rates are the 40-49 age group at 62.1% and the 70+ group at 39.1%. The growth of these age groups is largely attributed to the County's popularity as a retirement location and the resulting in-migration of older adults.
- In general, age groups over 50 are projected to grow faster than the county as a whole through 2030, especially the 70 and up age group.
- Beaufort's age distribution is similar to that of Carteret County but differs from the statewide averages in that the town contains a higher proportion of the 65 and older population.
- Morehead City's population is more diverse than the county's but is less diverse than North Carolina's.
- Projections indicate that the peak population (total of the permanent and seasonal population) for the Morehead City planning jurisdiction will increase to 22,480 in 2010 and 24,510 in 2020. Complete population projections are provided in Section 3.1.4.

Housing

- Rental units have increased faster than owner units and make up 44.5% of the 2000 housing stock. Owner units account for 77% of the housing stock in Carteret County whereas they account for only 55.5% in Morehead City. The increase in rental units coincides with the explosion of the number of seasonal units since 1980 with more than a 700% growth rate.
- Building permit data since 2000 indicate that Morehead City has averaged about 197 new residential dwellings per year—approximately 59 percent of those were single-family dwellings.
- In 2000, approximately 8% of all housing in Morehead City was considered to be for seasonal or recreational use.

Economy

- The largest employment sector in the Town of Morehead City is educational, health and social services. Other major sectors are the arts entertainment, recreation, accommodation and food services industry, retail trade and the construction industry. Although retail trade is the third largest employment industry in Morehead City, the number of employees actually dropped 43.3% from 1990 to 2000.
- The employed labor force has also seen growth in the past twenty year. The increase was greater from 1980 to 1990 than it was from 1990 to 2000. This is consistent with the slowed population growth from 1990-2000.

- Paralleling this economic growth, income has increased significantly and families in poverty have decreased steadily since 1980.
- In 2000, the per capita income in Morehead City was \$19,138 compared to \$21,260 for Carteret County and \$20,307 for the State of North Carolina. Although the Town's per capita income is below that of the state and Carteret County it increased at a greater rate than both of them from 1980 to 2000.
- Much of the local economic activity in the Town of Morehead City and Carteret County is based on tourism. Restaurants, accommodations, fishing, retail trade, services, construction, and the real estate and finance industries benefit directly from the impact of tourism.
- According to the NC Department of Commerce, Division of Tourism, the Carteret County tourism industry generated \$206.87 million dollars in revenue and was ranked twelfth in the state in travel impact in 2002.
- Over 3,170 jobs were created due to tourism. These jobs generate an annual payroll of \$47.03 million.
- According to the NC Division of Marine Fisheries, Carteret County consistently leads North Carolina in commercial seafood landings. A 1994 Marine Fisheries study found that commercial fishing in Carteret County generated an estimated \$46 million in sales of goods and services, and an additional \$24 million in value added.
- Recreational saltwater fishing adds an additional \$130 million in sales of goods and services and employs over 600 people with an annual payroll exceeding \$12 million.
- According to Carteret County Economic Development Council there are 71 full time employees, 81 tenant employees and 150 part time employees at the state port.

Natural Constraints for Development

- The Estuarine and Ocean System Area of Environmental Concern category is the only AEC category present in the Morehead City planning jurisdiction. Within this category, the following AECs are present: Public Trust Areas, Estuarine Waters, Coastal Shorelines, and Coastal Wetlands.
- Fragile areas that are not AECs but are sensitive areas that could be damaged easily by inappropriate or poorly planned development include non-coastal wetlands and significant natural heritage areas.
- In general, the soils in the planning jurisdiction have limitations for many uses due to wetness, flooding, and high sand content. Soils with slight to moderate limitations for septic systems are limited in the planning jurisdiction. They account for 8.9% and 2.6% respectively of land area and are generally located in the central portion of the planning area. The majority of soils, 88.5%, are classified as having severe limitations for septic systems.
- The waters in the Morehead City area contain a wide range of primary and supplemental classifications. These include SA HQW, SB, C, SC and SC HQW. The majority of the waters in the planning jurisdiction are designated as SA HQW.
- Primary nursery areas within the Morehead City planning jurisdiction are located in Calico Creek, Crab Point Bay, and portions of the Newport River.

- Major flood hazard areas are located within the northeastern and northwestern portions of the town's planning jurisdiction.
- Extensive areas of the Morehead City planning jurisdiction are vulnerable to storm surge hazards associated with hurricanes. Depending upon the severity and speed of the storm, much of the area could be impacted by storm surge.
- Based upon the environmental conditions assigned to each land class as delineated in the Environmental Conditions Composite Map, the majority (58.6%) of the land area in the Morehead City planning jurisdiction falls into Class II lands (moderate hazards and limitations). Class III, serious hazards and limitations, account for approximately 30.6 percent of the Town's land area, and Class I (minimal hazards and limitations) lands comprise 10.8 percent.
- All surface waters in the Morehead City planning jurisdiction classified for the fish consumption use support category are partially supporting. Other waters are impaired for commercial shellfish harvesting.
- In 2002, approximately 25% of the waters in Morehead City were closed to shellfishing. Prohibited or restricted areas include all of Spooners Creek, all of Peletier Creek, and the Newport River restricted area around the Morehead City Harbor.
- The Morehead City municipal wastewater treatment plant (WWTP) discharges into Calico Creek and affects water quality. The WWTP is a major point source discharge with a capacity of 1.7 MGD. The only other point discharge source in the town is Morehead City Terminals, which is classified as a minor source and discharges into the Newport River
- According to the *White Oak River Basinwide Water Quality Management Plan* prepared by the NC Division of Water Quality, Water Quality Section in September, 2001, the activities that contribute to the closure of shellfish harvesting areas include, but are not limited to, construction, urban stormwater runoff, failing septic systems, and agricultural activities.

Existing Land Use and Development

- Since the 1999 Land Use Plan Update, Morehead City has pursued an active annexation and development policy annexing approximately 2,160 acres into the Morehead City limits.
- Records maintained by the Morehead City Planning and Inspections Department show 26 new subdivisions between 1999 and 2003. These subdivisions total approximately 266 acres and include 314 in-city lots/units and 163 out-of-city lots/units.
- The predominant land use in Morehead City is residential, accounting for approximately 30 percent of the total land area of the town's planning jurisdiction and almost 71 percent of the total used acreage.
- Approximately 50% of the town's planning jurisdiction contains undeveloped land.
- Commercial uses represent approximately 5% of the total area; industrial uses comprise approximately 3% and institutional uses represent 4.
- Agriculture/open space (which includes farming operations, parks, recreation areas and golf courses) represents approximately 9% of the total land area.

- To provide a meaningful analysis of existing land use conditions in Morehead City and the extraterritorial planning jurisdiction (ETJ), the planning area was subdivided into ten neighborhood planning areas. The ten neighborhoods represent distinct areas of the planning area that have different land use patterns, constraints for development, potential for growth and land development concerns.
- Since 1998, Morehead City has grown eastward to include portions of Radio Island, northward to include Blair Farms Subdivision and westward to include the Crystal Coast Business Park. This expansion has affected the boundaries of Neighborhoods 1, 7 and 8.
- Neighborhood 10 is a new neighborhood added since the 1999 Land Use Plan. It was created by dividing the existing Neighborhood 8 along the Norfolk-Southern railroad tracks to reflect new development patterns. Neighborhood 8 is now located north of the railroad tracks, with Neighborhood 10 to the south. In addition, the Town has annexed a minimum width of 500 feet of waters along its entire shoreline.
- Since the 1999 update, the percentage of developed land used for residential purposes has decreased slightly from approximately 68% to about 60%, while all other uses have shown an increase. In general, there is potential for growth in all of the neighborhoods.
- In Neighborhood 1, further development of Radio Island is expected to occur, with a mix of industrial, residential and recreational uses. The downtown business area is expected to experience continued restoration and redevelopment.
- Given the attractiveness of Morehead City as a retirement/second home destination and the rising monetary value of waterfront property, the established waterfront residential areas along the Bogue Sound and Calico Creek waterfronts in Neighborhoods 1, 2 and 3 are expected to experience redevelopment pressures.
- Neighborhood 4 has large amounts of undeveloped property, existing infrastructure, including improved roads and varied zoning, that will allow for mixed uses.
- The potential for low-density residential uses is strong in Neighborhood 5. Also in Neighborhood 5, the potential for light industrial and intense commercial uses are good along Bridges Street Extension.
- Neighborhood 7, particularly along the Country Club Road corridor, has good growth potential for low-density residential uses, provided that constraints to development can be overcome.
- Given the existence of numerous large undeveloped tracts, as well as the Crystal Coast Business Park, the potential for residential and industrial development is good in Neighborhood 8 in areas where adequate support utilities can be extended.
- The greatest potential for growth in Neighborhood 9 is continued low-density residential development.
- The potential for retail and commercial growth in Neighborhood 10 is high in areas where adequate utilities can be extended, particularly along the US 70 and NC 24 corridors. Industrial development is expected along Little Nine Road and the railroad right-of-way.
- Projections indicate that some 2,366 acres of additional residential land will be needed to accommodate the anticipated growth through 2025.

- The Land Suitability Map (Figure 5) classifies land as High Suitability, Medium Suitability, Low Suitability, and Least Suitable. In general, over 52% of the Morehead City planning jurisdiction is within the higher suitability ratings (High and Medium Suitability).
- In general, the higher suitability areas are located along the Bogue Sound and Calico Creek waterfront areas, along major roads and areas served by water and sewer. According to the land suitability analysis, 15% of the undeveloped land in Morehead City is highly suitable for development. In addition, 13% is classified as medium suitability, and 13% is classified as low suitability. Over 58% of the undeveloped land in Morehead City is classified as least suitable for development.
- Existing and potential land uses that have negative impacts on water quality include development in wetlands areas, discharges from the town's wastewater treatment facility, road-related stormwater impacts, and septic system failures.

Community Facilities

- The Town of Morehead City's water system is operated as a division of the Public Utilities Department. Five wells located throughout the Town of Morehead City and its extra territorial jurisdiction (ETJ) provide raw water supply for the system.
- The town has approximately 4,944 metered connections. Of these connections, 82.3% are residential, 16.6% are commercial, 1.0% are institutional, and 0.1% are industrial.
- The system has approximately 2.55 million gallons per day (MGD) of available supply. Average daily use, according to the 2002 Town of Morehead City Water Supply Plan, is 1.179 MGD or 46.2% of the current available supply.
- The Public Utilities Department estimates the average daily demand will grow to 1.512 MGD in 2020 or 59.3% of the current available supply. The future demand is below 80% of available supply, which is the maximum allowed without adding additional supply.
- Future system plans include adding a sixth well providing an additional 0.576 MGD of supply to the system in 2010. The location of this new well is currently undetermined.
- The Town of Morehead City's Wastewater Treatment Plant is a permitted 1.7 million gallon per day (MGD) treatment plant which consists of primary clarifiers, trickling filters, secondary clarifiers and chlorination. The discharge receiving stream is Calico Creek in the White Oak River Basin.
- The wastewater treatment facility was previously under a sewer line moratorium that was imposed in April 1999 by the NC Division of Water Quality (NCDWQ 2004). Under this moratorium, limits set for particular parameters under the National Pollutant Discharge Elimination System (NPDES) Permit could be relaxed for a time determined to be reasonable for making necessary improvements to the facility. The purpose of the moratorium was to facilitate a \$3,000,000 sewer rehabilitation project. This project began in June 2003 and includes replacement of approximately 250 manholes and five miles of sewer line to help reduce the inflow/infiltration of rainwater that enters the sewer collection system.

- Future plans for the wastewater treatment plant through 2010 include expansion of the facility infrastructure to treat 2.5 MGD.
- The NCDOT Transportation Improvement Program for 2004-2010 does not include any projects for Morehead City. The Carteret County Transportation Committee presented transportation priorities for the county to NCDOT in November of 2003 to be considered for inclusion in the 2006-2012 TIP. The Committee report identified six priorities for the 2006-2012 Transportation Improvement Program. Five of these pertain to the US 70 corridor. Although only one priority would actually take place within the Town of Morehead City's planning jurisdiction, all of the projects will affect the municipality. The highest priority recommended by the Carteret County Transportation Committee is the replacement of the Gallants Channel Bridge.
- Major street improvements recommended in the 1992 Morehead City/Beaufort Thoroughfare Plan include the following:
 - A new east-west road in the Crab Point area.
 - An extension of Bridges Street westward past the US 70 / NC 24 intersection.
 - A new street tying Country Club Road to Arendell Street west of the Swinson Park area.
 - An interchange at the intersection of US 70 and NC 24.
- Additional transportation improvement goals and issues identified by Morehead City officials for the planning period include the following:
 - Developing a connector road between US 70 and NC 24 in the vicinity of Little Nine Drive to provide a link between the Crystal Coast Business Park and NC 24.
 - Straightening of the curve in the Mayberry Loop Road.
 - Decreasing the number of traffic lights on US 70.
 - Balancing the functionality of US 70 with rights of property owners to develop and redevelop property.
 - Promoting of the Morehead City waterfront as a destination of traveling boaters along the Atlantic Intracoastal Waterway.
 - Installing additional sidewalks along area streets / Morehead Alternative Transportation System (MATS).
- The existing stormwater drainage facilities within the Town of Morehead City consist of a system of piping, catch basins, drainage ditches, and swales. Approximately two-thirds of the 22.8 miles of stormwater piping consists of concrete pipes; the remainder is composed of vitrified clay, corrugated metal, PVC, and steel pipes.
- The Town of Morehead City has agreed to the implementation of voluntary mitigation measure to address the impacts of increased stormwater resulting from increased development associated with the expanded wastewater treatment plant capacity.

1.3.3 Summary of Policy Statements

The formulation of land use and development policies is based upon a review and analysis of policy statements contained in the 1999 Morehead City CAMA Land Use Plan (see Section 3.6) for a summary review of the policies from this former plan); an evaluation of identified concerns and aspirations (Section 2.0) and the needs and opportunities identified in the analysis of existing and emerging conditions (Section 3.0);

input from the Land Use Plan Advisory Committee, local planning board, and elected officials; and input obtained through citizen participation efforts including public informational meetings, public forums, and Land Use Plan Advisory Committee meetings.

Updated policy statements (Section 4.2) have been formulated which address the following topics:

- Public access to public trust waters
- Land use compatibility
- Infrastructure carrying capacity
- Natural hazard areas
- Water quality
- Areas of environmental concern
- Areas of local concern (which also includes neighborhood-specific policies)

The Town of Morehead City supports state and federal law regarding land use and development in Areas of Environmental Concern (AECs). Specific policy statements have been developed that support the general use standards of the North Carolina Administrative Code (15 NCAC 7H) for development within the estuarine system (see Section 4.2.6). No policy statements have been developed which exceed the requirements of CAMA regarding land use and development within AECs.

1.3.4 Summary of Future Land Use Projections

The Future Land Use Map for the Morehead City planning jurisdiction encompasses the Morehead City corporate limits and the Town's extraterritorial planning and zoning jurisdiction. The Town's Future Land Use Map classifications include the following categories and subcategories:

- Residential
 - Low Density Residential
 - Medium Density Residential
 - High Density Residential
- General Commercial
- Downtown Mixed Use
- Public and Institutional
- General Industrial
- Port Mixed Use
- Conservation/Open Space

The Low Density Residential classification encompasses about 38 percent of the total planning jurisdiction. The majority of the lands classified as Low Density Residential are located primarily in the northern one-half of the Town's planning jurisdiction and include the majority of Neighborhoods 5, 7, and 8. The Low Density Residential classification is intended to delineate lands where the predominant land use is low density detached residences. The residential density within this classification is generally 2 to 2.5 dwelling units per acre.

The Medium Density Residential classification encompasses approximately 15 percent of the total planning jurisdiction. The majority of the properties classified as Medium Density Residential are generally located in the southwestern portion of the Town's

planning jurisdiction between Bogue Sound and US Highway 70 and include Neighborhoods 6 and 9. The Medium Density Residential classification is intended to delineate lands where the predominant land use is higher density single-family residential developments, two-family developments, and multifamily developments. The residential density within this classification is generally 3 to 8 dwelling units per acre.

The High Density Residential classification encompasses about 5 percent of the total planning jurisdiction. The properties classified as High Density Residential are generally located west of the downtown in Neighborhoods 2, 3, and 4. The High Density Residential classification is intended to delineate lands where the predominant land use is higher density single-family residential developments, multifamily developments, and planned mixed use developments. The residential density within this classification is generally 8 to 16 dwelling units per acre. Much higher densities, approaching 30-70 dwellings per acre are possible in Planned Development and Downtown Commercial zoning districts.

The General Commercial classification encompasses approximately 9 percent of the planning jurisdiction. The properties classified as General Commercial are located along the Town's major road corridors--US Highway 70 and NC Highway 24. The majority of Neighborhood 10 and the northern portion of Neighborhood 6 are classified as General Commercial. The General Commercial classification is intended to delineate lands that can accommodate a wide range of retail, wholesale, office, business services, and personal services. Areas classified as General Commercial may also include some heavy commercial uses as well as intensive public and institutional land uses.

The Downtown Mixed Use classification encompasses about 1 percent of the total Town planning jurisdiction. The properties classified as Downtown Mixed Use are located in and immediately surrounding the Morehead City Central Business District and the downtown waterfront area. The Downtown Mixed Use area is generally located in the westernmost portion of Neighborhood 1. The Downtown Mixed Use classification is intended to delineate properties that can accommodate a variety of retail, office, business services, and personal services. Areas classified as Downtown Mixed Use may also include medium and high density residences and public and institutional land uses, particularly government buildings and facilities. The Downtown Mixed Use classification also specifically includes waterfront tourist-oriented land uses.

The Public and Institutional classification encompasses approximately 8 percent of the total planning jurisdictional area. The majority of the properties classified as Public and Institutional are located in the south central portion of the Town's planning jurisdiction in the southwestern section of Neighborhood 4. Sugarloaf Island, located in Neighborhood 1, is also designated as Public and Institutional. West Carteret High School, Morehead Primary School and Swinson Park, which are located in Neighborhood 5, are also included in the Public and Institutional classification. The largest individual properties within the Public and Institutional classification include the Carteret General Hospital, the Carteret Community College, NC Divisions of Marine Fisheries complex, and the Carteret County Civic Center. The Public and Institutional classification is intended to delineate large land areas that are used for intensive public and educational purposes. Land uses within this classification include primarily government buildings and service facilities, public recreational facilities, and public educational facilities. Some private office and institutional facilities may also be included within this classification.

The General Industrial classification encompasses about 7 percent of the planning jurisdiction. The properties classified as General Industrial are located in the west central section of the town's planning jurisdiction in the southern portion of Neighborhood 8. The General Industrial classification is intended to delineate lands that can accommodate industrial and manufacturing establishments. Some heavy commercial uses as well as services and businesses which support industrial land uses are also appropriate land uses within the General Industrial classification.

The Port Mixed Use classification encompasses approximately 4 percent of the total land area. The properties classified as Port Mixed Use include the NC Port Authority facility and Radio Island. Port Mixed Use-classified properties include all of the eastern section of Neighborhood 1. Port Mixed Use-classified areas include the existing state port facilities as well as surrounding properties that are suitable for multiple land uses including industrial, commercial, and high density residential. Portions of the area identified as Port Mixed Use are potential growth areas that may develop primarily as one use type or may evolve into multi-use areas. Industrial uses with this classification include marine port facilities, warehousing, and related uses. Commercial uses include a variety of support retail, office, business services, personal services, and marine-related uses. The anticipated residential density within this classification includes primarily high density developments. Multifamily densities are consistent with the current requirements of the Town's zoning ordinance which allows a density range of up to 36 dwellings per acre for planned developments. Residential building types encouraged within this classification include single-family attached dwellings, condominiums, and multifamily dwellings.

Conservation/Open Space areas are scattered throughout the Morehead jurisdiction and include coastal wetlands, estuarine waters, estuarine shoreline, public trust areas, and '404' wetlands. Due to the small size of such areas, they are not individually identified on the Future Land Use Map. Generally, the precise location of such areas must be determined by field investigation. Conservation/Open Space areas that are delineated on the Future Land Use Map include the NC Coastal Land Trust tract located in the north central portion of the planning jurisdiction (in Neighborhood 5) and the Newport River Marshes and Phillips Island (in Neighborhood 7). These Conservation/Open Space-designated areas encompass approximately 13 percent of the planning jurisdictional area. The Conservation/Open Space classification is intended to delineate areas where traditional land uses are not desirable or expected to develop. Land development may, however, include public building and facilities necessary to support existing land uses within the areas classified as Conservation/Open Space.

Generally, growth and land development is anticipated to occur in all future land use categories except for the Conservation/Open Space classification. The type and intensity of projected development varies within each future land use map classification. Future Land Use projections are delineated in Figure 14, Future Land Use Map.

The northern and eastern portions of the Town's planning jurisdiction contain the greatest concentrations of natural constraints, primarily floodplains and wetlands. Major undeveloped areas with significant natural constraints and low suitability ratings within the Morehead City jurisdiction are designated as Conservation/Open Space on the Future Land Use Map. The majority of developed areas with significant natural constraints and low suitability ratings are designated on the Future Land Use Map for conservation/open space use.

The general land use patterns depicted on the Future Land Use Map are consistent with the analysis of natural systems and the analysis of land suitability. The projected land needs through 2025 can be met with the estimated amount of available developable acreage in the current Morehead City jurisdiction.

1.3.5 Summary of Implementation Strategies

The Land Use Plan, as adopted by the elected officials of the Town of Morehead City and as may be amended from time to time, will serve as the primary guide upon which to make land use policy decisions. Every land use policy decision, such as a rezoning request or approval of a conditional or special use permit, will be measured for consistency with the goals, policies, and recommendations of the Plan. The elected officials, Planning Board, Zoning Board of Adjustment, and Town staff should utilize the Land Use Plan as the basic policy guide in the administration of the Unified Development Ordinance and other land development regulatory tools. Persons involved in the land development business as well as the general public can also utilize the Land Use Plan to guide private decisions regarding land use and land development.

The policy statements and recommendations of the Land Use Plan can also be of assistance to the elected officials in making long-range decisions regarding such matters as the provision of municipal services, thoroughfare planning, stormwater planning and management, implementation of economic development strategies, recreational facility planning, and preparation of capital and operating budgets. It should be noted, however, that the Land Use Plan is one of a variety of guides in making a public policy decision. The Plan should be viewed as a tool to aid in decision making and not as the final decision.

Morehead will continue to administer and enforce its land use regulatory tools. The town will review the current regulatory tools to eliminate inconsistencies which may exist between the tools and the policies outlined in this plan. In order to assist with the implementation of the updated Land Use Plan, amendments to the existing Unified Development Ordinance are anticipated including the following:

- Amendment regarding building heights and residential densities.
- Amendment regarding retaining existing vegetation, buffers, and tree preservation.
- Amendment regarding design guidelines for commercial development.
- Amendment regarding sign standards and requirements.

Proposed water and wastewater systems capital improvements that will assist with the implementation of the updated Land Use Plan include the following:

- Addition of a 6th well: \$300,000.
- Wastewater collection, treatment, and disposal systems improvements: \$10 million.
- Water and sewer system improvements to Causeway Area and Radio Island: \$200,000.

- Water and sewer system improvements along Little Nine Drive: \$100,000.

In addition, proposed public water access and recreation facilities improvements include:

- Newport River Park Water Access: \$300,000.
- Morehead City Water Access at 7th Street: \$250,000.
- Continued implementation of the Waterfront Access Plan: \$250,000.

The town will ensure a continuous planning process by conducting periodic reviews of the Land Use Plan's policies and implementation strategies. This review will be the responsibility of the Morehead City Planning Director and the Planning Board who will coordinate such reviews with the Town Council.

SECTION 2 COMMUNITY CONCERNS AND ASPIRATIONS

This section of the Plan is organized in accordance with the requirements of Subchapter 7B .0702(b). The purpose of the *Community Concerns and Aspirations* section of the Morehead City Land Use Plan is to provide overall guidance and direction for the development of the plan. The Land Use Plan Advisory Committee used the following three-part process to describe dominant growth-related conditions that influence land use and development patterns in Morehead City, describe key planning issues and develop a community vision:

1. Review of technical information related to existing and emerging conditions;
2. Identification of major community assets and problems related to land use and development;
3. Development of the Community Vision statement to serve as the foundation for more specific objectives and policies stated elsewhere in the Land Use Plan.

2.1 Key Planning Issues

On January 6, 2004 the Land Use Plan Advisory Committee held a Neighborhood Forum to identify and summarize the planning conditions and concerns that are important to the future of Morehead City. Committee members and citizens who participated in the Forum were asked to identify issues and concerns that are related to the CAMA Land Use Plan management topics. The management topics include land use compatibility, water quality, public water access, infrastructure carrying capacity, natural hazards, and any other local areas of concern. The Neighborhood Forum participants were asked to vote on the most important issues. The following is a prioritized listing of the issues identified and the number of votes each issue received:

2.1.1 Land Use Compatibility

- 4 - Municipal tax district
- 3 - Review zoning ordinance to control development
- 3 - Limit building in wetlands
- 2 - More support of downtown revitalization
- 2 - Study high-rise residential buildings to see what future impact will be
- 1 - Need for more residential building lots
- 1 - Commercial development along Hwy 70 should be done properly (i.e. connecting parking lots, traffic patterns)
- 1 - Balancing property owner rights with the good of the city
- 1 - People who don't want development in community should buy undeveloped lands
- 1 - Revise Morehead City's Land Use Plan to reflect the county's prohibition of hazardous industry

Additional Comments:

- To what extent do we allow in-fill development
- Like small town feel of downtown commercial area and neighboring residential areas

- Enough high ground to build, look at limiting building footprint (impervious coverage)
- Need for more affordable lots
- Mixed-Use development
- Study of traffic patterns
- Would like to see high density zoning around community college
- Consider impact of huge shopping centers
- More commercial/industrial areas as relates to scarcity of jobs

2.1.2 Water Quality

- 8 - Study and improve stormwater runoff (city wide)
- 8 - Sewer plant run-over, improve and clean Calico Creek
- 2 - Possibility of more retention ponds
- 2 - Silting of Calico Creek and Newport River
- 1 - Better maintenance of present retention ponds
- 1 - Stress vegetated as opposed to hard bulkheads

Additional Comments:

- Town should not be more restrictive than the State
- Run-off on Bridges Street
- Drinking water, Castle Hayne aquifer is being depleted, study alternative sources
- Improved sewer plant, understanding its correlation with water quality
- City built new well to serve citizens
- Reducing treatment plant effluent by 300,000 gpd because of slip-lining project
- Regulate and monitor landscapers and others to eliminate debris from entering storm drain system

2.1.3 Public Water Access

- 2 - Need more parking at boat ramps
- 2 - Make all street ends cleared and designated like South 16th Street
- 1 - Better access to Calico Creek for boaters and pedestrians
- 1 - More parking at water accesses
- 1 - Remove beachfront debris at South 10th Street and other areas

Additional Comments:

- Like 10th Street Access, good for canoes
- Need to acquire property for accesses
- Tax payers should raise money for access vs. developers having to provide
- Concerned that accesses can hurt character of neighborhoods, be sensitive to residential areas
- Like new walkways at Calico Creek
- Like that there are more accesses available in recent years
- Remove rocks, etc. immediately east of the State's launching ramp for safe beaching of boats,
- kayaks and canoes.

2.1.4 Infrastructure Carrying Capacity

- 6 - Too many traffic lights on Arendell Street
- 4 - Further extension of Bridges Street
- 3 - Lack of potential sewer capacity
- 2 - Extend sewer on Highway 24 and Business Drive
- 2 - Natural gas service extension
- 1 - Maintenance of streets and sidewalks
- 1 - Improve infrastructure to entice clean industries
- 1 - Trash collection is good
- 1 - Relocate main post office
- 1 - Control sprawl; establish firm geographical boundaries of the city's growth

Additional Comments:

- Water lines moved out of streets
- Nature walks
- Development of parks
- Upgrade streets, sewer
- Lack of Aesthetics Ordinance
- Make sure development occurs where infrastructure is adequate
- Continue to provide sewer service to outlying areas
- Waste pickup excellent
- Severe drainage problems
- Pleased with services
- Better wastewater treatment
- Eliminate Calico Creek discharge or treat prior to discharge
- Consider pervious paving materials
- Look at vehicle access to State Port

2.1.5 Natural Hazards

- 10 - Stormwater runoff problems
- 5 - Bridges Street extended / Havelock Bypass

Additional Comments:

- More underground utilities
- Waste disposal during/after hurricanes
- Limit tidal flooding into storm drains
- Continue to address terrorist activities
- Improved evacuation routes
- Pleased with new pump truck and fire boat
- City addressing fire hazards throughout the town

2.1.6 Other Local Issues

- 8 - Road System in to and out of Morehead City
- 3 - Creation of municipal docks downtown
- 2 - Downtown parking needs to be increased
- 1 - Promote development of theme park
- 1 - Aggressive enforcement of building codes and formal monitoring of permit compliance

Additional Comments:

- Consider use of one-way streets
- Consider other uses of Radio Island property
- Review and study location of dumpsters in downtown area
- Mandate improvement of recycling in business community
- Continue upgrading Arendell Street (sidewalks, street lights, etc.)
- Overdevelopment
- More development to share tax rate so improvements to streets, parks and water access can continue
- Concerned about the demolition of smaller houses
- Would like to see South Calico Creek developed
- Overpass at intersection of Highways 24 and 70
- Improve downtown area north of Bridges Street. Buildings and grounds upgrades through grants, loans and volunteer aid. Possibly through affiliations of community, government, business, bank, church and other non-profit agencies

2.2 Additional Planning Issues

Additional planning issues identified by Morehead City planning staff, in conjunction with the Land Use Plan Advisory Committee include the following:

Radio Island Development

- Character of future development: industrial vs. residential vs. recreational
- Town now manages the Newport River Beach Access and plans to make improvements
- County leases a portion of Port property for recreation area on east side of island

Water/Sewer Service

- Waste treatment plant improvements
- Sewer line moratorium - Town is working towards getting it lifted by developing design plans and specifications to upgrade sewer plant.

Transportation

- Connection between 24 and 70 in vicinity of Little Nine Drive, would provide a direct link between the Crystal Coast Business Park and Highway 24.
- Proliferation of traffic lights on Highway 70
- Preserving the functionality of Highway 70 while balancing the right of property owners to develop and redevelop property.
- Alternative Transportation Modes (MATS) (New sidewalk along Bridges Street Extension)
- Sidewalks

Land Use Issues

- Impervious cover limits
- Building heights

- Use separation
- Landscaping

Stormwater Issues

- Flooding (impervious coverage/system maintenance)
- Point and non-point source pollution
- Water quality preservation

Community Cooperation

- Attach water line with Newport in case of emergency in either town.
- Agreement with Beaufort on Radio Island/Pivers Island, water/sewer service, zoning boundaries, etc.
- Carteret County - various issues require cooperation

Concerns Related to Population Increases

- Traffic
- Evacuation Routes
- Density issues
- Housing

Neighborhood Preservation

- Redevelopment of developed lots, both residential and commercial
- Density
- Commercial encroachment

Enforcement (Building/Zoning)

Industrial Development

- Type of growth
- Where
- How much
- Preservation of industrial zoning districts

Water Access

- Improvements to street ends
- Public boat ramps (where)

2.3 Community Vision Statement

Morehead City favors growth provided it is environmentally sound, appropriately designed, appropriately located, retains Morehead City's identity, and preserves the quality of life. Improvements to infrastructure, including City services and facilities, are expected to meet current and projected demands. The provision of such improvements shall be based upon its compatibility with the City's development plan, the City's financial capacity and the economic feasibility of providing the municipal service.

The Morehead City Land Use Plan Advisory Committee adopted this Community Vision Statement at the beginning of the planning process. The purpose of the Community Vision

Statement is to provide the foundation for setting priorities, defining goals and developing land use policies to achieve local government goals.

SECTION 3 ANALYSIS OF EXISTING & EMERGING CONDITIONS

This section of the Plan is organized in accordance with the requirements of Subchapter 7B .0702(c). Section 3 of the Land Use Plan provides information needed to assist in the development of policies to guide the future development of the Morehead City planning jurisdiction. This part of the plan includes the following elements:

- Population, Housing and Economy
- Natural Systems Analysis
- Existing Land Use and Development
- Community Facilities Analysis
- Land Suitability Analysis
- Review of Current Plans and Policies

Included in this section are the following maps:

- Figure 1, Environmental Composite
- Figure 2, Morehead City Annexations 1993 to Present
- Figure 3, Morehead City Neighborhoods
- Figure 4, Existing Land Use
- Figure 5, Land Suitability Analysis

The following maps were prepared to assist in the analysis of existing and emerging conditions and are contained in Appendices C and D:

Appendix C, Natural Features Maps

- Figure 6, Areas of Environmental Concern
- Figure 7, Soil Suitability for Septic Systems
- Figure 8, Water Quality Classes and Subbasins
- Figure 9, Fragile Areas
- Figure 10, Flood Hazard Areas

Appendix D, Community Facilities Maps

- Figure 11, Water and Sewer Systems
- Figure 12, Transportation Systems
- Figure 13, Stormwater Drainage

3.1 Population, Housing, and Economy

Information on the Town of Morehead City's permanent and seasonal population and the degree to which it will change during the planning period is an important component of the land use planning process. Population analysis can help identify growth areas, as well as the amount of land that should be allocated for future uses. Population trend analysis provides information on expected impacts to the area's natural resources and future infrastructure needs. Population age and income characteristics help estimate demands for different types of housing and related land use, as well as special needs of the community. Appendix B provides an explanation of demographic and population statistics and how they are compiled.

3.1.1 Population Growth Trends

Population in Morehead City has increased steadily since 1910 with the exception of a dip in population between 1960 and 1980, from 5,583 in 1960 to 4,359 in 1980. The population recovered from 1980 to 1990 with a 38.7% growth rate. Part of this can be attributed to annexations. The growth rate has declined slightly to 27.2% in the past decade (1990-2000). Compared to nine other selected coastal communities, Morehead City had the fourth highest growth rate since 1970 (Table 3.1).

*Table 3.1
Total Population and Percent Change of Selected Coastal Communities*

Municipality	County	Year					Percent Change			
		1970	1980	1990	2000	2002 (estimate)	1970- 1980	1980- 1990	1990- 2000	1970- 2002
Morehead City	Carteret	5,233	4,359	6,046	7,691	7,726	-16.7%	38.7%	27.2%	47.6%
Jacksonville	Onslow	16,289	18,259	30,398	66,715	68,356	12.1%	66.5%	119.5%	319.6%
Wilmington	New Hanover	46,169	44,000	55,530	75,838	91,458	-4.7%	26.2%	36.6%	98.1%
New Bern	Craven	14,660	14,557	17,363	23,111	23,415	-0.7%	19.3%	33.1%	59.7%
Elizabeth City	Pasquotank	14,381	14,007	14,292	17,243	17,490	-2.6%	2.0%	20.6%	21.6%
Southport	Brunswick	2,220	2,824	2,369	2,351	2,534	27.2%	-16.1%	-0.8%	14.1%
Beaufort	Carteret	3,368	3,826	3,808	3,771	3,787	13.6%	-0.5%	-1.0%	12.4%
Washington	Beaufort	8,961	8,418	9,160	9,619	9,730	-6.1%	8.8%	5.0%	8.6%
Hertford	Perquimans	2,023	1,941	2,244	2,070	2,080	-4.1%	15.6%	-7.8%	2.8%
Edenton	Chowan	4,956	5,357	5,268	5,058	5,008	8.1%	-1.7%	-4.0%	1.0%

Source: 2002 estimate - NC State Agency Data: Office of the Governor, obtained April 2004

Source: 1970-2000 - NC State Agency Data: Office of the Governor, obtained April 2004

Morehead City population growth is lower than many of the municipalities in the immediate region. Six other municipalities in the region had a higher growth rate from 1990-2000 (Table 3.2)

Table 3.2
Total Population and Percent Change of Selected Municipalities in the Region

Municipality	County	Year					Percent Change			
		1970	1980	1990	2000	2002 (estimate)	1970- 1980	1980- 1990	1990- 2000	1970- 2002
Morehead City	Carteret	5,233	4,359	6,046	7,691	7,726	-16.7%	38.7%	27.2%	47.6%
Alliance	Pamlico	577	616	681	785	798	6.8%	10.6%	15.3%	38.3%
Atlantic Beach	Carteret	300	941	1938	1781	1780	213.7%	106.0%	-8.1%	493.3%
Bayboro	Pamlico	665	759	733	741	743	14.1%	-3.4%	1.1%	11.7%
Beaufort	Carteret	3,368	3,826	3,808	3,771	3,787	13.6%	-0.5%	-1.0%	12.4%
Cape Carteret	Carteret	616	944	1,013	1,214	1,243	53.2%	7.3%	19.8%	101.8%
Cedar Point	Carteret	NA	479	628	929	950	NA	31.1%	47.9%	NA
Emerald Isle	Carteret	122	865	2,434	3,488	3,564	609.0%	181.4%	43.3%	2821.3%
Havelock	Craven	3,012	17,718	20,300	22,442	22,463	488.2%	14.6%	10.6%	645.8%
Indian Beach	Onslow	48	54	153	95	93	12.5%	183.3%	-37.9%	93.8%
Jacksonville	Onslow	16,289	18,259	30,398	66,715	68,356	12.1%	66.5%	119.5%	319.6%
Maysville	Jones	912	877	892	1,002	993	-3.8%	1.7%	12.3%	8.9%
New Bern	Craven	14,660	14,557	17,363	23,111	23,415	-0.7%	19.3%	33.1%	59.7%
Newport	Carteret	1,735	1,883	2,516	3,349	3,428	8.5%	33.6%	33.1%	97.6%
Oriental	Pamlico	445	536	786	875	870	20.4%	46.6%	11.3%	95.5%
Pine Knoll Shores	Carteret	62	646	1,360	1,524	1,534	941.9%	110.5%	12.1%	2374.2%
Richlands	Onslow	935	825	996	928	909	-11.8%	20.7%	-6.8%	-2.8%
Swansboro	Onslow	1,207	976	1,165	1,459	1,457	-19.1%	19.4%	25.2%	20.7%
Trenton	Jones	53	294	230	206	240	454.7%	-21.8%	-10.4%	352.8%

Source: 2002 estimate - NC State Agency Data: Office of the Governor, obtained April 2004

Source: 1970-2000 - NC State Agency Data: Office of the Governor, obtained April 2004

Population growth in Carteret County has dramatically increased since 1970 (Table 3.3). The permanent population increased more than 90% from 1970 to 2002, making it the sixth fastest growing North Carolina coastal county. Some of the reasons for the growth increase are the national trends of population movement toward the coast and the area's increasing popularity as a retirement/resort area. Another important reason is the expansion of nearby military facilities.

Population statistics from 2000 to 2003 reflect a slowing of the growth rate in Carteret County. For this three-year period, Carteret County population grew from 59,383 to an estimated 60,712. On average, between 1990 and 2000 the population of Carteret County grew 1.3% per year compared to the estimated average yearly growth rate between 2000-2001 of 1.1%. Population growth projections anticipate an annual growth rate of 0.82% for the 2000-2005 period. Reasons for this projected slowing of the growth rate compared to the 1990-2000 period are attributed to the Carteret beaches being largely developed by 2000, lack of adequate jobs to attract younger residents and transportation deficiencies which may result in Carteret County being less accessible than other coastal areas.

Table 3.3
Total Population and Percent Change of Morehead City and Carteret County

Place	Year					Percent Change			
	1970	1980	1990	2000	2002 (estimate)	1970- 1980	1980- 1990	1990- 2000	1970- 2002
Morehead City	5,233	4,359	6,046	7,691	7,726	-16.7%	38.7%	27.2%	47.6%
Morehead City ETJ Area*	NA	NA	10,560	14,098	NA	NA	NA	33.5%	NA
Carteret County	31,603	41,092	52,553	59,383	60,064	30.0%	27.9%	13.0%	90.0%

Source: 2002 estimate - NC State Agency Data: Office of the Governor, obtained April 2004

Source: 1970-2000 - NC State Agency Data: Office of the Governor, obtained April 2004

**Source: U.S. Census Bureau data -1990 Census Block Group data (estimate), 2000 Census Block data (estimate), obtained August 2004*

Seasonal population is an important part of the overall population of Carteret County. The impact to Morehead City's transportation system is thought to be significant, since much of the seasonal population on the Bogue Banks beaches travel through Morehead City. There is also a significant economic impact in terms of the Town's restaurants, sports fishing industry and other businesses which cater to travelers and tourists.

Seasonal population estimates are usually based on the number of seasonal housing units and motel/hotel rooms. According to the US Census (2000) there were 345 seasonal housing units within the Morehead City limits. The Crystal Coast Tourism Authority reports 554 hotels, motels and Bed and Breakfast facilities. Average occupancy of the seasonal units is estimated to be 3.5 persons. Table 3.4 shows the seasonal population calculation and the total population (permanent plus seasonal).

Table 3.4
Estimated 2002 Seasonal Population

Type of Unit	Number of Units	Persons per Unit	Estimated Seasonal Population
Seasonal housing units	345	3.5	1,207
Hotel/motel/B&B units	554	3.5	1,939
Total seasonal	899		3,146
Total Permanent & Seasonal Population			10,872

Source: Blue Land Water Infrastructure

3.1.2 Population Age Characteristics

An analysis of population broken down by age provides insight into population trends that affect the Town of Morehead City. This provides valuable information for use in projecting infrastructure, service, housing and other special needs of the Town. Table 3.5 shows Morehead City's population broken down into age groups for 1990 and 2000.

One of the most notable trends in Morehead City is an increase in the average age of the population from 36.5 to 41.1 years. Median age in Carteret County is 42.3 years. The age group with the highest growth rate is 50-59 at 87.7%. Other age groups with high growth rates are the 40-49 age group at 62.1% and the 70+ group at 39.1%. This is similar to Carteret County where the population in age groups over 40 is increasing. The

growth of these age groups is largely attributed to the County's popularity as a retirement location and the resulting in-migration of older adults. Other reasons for the growth include non-migratory demographic factors such as birth rates, death rates and aging of the existing population. In general, age groups over 50 are projected to grow faster than the county as a whole through 2030, especially the 70 and up age group. This trend has significant implications for housing, transportation, medical care and other personal and professional services as well as future land needs.

Population is increasing in all age groups with the largest growth in the 40-plus age groups. The 0-4 age group increased by 16.9%. The 20-29 and 30-39 age groups had an increase of less than 10% each. In Carteret County almost all of the age groups under 40 saw a decrease in population except for the 5-19 group.

Despite the low growth rate of younger persons and dramatic increases in the growth rate of the older population, the Town of Morehead City's proportion of people in each of the age groups is equalizing. Long-term demographic projections indicate that the share of the population under the age of 18 years will decrease slightly, the school age and working-age population will decrease more rapidly, and the elderly population will experience the largest growth rate. The anticipated aging of the population will have long-term implications for health care services and for the housing industry. A greater demand for medical care, in-home services, institutional care, and housing tailored for the elderly can be expected in future years.

Table 3.5
Town of Morehead City Population by Age Group

Age	1990	2000	Percent Change 1990-2000
70 & up	915	1,273	39.1%
60-69	643	709	10.3%
50-59	489	918	87.7%
40-49	663	1,075	62.1%
30-39	937	1,008	7.6%
20-29	926	1,007	8.7%
5-19	1,088	1,251	15.0%
0-4	385	450	16.9%
Total	6,046	7,691	27.2%
Median Age	36.5	41.1	12.6%

Source: 1970-2000 Population by Age - U.S. Census Bureau data, obtained March 2004

3.1.3 Racial Composition

The 2000 census indicates that the Town of Morehead City is 81.7% white, 14.0% black, and 4.3% all other races (Table 3.6). Since 1970, the percentage of the white population compared to all other races has stayed relatively constant. The percentage of white population in Carteret County has also remained relatively constant. Morehead City is more diverse than the county by almost 10% but about 10% less diverse than North Carolina (Table 3.7).

Table 3.6
2000 Population By Race

Jurisdiction	Population				Percent			
	White	Black	Other	Total	White	Black	Other	Total
Morehead City	6,284	1,075	332	7,691	81.7%	14.0%	4.3%	100.0%
Carteret County	53,611	4,151	1,621	59,383	90.3%	7.0%	2.7%	100.0%
North Carolina	5,804,656	1,737,545	507,112	8,049,313	72.1%	21.6%	6.3%	100.0%

Source: 2000 Population by Race - NC State Agency Data. Office of the Governor, obtained April 2004

Table 3.7
1970 - 2000 Percentage of Population By Race

Jurisdiction	1970		1980		1990		2000	
	White	Other	White	Other	White	Other	White	Other
Morehead City	79.7%	20.3%	81.7%	17.3%	81.7%	17.3%	81.7%	17.3%
Carteret County	88.6%	11.4%	89.7%	10.3%	90.3%	9.7%	90.3%	9.7%
North Carolina	76.8%	23.2%	76.6%	23.4%	75.5%	24.5%	72.1%	27.9%

Source: 2000 Population by Race - NC State Agency Data. Office of the Governor, obtained April 2004

3.1.4 Population Projections

A. Permanent Population Projections

Projections provided by the NC State Data Center indicate that the Carteret County population will continue to increase through the next several decades but at a slower rate. This projected trend of decreased growth rates also holds true for the neighboring counties as well as the entire state. The following table provides projected population figures for the County, the Town of Morehead City and the Morehead City planning jurisdiction.

Table 3.8
Permanent Population Projections

	US Census 2000	Certified Estimate July 2002	Projections					
			2005	2010	2015	2020	2025	2030
Carteret County	59,383	60,064	62,760	65,939	68,235	70,353	71,894	73,084
Morehead City Corporate Area	7,691	7,726	8,112	8,523	8,819	9,093	9,292	9,446
Morehead City Planning Jurisdiction	14,098*	na	14,869	15,622	16,166	16,668	17,033	17,315

**Planning Jurisdiction Estimates by the Town of Morehead City.*

Sources: US Census, 1970-2000 2002 Certified Population Estimates, NC State Data Center, October 2003. County Population Growth 2000-2030, NC State Data Center, June 2006.

Permanent population projections for Morehead City are based upon the average rate of growth and the ratio of the town's population to Carteret County's population for the 1970-2000 period. Appendix I provides more detailed information regarding population projections.

B. Seasonal and Peak Population Projections

The estimated 2002 seasonal population of Morehead City is 3,146. The 2002 peak population, which is the sum of the permanent population and the seasonal population, is estimated to be 10,872.

Based upon the estimated 2002 seasonal and peak population as delineated above and the assumption that the ratio of seasonal population to permanent population will remain constant, the following projections have been prepared for the Morehead City corporate area and for the Morehead City planning jurisdiction.

<i>Table 3.9 Seasonal and Peak Population Projections</i>						
	2005	2010	2015	2020	2025	2030
Morehead City Corporate Area						
Permanent Population	8,112	8,523	8,819	9,093	9,292	9,446
Seasonal Population	3,561	3,741	3,872	3,992	4,079	4,147
Peak Population	11,673	12,264	12,691	13,085	13,372	13,593
Morehead City Planning Jurisdiction						
Permanent Population	14,869	15,622	16,166	16,668	17,033	17,315
Seasonal Population	6,527	6,858	7,097	7,317	7,477	7,601
Peak Population	21,396	22,480	23,263	23,985	24,510	24,916

Source: The Wooten Company, October 2006

3.1.5 Housing Characteristics

The number of housing units has increased steadily in Morehead City since 1980, although the housing boom in the 1980's relaxed in the 1990's. Vacant units comprise about 16% of the total housing units, and that proportion has stayed constant since 1990 despite the 192% growth rate between 1980 and 2000.

Rental units have increased faster than owner units and make up 44.5% of the 2000 housing stock. Owner units account for 77% of the housing stock in Carteret County whereas they account for only 55.5% in Morehead City. The increase in rental units coincides with the explosion of the number of seasonal units since 1980 with more than a 700% growth rate. Morehead City's increase in seasonal housing units is consistent with Carteret County, which also experienced a 567% increase in seasonal housing units from 1980 to 2000. This indicates that a large influx of seasonal population impacts Morehead City and is likely to continue in the future. This will have a large effect on the Town's infrastructure and transportation systems.

Household size has decreased steadily from 1980 to 2000. Although this is a national trend that will likely continue in the future, the decrease in household size in Morehead City has been more dramatic than in either Carteret County or North Carolina. The average household size for Morehead City was 2.06 compared to 2.31 in Carteret

County and 2.49 for North Carolina. The continued trend of fewer persons per household will have an impact on the future types and sizes of dwelling units (Table 3.10).

Table 3.10
Morehead City Housing Characteristics

	Percent Change					
	1980	1990	2000	1980-1990	1990-2000	1980-2000
Total housing units	1,979	3,206	4,296	62.0%	34.0%	117.1%
Permanent housing units	1,937	2,934	3,830	51.5%	30.5%	97.7%
Occupied units	1,740	2,675	3,597	53.7%	34.5%	106.7%
Vacant units	239	531	699	122.2%	31.6%	192.5%
Seasonal units	42	272	345	547.6%	26.8%	721.4%
Owner units	1,107	1,479	1,997	33.6%	35.0%	80.4%
Renter units	591	1,196	1,600	102.4%	33.8%	170.7%
Average household size (persons)	2.45	2.13	2.06	-13.1%	-3.3%	-15.9%

Source: 1980-2000 - NC State Agency Data: Office of the Governor, obtained March 2004

Occupied housing types have remained consistent from 1990 to 2000. Single-family detached homes comprised the majority, almost 60%, of the occupied housing in 2000. Duplexes and multifamily units make up 29.1% and mobile homes account for 6.4% (Table 3.11).

Table 3.11
Types of Occupied Housing Units in Morehead City

Occupied Units in Structure	1990	% in 1990	2000	% in 2000
Single-family detached	1,430	51.2%	2,137	59.1%
1 unit attached	138	4.9%	193	5.3%
2 units	184	6.6%	271	7.5%
3 or 4 units	192	6.9%	381	10.5%
5 to 9 units	185	6.6%	178	4.9%
10 to 19 units	102	3.7%	43	1.2%
More than 20 units	126	4.5%	180	5.0%
Mobile homes	318	11.4%	233	6.4%
Other	118	4.2%	0	0.0%
*Total Occupied Housing Units	2,793	100%	3,616	100%

Source: 1990 H022 Tenure by Units in Structure - U.S. Census Bureau data, obtained April 2004

Source: 2000 DP-4 Profile of Selected Housing Characteristics - U.S. Census Bureau data, obtained April 2004

** There is a known discrepancy in the 2000 U.S. Census total housing figure*

3.1.6 Building Permits

Table 3.12 provides information on the number and type of residential building permits issued by The Town of Morehead City for 2001-2003. Annual building permit activity has remained steady with slight annual increases.

Table 3.12
Building Permits Issued in Morehead City

Building Permits	2001	2002	2003
Single Family Residential	85	105	159
Residential Alterations and Additions	177	162	157
Duplexes	0	0	2
Apartment Units	17	60	69
Mobile Homes	40	31	23
Commercial	83	57	66
Total Building Permits	402	415	476

Source: 2001-2003 - Town of Morehead City, obtained 2004

3.1.7 Economy

The Town of Morehead City's economy is strong and has been growing consistently over the last twenty years. Retail sales are on an upward trend with a 119.1% increase from 1987 to 1997. This increase in retail sales surpassed that of Carteret County where there was an 83.6% increase in the same time period. In 1997 retail sales for Morehead City totaled \$319,719,000. This is 45.1% of retail sales receipts for the whole county (Table 3.13). The employed labor force has also seen growth in the past twenty year. The increase was greater from 1980 to 1990 than it was from 1990 to 2000. This is consistent with the slowed population growth during from 1990-2000. Paralleling this economic growth, income has increased significantly and families in poverty have decreased steadily since 1980.

Table 3.13
Morehead City Retail Sales (\$0000)

Jurisdiction	Year			Percent Change		
	1987	1992	1997	1987-1992	1992-1997	1987-1997
Morehead City	\$145,897	\$214,794	\$319,719	47.2%	48.8%	119.1%
Carteret County	\$386,584	\$479,076	\$709,586	23.9%	48.1%	83.6%

Source: Federal Agency Data: U.S. Census Bureau, obtained from LINC April 2004

The insurgence of economic activity has raised the cost of housing. The median housing value in The Town of Morehead City has increased significantly but is still below the Carteret County average. For the year 2000 Morehead City median occupied housing value was 14.1% lower than the Carteret County average of \$123,900, additionally, the median gross rent was 0.7% below the North Carolina State average of \$511.

In 2000, the per capita income in Morehead City was \$19,138 compared to \$21,260 for Carteret County and \$20,307 for the State of North Carolina. Although the Town's per capita income is below that of the state and Carteret County it increased at a greater rate than both of them from 1980 to 2000. An increase in per capita income is expected for Morehead City in the future, however it is likely that it will remain below that of Carteret

County and North Carolina. Table 3.14 provides key economic indicators for Morehead City.

Table 3.14 Morehead City Key Economic Indicators						
Economic Indicators	Year			Percent Change		
	1980	1990	2000	1980-1990	1990-2000	1980-2000
*Per capita income						
Morehead City	\$5,457.00	\$11,410.00	\$19,138.00	109.1%	67.7%	250.7%
Carteret County	\$6,146	\$13,227	\$21,260	115.2%	60.7%	245.9%
North Carolina	\$6,133	\$12,885	\$20,307	110.1%	57.6%	231.1%
Median family income	\$14,945	\$26,637	\$39,290	78.2%	47.5%	162.9%
Median occupied housing value	\$30,400	\$53,900	\$106,400	77.3%	97.4%	250.0%
Median gross rent**	\$197	\$376	\$507	90.9%	34.8%	157.4%
Total employed persons age 16 and up	1,787	2,550	3,394	42.7%	33.1%	89.9%
Total unemployed persons age 16 and up	93	174	288	87.1%	65.5%	209.7%
Families in poverty	17.5%	15.5%	12.3%	-11.7%	-20.4%	-29.7%

Source: Federal Agency Data Bureau of the Census - Census of Population and Housing, obtained from LINC April 2004

**Per capita income is total money income per resident of the area, including young children, elderly, and others who may not be earning money*

***Median gross rent is monthly contract rent plus the estimated average monthly cost of utilities*

The number of families with income over \$15,000 has increased steadily since 1970. Families with an income less than \$14,999 have declined since 1970. Table 3.15 shows family income distribution for Morehead City.

Table 3.15 Family Income Distribution for Morehead City				
Income	Number of Families			
	1970	1980	1990	2000
Less than \$5,000	415	159	60	NA
\$5,000 - \$9,999	526	225	193	NA
\$10,000 - \$14,999	273	190	143	144
\$15,000 - \$24,999	93	372	335	236
\$25,000 - \$49,999	28	175	642	684
\$50,000 or more	15	22	199	757

Source: 1970-2000 - NC State Agency Data: Office of the Governor, obtained April 2004

3.1.8 Employment

The largest employment sector in the Town of Morehead City is educational, health and social services. Other major sectors are the arts entertainment, recreation,

accommodation and food services industry, retail trade and the construction industry. Although retail trade is the third largest employment industry in Morehead City, the number of employees actually dropped 43.3% from 1990 to 2000. Other sectors where the number of employed decreased are the transportation and warehousing, and utilities industry, the agriculture, forestry, fishing and hunting and mining industry and the public administration industry. Table 3.16 provides information on the number of jobs in Morehead City by major industry type.

Table 3.16
Employment by Major Industry in Morehead City

Employment Industry Category	Percent Change		
	1990	2000	1990-2000
Agriculture, forestry, fishing and hunting, and mining	84	37	-56.0%
Construction	183	394	115.3%
Manufacturing	226	252	11.5%
Wholesale trade	67	51	NA
Retail trade	730	414	-43.3%
Transportation and warehousing, and utilities	146	70	-52.1%
Information	-	79	NA
Finance, insurance, real estate, and rental and leasing	190	272	43.2%
Professional, scientific, management, administrative, and waste management services	154	312	102.6%
Educational, health and social services	455	686	50.8%
Arts, entertainment, recreation, accommodation and food services	32	474	1381.3%
Other services (except public administration)	86	179	108.1%
Public administration	197	174	-11.7%
Total Employment	2,550	3,394	
<i>Source: 2000 - DP-3 Profile of Selected Economic Characteristics - U.S. Census Bureau data, obtained April 2004</i>			
<i>Source: 1990 - DP-3: Labor Force Status and Employment Characteristics - U.S. Census Bureau data, obtained April 2004</i>			

Table 3.17 shows the largest manufacturing and non-manufacturing employers in Carteret County.

Table 3.17			
Largest Manufacturing and Non-manufacturing Employers			
Manufacturing Employers		Non-manufacturing Employers	
Name	Employees	Name	Employees
Atlantic Veneer	327	Carteret County Public School System	1442
Bally Refrigerated Boxes	178	Carteret General Hospital	788
SPX Air Treatment	178	Walmart	527
Parker Marine Enterprises	147	Carteret County Government	345
Creative Outlet	139	Carteret Community College	317
Jarrett Bay Boatworks	138	Food Lion	243
Veneer Technologies	115	Henry's Tackle and Sporting Goods	221
Beaufort Fisheries	55	U.S. Coast Guard	201
Sea Striker	50	NC D.O.T.	149
NCCOAST Communications	49	Lowes Foods	134
Franklin Baking Company	37	Town of Morehead City	132

Source: Carteret County Economic Development Council, obtained March 2004

3.1.9 Tourism Impact

Much of the local economic activity in the Town of Morehead City and Carteret County is based on tourism. Restaurants, accommodations, fishing, retail trade, services, construction, and the real estate and finance industries benefit directly from the impact of tourism. In 2000, approximately 8% of all housing in Morehead City was considered to be for seasonal or recreational use. This ranked Morehead City seventh in a list of selected regional and coastal Municipalities. Table 3.18 lists regional and coastal communities near Morehead City and their seasonal housing units in 2000.

Table 3.18
2000 Seasonal Housing Units

Rank	Municipality	Seasonal Housing Units
1	Emerald Isle	4,140
2	Atlantic Beach	3,456
3	Pine Knoll Shores	1,256
4	Indian Beach	1,145
5	Wilmington	505
6	Cedar Point	415
7	Morehead City	345
8	Beaufort	241
9	Cape Carteret	136
10	Southport	73
11	Oriental	68
12	Elizabeth City	66
13	Swansboro	64
14	New Bern	50
15	Jacksonville	37
16	Edenton	30
17	Washington	26
18	Havelock	14
19	Hertford	10
20	Newport	8
21	Maysville	6
22	Bayboro	4
23	Richlands	2
24	Trenton	0
25	Alliance	0

Source: 2000 NC State Agency Data. Office of the Governor, obtained March 2004

According to the NC Department of Commerce, Division of Tourism, the Carteret County tourism industry generated \$206.87 million dollars in revenue and was ranked twelfth in the state in travel impact in 2002. Over 3,170 jobs were created due to tourism. These jobs generate an annual payroll of \$47.03 million. A total net occupancy tax of 5% generated \$2,831,114 from 2001 to 2002. This was divided between the county, municipalities, and the Tourism Development Authority. State and local tax revenues from travel to Carteret County amounted to \$10.13 million and \$13.69 million respectively, and represent a \$396 tax savings to each county resident. Table 3.19 shows the economic impact tourism has on Carteret County. (Carteret County EDC-B).

*Table 3.19
Tourism Impact in Carteret County*

	Payroll (\$Millions)	Employment (Thousands)	State Tax Receipts (\$Millions)	Local Tax Receipts (\$Millions)
2002	47.03	3.17	10.13	13.69
2001	48.3	3.25	10.18	13.63
2000	48.1	3.29	10.34	13.94
1999	45.03	3.27	9.93	13.98
1998	48.99	3.64	9.42	10.63
1997	44.81	3.73	9.13	10.52
1996	38.44	3.42	8.28	9.84
1995	37.82	3.45	8.01	9.58
1994	36.74	3.39	7.48	9.22
1993	34.83	3.25	7.42	9.01
1992	32.99	3.16	6.81	8.46
1991	30.54	3.24	5.53	7.02
1990	29.07	3.11	4.83	6.95

*Source: NC Department of Commerce Tourism - County by County Statistics
obtained March 2004*

3.1.10 Commercial Seafood Impact

According to the NC Division of Marine Fisheries, Carteret County consistently leads North Carolina in commercial seafood landings. A 1994 Marine Fisheries study found that commercial fishing in Carteret County generated an estimated \$46 million in sales of goods and services, and an additional \$24 million in value added. Approximately \$14 million in employee compensation was paid to nearly 5,000 part or full-time workers employed in the commercial seafood industry in 1994. Recreational saltwater fishing adds an additional \$130 million in sales of goods and services and employs over 600 people with an annual payroll exceeding \$12 million (Carteret County EDC-C).

3.1.11 Port of Morehead City

According to Carteret County Economic Development Council there are 71 full time employees, 81 tenant employees and 150 part time employees at the state port. The port facility, located four miles from the open sea, has over 5,500 feet of continuous wharf and a shipping channel depth of 45 feet. Over 90 acres are still available for development on Radio Island. The major commodities handled at the port are wood chips, phosphate, rubber, forest products and fertilizer products. In 2003, 180,000 tons of raw rubber came through the port. The dry bulk facility with a 250,000-ton capacity warehouse is used mainly for phosphate. A wood chips handling facility can outload 1,000 tons per hour with a two million-ton annual capacity.

3.2 Natural System Analysis

This section of the Land Use Plan provides a description of the natural features and environmental conditions within the planning jurisdiction of Morehead City and an analysis of the suitability or limitation of these features for development. In accordance with the requirements of the Coastal Resources Commission's Land Use Planning Guidelines [15A NCAC 7B], this section of the Land Use Plan addresses the following components:

- A summary of the inventory of the major natural features and an interpretation of the capabilities or limitations that these features have for development
- A composite map that shows the extent and overlap of environmental features in Carteret County and the compatibility of these features for development
- An assessment of environmental conditions and trends with an emphasis on water quality, natural hazards and natural resources

3.2.1 Natural Features Inventory

The inventory of natural systems addresses the following features and conditions:

- Areas of Environmental Concern (AECs)
- Soil characteristics
- Water quality classifications
- Primary Nursery Areas
- Flood and other natural hazard areas
- Storm surge areas
- Non-coastal wetlands
- Environmentally fragile areas

A. Areas of Environmental Concern (AECs)

Areas of Environmental Concern (AECs) are the foundation of the Coastal Resources Commission's (CRC) permitting program for coastal development. AECs are areas of natural importance and are classified by the CRC. The purpose of the AEC classification is to protect these areas from uncontrolled development, which may cause irreversible damage to property, public health or the environment. Development within the designated Areas of Environmental Concern is limited by CAMA regulations and minimum use standards. The CRC establishes minimum use standards to regulate development in AECs. Local governments, through the CAMA Land Use Plan, can establish development standards for AECs that are more stringent than state standards.

The CRC has established four categories of AECs:

- Estuarine and Ocean System
- Ocean Hazard System
- Public Water Supplies
- Natural and Cultural Resource Areas

The Estuarine and Ocean System AEC class is the only category present in the Morehead City planning jurisdiction. Within this class, the following AECs are present: Public Trust Areas, Estuarine Waters, Coastal Shorelines and Coastal Wetlands. These AECs are described below.

A-1. Estuarine and Ocean System AECs

Public Trust Areas are all waters of the Atlantic Ocean and the lands underneath, from the normal high water mark on shore to the state's official boundary three miles offshore; all navigable natural water bodies and the lands underneath, to the normal high watermark on shore (a body of water is considered navigable if you can float a canoe in it), not including privately owned lakes where the public doesn't have access rights; all water in artificially created water bodies that have significant public fishing resources and are accessible to the public from other waters; and all waters in artificially created water bodies where the public has acquired rights by prescription, custom, usage, dedication or any other means. Public trust areas often overlap with estuarine waters.

Estuarine Waters are the ocean, sounds, tidal rivers and their tributaries that stretch across coastal North Carolina and link to other parts of the estuarine system: public trust areas, coastal wetlands and coastal shorelines. For regulatory purposes, the inland / upstream, boundary of estuarine waters is the same line used to separate the jurisdictions of the NC Division of Marine Fisheries and the NC Wildlife Resources Commission.

Coastal Shorelines include 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. Along Outstanding Resource Waters (ORWs), this definition includes lands within 575 feet of the normal high water level. Development in coastal shorelines influences the quality of estuarine and ocean life and is subject to the damaging effects of shorefront erosion and flooding. The coastal shorelines and the wetlands contained within them serve as barriers against flood damage and control erosion between the estuary and uplands. Some important features of the coastal shoreline include wetlands, flood plains, bluff shorelines, mud and sand flats, forested shorelines and other important habitat areas for fish and wildlife.

Coastal Wetlands are any marsh in the 20 coastal counties that regularly or occasionally floods by lunar or wind tides and that includes one or more of 10 plant species (Table 3.20). Freshwater swamps and inland, non-tidal wetlands are not in the CAMA permit jurisdiction unless the CRC specifically designates them as AECs. However, these wetlands are protected by the federal Clean Water Act. An Army Corps of Engineers Section 404 permit may be required for projects taking place in these wetlands.

Table 3.20
Coastal Wetland Plant Species

Scientific Name	Common Name
<i>Spartina alterniflora</i>	Salt Marsh (Smooth) Cord Grass
<i>Juncus roemerianus</i>	Black Needlerush
<i>Salicornia</i> spp.	Glasswort
<i>Distichlis spicata</i>	Salt (or Spike Grass)
<i>Limonium</i> spp.	Sea Lavender
<i>Scirpus</i> spp.	Bulrush
<i>Cladium jamaicense</i>	Saw Grass
<i>Typha</i> spp.	Cattail
<i>Spartina patens</i>	Salt Meadow Grass
<i>Spartina cynosuroides</i>	Salt Red or Giant Cord Grass

A-2. AECs in Morehead City

In the Morehead City planning jurisdiction, AECs include the waters and tributaries of Calico Creek, the Newport River, Spooner Creek, Peletier Creek, Crab Point Bay, Bogue Sound, and the shorelines of these waterbodies. Coastal wetland AECs are located throughout the planning jurisdiction and must be identified on-site by the permitting staff of the Division of Coastal Management. Locations of extensive coastal wetland areas within the Morehead City planning jurisdiction include areas along the Newport River, Calico Creek and Crab Point Bay as well as Phillips Island, Annex Island, parts of Sugarloaf Island and the Newport Marshes in the eastern portion of the jurisdiction.

While the CRC's use standards give priority to the conservation of coastal wetlands, estuarine waters and public trust areas, certain water-dependent uses are allowed. Generally, those uses which require water access and which cannot function elsewhere, such as simple access channels, structures to prevent erosion, navigation channels, boat docks, marinas, piers, wharfs and mooring pilings are allowed provided construction occurs in compliance with state standards.

The CRC's guidelines for development within the coastal shoreline AEC are found in 15A NCAC 7H. Key guidelines include the following:

- Not weaken or eliminate natural barriers to erosion
- Limit impervious surfaces such as buildings, paved parking lots and roads to the amount necessary to support the use and generally not exceed 30% of the AEC area of the lot, except along the shoreline of an Outstanding Resource Water (ORW) where the built-upon limit is 25% of the AEC area
- Maintain a buffer zone for a distance of 30 feet landward of the normal water level, except along shorelines where the Environmental Management Commission has adopted its own buffer standards

Due to map scale and size, the exact locations of AECs within the planning jurisdiction are difficult to map, particularly coastal wetlands and coastal shorelines AECs. However, for planning purposes, a general depiction of the location of AECs in Morehead City's planning jurisdiction is found on the Areas of Environmental

Concern Map (see Figure 6 in Appendix C). It is stressed that this map is for informational purposes only. The exact location of AECs must be identified on-site by permitting staff of the NC Division of Coastal Management (DCM).

B. Soil Characteristics

A soil survey was completed in 1987 in Carteret County by the United States Department of Agriculture (USDA) Soil Conservation Service, now known as the Natural Resources Conservation Service (USDA-NRCS). According to the survey, there are 30 different soil types in Morehead City. Most of the soils in Morehead City have severe limitations for conventional on-site waste treatment systems (septic systems). Only five of these soil types are considered to have slight or moderate limitations for septic tanks. All soil types in Morehead City have slight erosion hazard ratings.

The USDA-NRCS soil survey is for planning purposes and is not completed at the detailed scale needed for permit decisions. Based on the soil survey, the Soil Suitability for Septic Systems Map (Appendix C) provides a general soils map of the Morehead City planning jurisdiction. As noted above, this information is for general planning purposes only. All determinations of septic suitability must be made by onsite investigation by a licensed soil scientist or county environmental systems health specialist.

In general, the soils in the planning jurisdiction have limitations for many uses due to wetness, flooding and high sand content. Soils with slight to moderate limitations for septic systems are limited in the planning jurisdiction. They account for 8.9% and 2.6% respectively of land area and are generally located in the central portion of the planning area (see Figure 7, Soil Suitability Map in Appendix C). The majority of soils, 88.5%, are classified as having severe limitations for septic systems.

The extent of soils suitable for development is important due to the continuing development of the area and the absence of centralized sewer systems in some areas of the ETJ. Planned development densities in areas without central sewer service must consider soil suitability for septic systems or alternative systems must be developed. Consideration of soil conditions in areas expected to experience growth should influence decisions regarding expansion of the sewer system. Many of the areas containing soils with severe limitations for septic systems are currently not served by central sewer service.

C. Water Quality Classifications

All surface waters in North Carolina are assigned a primary classification by the NC Division of Water Quality (DWQ). The Marine Fisheries Commission defines primary Nursery Areas. The Water Quality Classes and Subbasins Map (Figure 8 in Appendix C) provides the use classifications for waters in Morehead City and its planning jurisdiction. As shown on the map, a wide range of primary and supplemental classifications are present. These include SA HQW, SB, C, SC and SC HQW. These classifications are described in Table 3.21. Further discussion of surface waters is provided under the Environmental Assessment discussion found later in this section.

**Table 3.21
Water Quality Classifications**

DWQ PRIMARY 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 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 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. Stormwater controls are required under CAMA and there are no categorical restrictions on discharges.
Class SB	Surface waters that are used for primary recreation, including frequent or organized swimming and all SC uses. Stormwater controls are required under CAMA and there are no categorical restrictions on discharges.
Class SA	Surface waters that are used for commercial shellfishing or marketing purposes and all SC and SB uses. All SA waters are also HQW by definition. Stormwater controls are required under CAMA. No domestic discharges are permitted in these waters.
DWQ SUPPLEMENTAL CLASSIFICATIONS	
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. The following are HQW by definition: <ul style="list-style-type: none"> • SA (shellfishing) • ORW • Waters designated as Primary Nursery Areas or other functional nursery areas by the Marine Fisheries Commission
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.
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: <ul style="list-style-type: none"> • Outstanding fish habitat or fisheries • Unusually high level of water based recreation • A 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 • Special ecological or scientific significance (rare or endangered species habitat, research or educational areas) <p>No new or expanded wastewater discharges are allowed although there are no restrictions on the types of discharges to these waters. There are associated development controls enforced by DWQ. ORW areas are HQW by definition.</p>
ADDITIONAL CLASSIFICATIONS BY OTHER AGENCIES	
Primary Nursery Areas (PNA)	Primary Nursery Areas, as defined by the Marine Fisheries Commission, are those areas in the estuarine system where initial post-larval development takes place. These areas are usually located in the uppermost sections of a system where populations are uniformly very early juveniles. The Division of Marine Fisheries is responsible for preserving, protecting and developing Primary Nursery Areas for commercially important finfish and shellfish.

D. Primary Nursery Areas

Table 3.21 on the preceding page also describes Primary Nursery Areas. Primary nursery areas are generally located in the upper reaches of creeks and bays. These areas are usually shallow with soft muddy bottoms and are surrounded by marshes and wetlands. Table 3.22 shows the locations of largest Primary Nursery Areas (over 100 acres) in the Morehead City planning jurisdiction. The Fragile Areas Map (see Figure 9 in Appendix C) provides the locations of Primary Nursery Areas.

Primary Nursery Area	Acres
Calico Creek (entire area)	140
Crab Point Bay (entire area)	148
Newport River *	215

*Note: These areas are along the northern edge of the ETJ from about Crab Point Village and west. This area is shown as a Primary Nursery Area, although some maps show this area as land. The United States Geologic Survey (USGS) and NCDENR-Division of Environmental Health, Shellfish Sanitation Section (DENR-DEH, SSS) show this area as water.

E. Flood Hazards and Storm Surge Areas

Flood hazard areas are usually defined by the 100-year floodplain. In the Morehead City planning jurisdiction, the floodplain includes the following:

- A zones – one percent chance of flooding in any year
- V zones – one percent chance of flooding in any year that includes wave action.
- X shaded zones – 0.2 percent annual chance of flooding and areas with a one percent chance of flood with average depths of less than one foot or with drainage areas less than one square mile
- X zones – areas determined to be outside of 0.2 percent annual chance of flooding

A general depiction of the 100-year floodplain is shown on the Flood Hazard Areas Map (Appendix C). More detailed flood maps prepared by the Federal Emergency Management Agency (FEMA) are available for review at the Morehead City Planning and Inspections Department.

Storm surge is the relatively rapid rise in sea level caused by water being pushed towards shore by the force of the winds associated with a hurricane or other intense storm. As the water comes ashore with the storm, it causes flooding that is often a hurricane's most dangerous and damaging characteristic. Extensive areas of the Morehead City planning jurisdiction are vulnerable to storm surge hazards associated with hurricanes. Depending upon the severity and speed of the storm, much of the area could be impacted by storm surge. According to the storm surge models prepared by FEMA, slow-moving Category 1–3 storms (forward velocities less than 15 miles per hour) would impact greater areas than fast moving Category 1–3 storms. Likewise, fast-moving Category 4–5 storms (forward velocities greater than 15 miles per hour) would produce a more intense impact than slow-moving

Category 4–5 storms. The Flood Hazard Areas Map (see Figure 10 in Appendix C) depicts the areas subject to storm surge based on the most intense storm intensity and speed.

Morehead City is a participant in the National Flood Insurance Program (NFIP). The NFIP is a federal program that enables property owners in participating communities to purchase insurance protection against losses by flooding. Communities that participate in the NFIP agree to adopt and enforce floodplain management ordinances to reduce future flood damage in flood hazard areas.

F. Non-coastal Wetlands

According to the US Army Corps of Engineers (USACE), wetlands are, “areas that are periodically or permanently inundated by surface or groundwater and support vegetation adapted for life in saturated soil.” Wetlands include swamps, marshes, bogs and similar areas. Wetlands serve important functions relating to fish and wildlife; food chain production; habitat; nesting; spawning; rearing and resting sites for aquatic and land species; protection of other areas from wave action and erosion; storage areas for storm and flood waters; natural recharge areas where ground and surface water are interconnected; and natural water filtration and purification functions.

While individual alterations of wetlands may constitute a minor change, the cumulative effect of numerous changes often results in major damage to wetland resources. The USACE regulates development in wetlands under Section 404 of the Clean Water Act, which determines which areas qualify for protection as wetlands. The Fragile Areas Map (see Figure 9 in Appendix C) shows areas that may be classified as non-coastal wetlands. While this map does not provide a lot-by-lot identification of wetlands, it does provide information as to the *general* areas that may contain non-coastal wetlands. These areas are extensive in the Morehead City planning jurisdiction and must be determined by onsite investigation.

G. Environmentally Fragile Areas

Fragile areas are not AECs, but are sensitive areas that could be damaged easily by inappropriate or poorly planned development. In the Morehead City jurisdiction, these areas include non-coastal wetlands and significant natural heritage areas. These areas are depicted on the Fragile Areas Map (see Figure 9 in Appendix C).

G-1. Natural Heritage Areas

The Fragile Areas Map also shows general locations of areas classified as Significant Natural Heritage Areas by the NC Natural Heritage Program. There are three Significant Natural Heritage Areas in the Morehead City planning area. Two are located in wetlands on the eastern edge of the planning area and the third is on Radio Island.

The NC Natural Heritage Program inventories, catalogues and facilitates protection of the rarest and the most outstanding elements of the natural diversity of our state. These elements of natural diversity include those plants and animals that are so rare, or the natural communities that are so significant that they merit special attention as land use decisions are made. The Natural Heritage Program is not a regulatory program. Some of these sites may be protected or regulated by other state or federal agencies, although many are unprotected.

3.2.2 Environmental Composite Map

The Morehead City Environmental Composite Map (Figure 1) shows the extent and overlap of natural features described in this section. Land was divided into three categories based on the analysis of the features and the determination of the capabilities and limitations of these areas for development. The land classes shown on the Environmental Composite Map, the description of the classes, and the natural features contained in each class are shown below:

Class I

Class I is land containing only minimal hazards and limitations that may be addressed by commonly accepted land planning and development practices. In the Morehead City planning jurisdiction, this class contains the following natural features:

- Soils with slight to moderate limitations for septic tanks
- Soils with slight erosion hazards
- Non-wetland area or wetlands rated beneficial significance and not high potential risk (NC-CREWS)
- Land located within a 100-year flood hazard area
- Land located within a storm surge area
- HQW watersheds
- Land located within 500 feet from a historic or archaeological site
- Land located inside historic district
- Estuarine shoreline
- Public trust shoreline

Class II

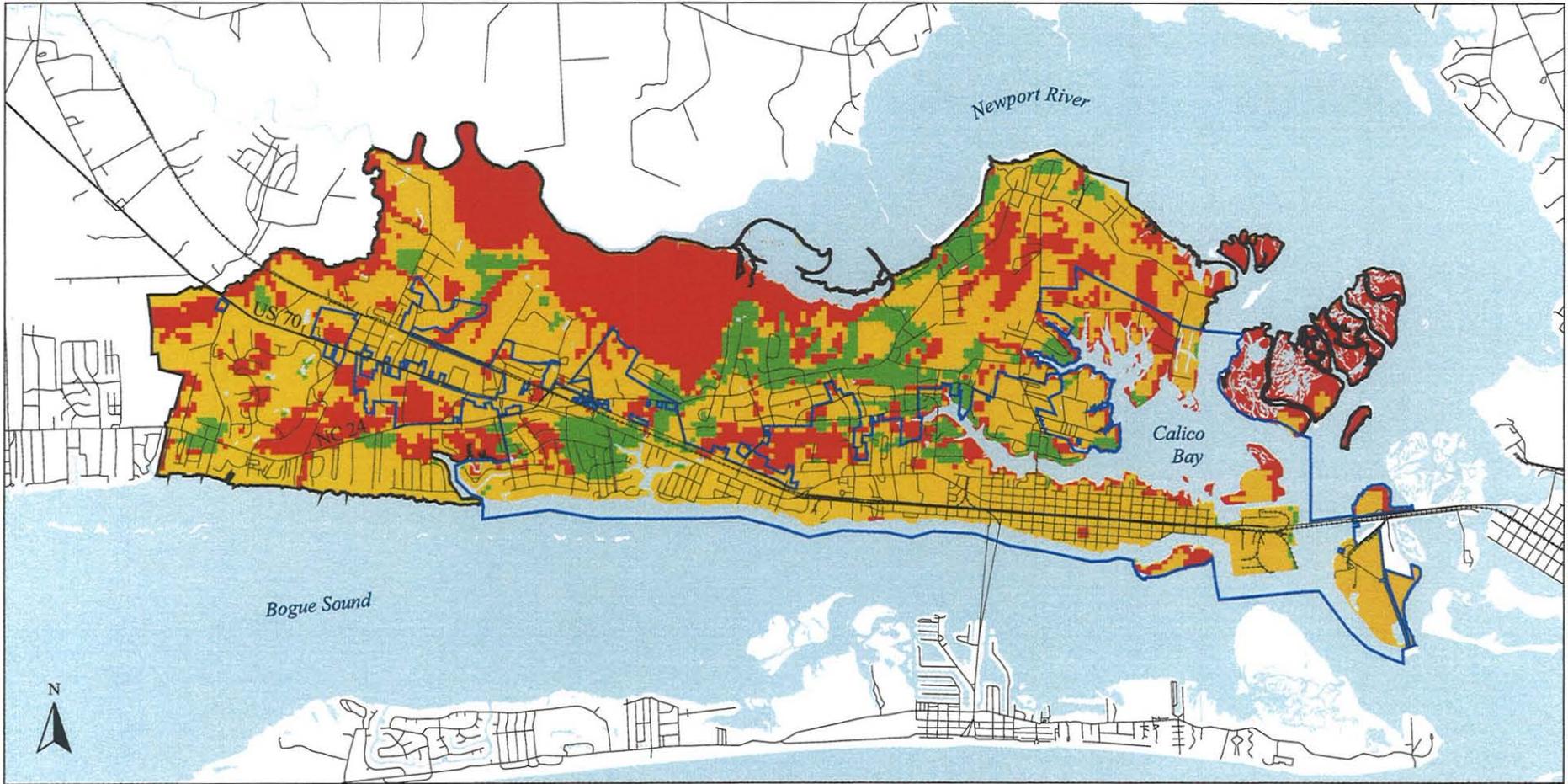
Class II is land containing development hazards and limitations that may be addressed by methods such as restrictions on types of land uses, special site planning or the provision of public services. In Morehead City, this class contains the following natural features:

- Soils with severe limitations for septic tanks
- Estuarine waters
- Public trust areas outside estuarine waters
- Non-coastal wetlands rated as beneficial significance and high potential risk (NC-CREWS)
- Non-coastal wetlands rated as substantial significance or exceptional significance and not high potential risk (NC-CREWS)
- Unrated non-coastal wetlands (NC-CREWS)

Class III

Class III is land containing serious hazards for development or land where the impact of development may cause serious damage to the functions of natural systems. In Morehead City, this class contains the following natural features:

- Coastal wetlands
- Non-coastal wetlands rated as substantial significance or exceptional significance with high potential risk (NC-CREWS)



The preparation of this map was financed in part through a grant provided by the North Carolina Coastal Management Program, through the funds provided by the North Carolina Coastal Management Act of 1972, as amended, which is administered by the Office of Ocean and Coastal Resource Management, National Oceanic and Atmospheric Administration.

-  City Limits
-  ETJ
-  Railroads
-  Roads
-  Water

Environmental Composite Classes

-  Class I - minimal hazards and limitations on development
-  Class II - moderate hazards and limitations on development
-  Class III - serious hazards and limitations on development

**Figure 1: Environmental Composite Map
CAMA Land Use Plan Update
Morehead City, NC**

Scale: 1" = 4000'



BLUE Land Water Infrastructure

- Non-coastal wetlands with overriding considerations (in general, exceptional significance - risk analysis not completed) (NC-CREWS)
- Protected lands

The Environmental Composite Map is a 'broad-brush' depiction of the location of the three land classes discussed above. Class II is the largest class accounting for 58.6% of the total land area. Class III accounts for 30.6% and Class I is the smallest class with only 10.8% of the total land area. Due to the size and scale of the map, it cannot be used for permit decision-making or for final development plans. The Geographic Information System (GIS)-based model that was used to create the map uses one-acre units. Therefore, one 'cell' in the model represents one acre. When the different data sets overlay in the model, the highest class present will be assigned to the cell. For example, an area that is located inside an exceptional wetland with high potential risk (Class III) inside the storm surge area (Class I) and in an area with soils with severe limitations for septic systems (Class II) will be assigned to Class III.

3.2.3 Summary Environmental Conditions

Information on water quality, natural hazards and natural resources is the basis for developing goals and policies to maintain and restore water quality, reduce vulnerability to natural hazards and protect valuable natural resources.

A. Water Quality

The NC Division of Water Quality classifies surface waters according to their best intended uses. Waters are given a use support status (how well a water supports its uses) after interpreting and assessing water quality. Surface waters are rated *fully supporting*, *partially supporting* or *not supporting*. The terms refer to whether the classified uses of the water (such as shellfish harvesting, aquatic life protection or swimming) are being met. All surface waters in the Morehead City planning jurisdiction classified for the fish consumption use support category are partially supporting. Other waters are impaired for commercial shellfish harvesting.

DEH Shellfish Sanitation monitors all estuarine waters (SC, SB and SA) for fecal coliform bacteria. Waters are then classified as Approved, Conditionally Approved-Open, Conditionally Approved-Closed, Restricted or Prohibited as defined in Table 3.23.

Table 3.23
DEH Shellfish Sanitation Growing Area Classifications

DEH Classification	DEH Criteria
Approved	The median fecal coliform Most Probable Number (MPN) or geometric mean MPN of water shall not exceed an MPN of 43 per 100 milliliters, and the estimated 90 th percentile shall not exceed an MPN of 43 per 100 milliliters for a five tube decimal dilution test.
Conditionally Approved-Open	Sanitary Survey indicates an area can meet approved area criteria for a reasonable period of time, and the pollutant event is known and predictable and can be managed by a plan.
Conditionally Approved-Closed	Sanitary Survey indicates an area can meet approved area criteria for a reasonable period of time, and the pollutant event is known and predictable and can be managed by a plan.
Restricted	Sanitary Survey indicates a limited degree of pollution, and the area is not contaminated to the extent that consumption of shellfish could be hazardous after controlled depuration or relaying.
Prohibited	No Sanitary Survey; point source discharges; marinas; data does not meet criteria for Approved, Conditionally Approved or Restricted Classification.

Source: White Oak River Basinwide Water Quality Plan NCDENR DWQ

In 2002, approximately 25% of the waters in Morehead City were closed to shellfishing. Prohibited or restricted areas include all of Spooners Creek, all of Peletier Creek, and the Newport River restricted area around the Morehead City Harbor. The Newport River is divided into multiple sections with a different classification for each section. The sections above Neighborhoods 5 and 7 (please see section 3.3 for a description of these neighborhoods) are restricted in varying degrees (prohibited or restricted, and conditionally approved closed). Shellfishing in Calico Creek, Calico Bay, Willis Creek and Crab Point Bay is prohibited or restricted. Most of the shoreline around Radio Island is also prohibited or restricted to shellfishing. A source of impairment to these waters is fecal coliform bacterial contamination. This is most likely caused by rapid growth rates and large seasonal populations in and around the Town of Morehead City (NCDENR 2001). The Morehead City wastewater treatment plant is already above plant flow capacity on maximum flow days and contributes to this impairment. The Division of Environmental Health also identified fecal coliform bacterial contamination in fresh water runoff as a major contributor to impairment as well as pollutants from urban development and marinas (NCDENR 2000). Especially of concern are the Newport River and its tributaries to the north of the Town of Morehead City.

The Morehead City municipal wastewater treatment plant (WWTP) discharges into Calico Creek and affects water quality. The WWTP is a major point source discharge with a capacity of 1.7 MGD. The North Carolina Coastal Federation monitors wastewater treatments plants along the coast and has reported that the Morehead City WWTP exceeded its discharge limit twice in 2000. In addition, the maximum flow exceeded limits a number of times in 2002. Currently, Morehead City is under a state-imposed sewer line extension moratorium. A plan to improve existing problems with effluent discharge is due to the NC Division of Water Quality by December 2004 and should result in improved water quality. The only other point discharge source in

the town is Morehead City Terminals, which is classified as a minor source and discharges into the Newport River (NCDENR 2000).

B. Natural Resources

As noted earlier in this section, there are three Significant Natural Heritage Areas in the Morehead City planning area. Two are located in wetlands on the eastern edge of the planning area and the third is on Radio Island. Five active sand and gravel mining operations are located in the planning area (of 23 in Carteret County). Sand and gravel mining account for 64% of all mining in North Carolina.

3.3 Existing Land Use and Development

This section of the Land Use Plan provides a description of current and emerging development trends and land use in Morehead City and a forecast of future development based on existing trends. The analysis of existing development is a major component of the foundation upon which land use policies and the future land use map are built. It provides a base for projecting future land needs and for forecasting the location of development.

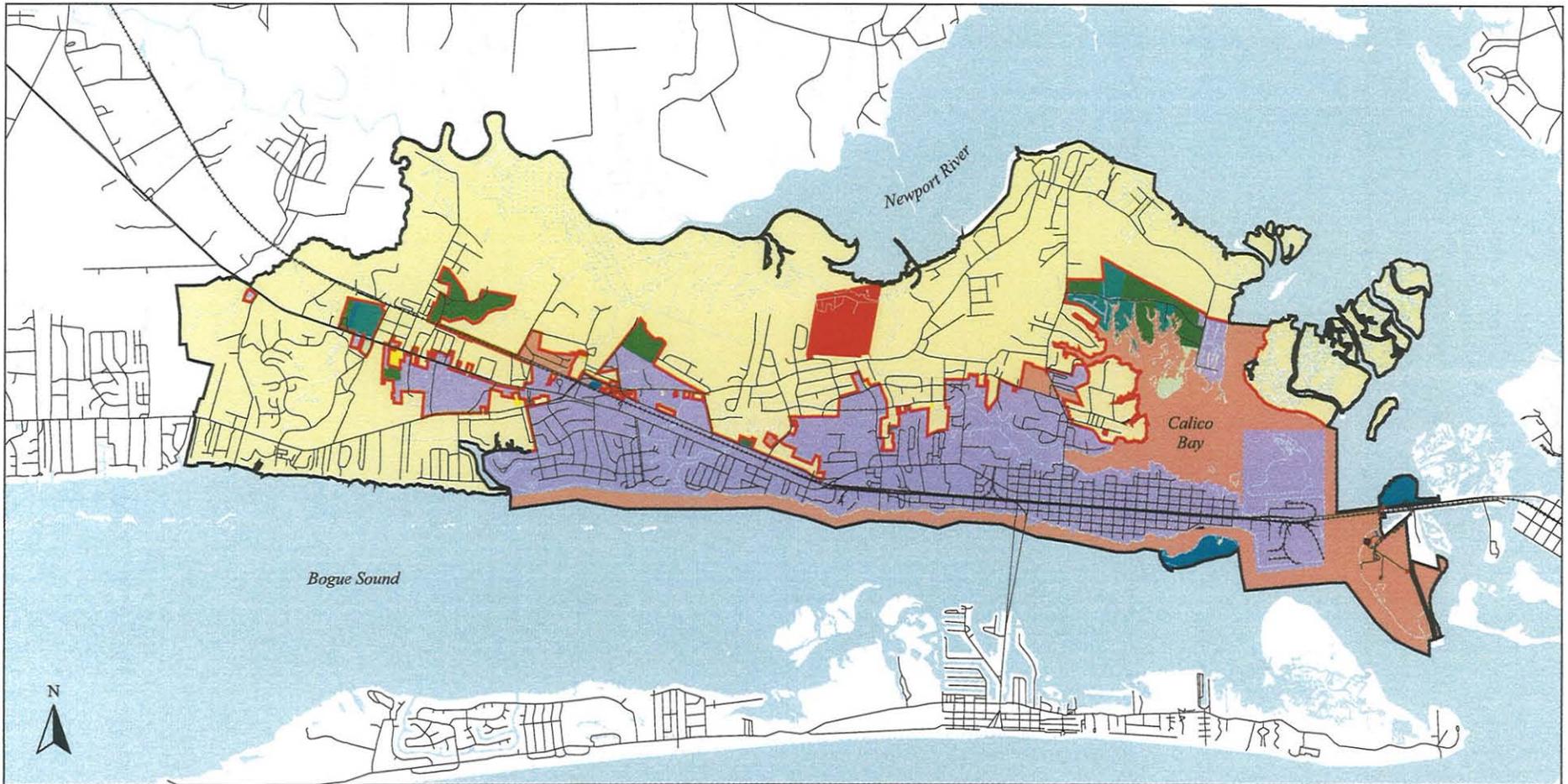
3.3.1 Development Trends

Since the 1999 Land Use Plan Update (1999 update), Morehead City has pursued an active annexation and development policy. Since 1999, approximately 2160 acres have been annexed into the Morehead City limits. Figure 2, Annexations 1998 to Present shows the locations of the areas annexed through 2003.

Records maintained by the Morehead City Planning and Inspections Department show 26 new subdivisions between 1999 and 2003. These subdivisions total approximately 266 acres and include 314 in-city lots/units and 163 out-of-city lots/units. Table 3.24 shows the subdivision breakout.

Type of Subdivision	Number of Subdivisions	Total Lots/Units
Commercial	10	62
Single Family Residential	11	252
Duplex Residential	2	52
Multi-family Residential	3	113

Annual building permit activity has increased since the last plan update, with the most permits (1187) being issued in 2001. Permit activity from 1998 through 2003 is shown in Table 3.25. A breakdown of permit types is also shown for 2001 through 2003. Permits were not tracked by type previous to 2001.



The preparation of this map was financed in part through a grant provided by the North Carolina Coastal Management Program, through the funds provided by the North Carolina Coastal Management Act of 1972, as amended, which is administered by the Office of Ocean and Coastal Resource Management, National Oceanic and Atmospheric Administration.

Year of Annexation

- 1998
- 1999
- 2000
- 2001
- 2002
- 2003
- Pending

- City Limits (prior to 1998)
- City Limits
- ETJ
- Railroads
- Roads
- Water

Figure 2: Annexations 1998 to Present
CAMA Land Use Plan Update
Morehead City, NC

4000 0 4000 8000 Feet



BLUE Land Water Infrastructure

Table 3.25
Building Permits Issued by Year

Permit Type	1998	1999	2000	2001	2002	2003
Single Family Residential	n/a	n/a	n/a	85	105	159
Residential Alterations & Duplexes	n/a	n/a	n/a	177	162	157
Apartment Units	n/a	n/a	n/a	0	0	2
Mobile Homes	n/a	n/a	n/a	17	60	69
Commercial	n/a	n/a	n/a	40	31	23
Demolitions	n/a	n/a	n/a	83	57	66
Signs	n/a	n/a	n/a	10	7	21
Electrical	n/a	n/a	n/a	105	67	75
Plumbing	n/a	n/a	n/a	244	99	81
Mechanical	n/a	n/a	n/a	123	32	22
TOTAL	n/a	n/a	n/a	303	205	177
	647	766	796	1187	825	852

3.3.2 Existing Land Use

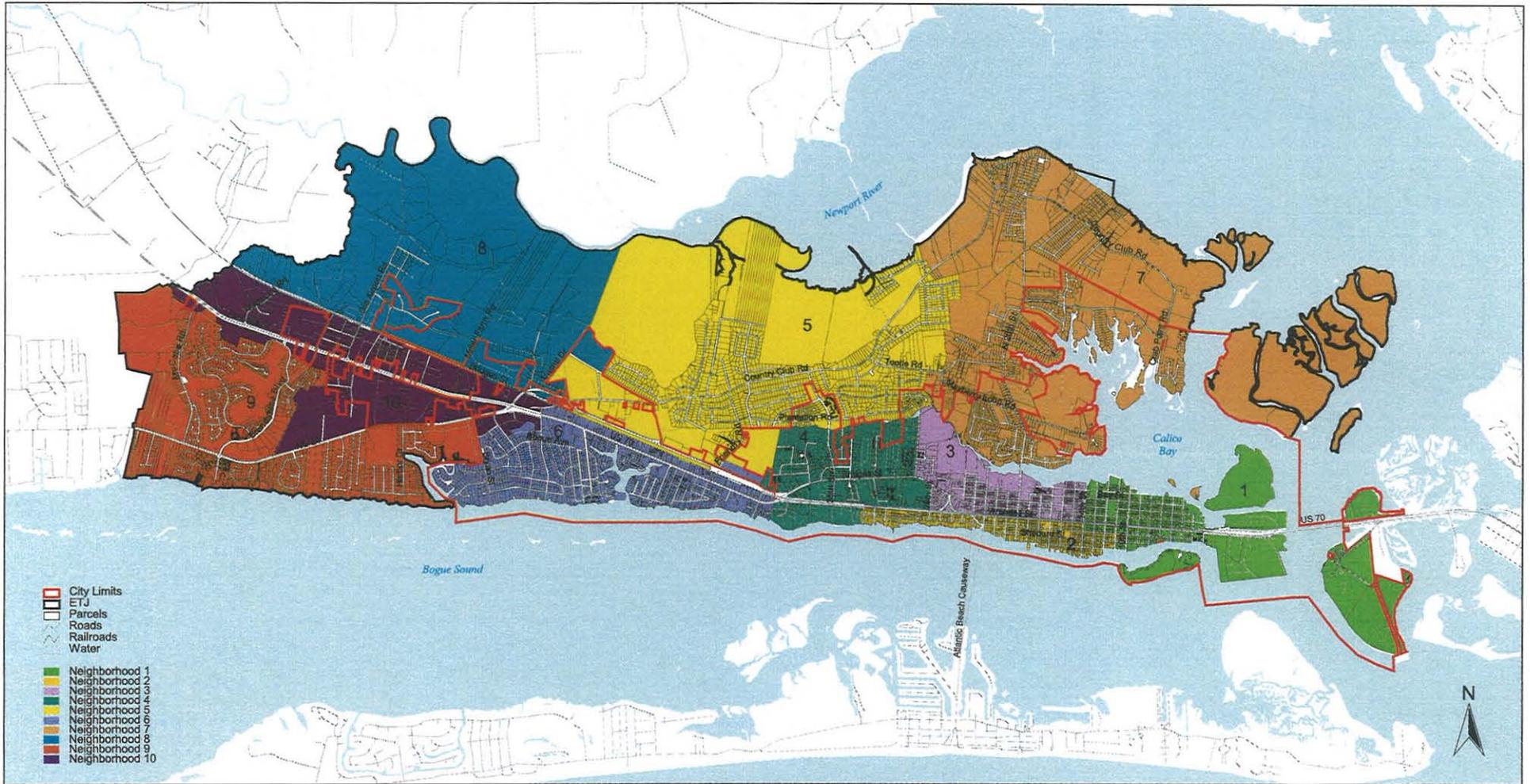
To provide a meaningful analysis of existing land use conditions in Morehead City and the extraterritorial planning jurisdiction (ETJ), the planning area was subdivided into ten neighborhood planning areas. The ten neighborhoods (see Figure 3, Morehead City Neighborhood Planning Areas) represent distinct areas of the planning area that have different land use patterns, constraints for development, potential for growth and land development concerns.

Since 1998, Morehead City has grown eastward to include portions of Radio Island, northward to include Blair Farms Subdivision and westward to include the Crystal Coast Business Park. This expansion has affected the boundaries of Neighborhoods 1 and 7 and 8. Neighborhood 10 is a new neighborhood added since the 1999 Land Use Plan. It was created by dividing the existing Neighborhood 8 along the Norfolk-Southern railroad tracks to reflect new development patterns. Neighborhood 8 is now located north of the railroad tracks, with Neighborhood 10 to the south. In addition, the Town has annexed a minimum width of 500 feet of waters along its entire shoreline.

A. Neighborhood 1

Neighborhood 1 is basically the eastern end of the peninsula created by Calico Bay, the Newport River, and Bogue Sound and the majority of the newly annexed Radio Island. Neighborhood 1 consists of the central business district (CBD), an older, established residential area north of downtown that includes the Town's historical district, the state port facility located east of downtown, and Radio Island. Subareas of Neighborhood 1 include (i) the commercial core of the CBD located on the north and south sides of Arendell Street (US 70), (ii) the waterfront commercial district, (iii) the port facility and Radio Island, (iv) the mixed-use Bridges Street corridor, (v) the residential area between Bridges Street and Calico Bay and (iv) Annex Island in the Newport River and Sugarloaf Island located in Bogue Sound.

Neighborhood 1 contains residential units that include a variety of housing types: single-family detached, single-family attached and low and high rise multi-family.



BLUE Land
Water
Infrastructure

1500 0 1500 3000 4500 6000 Feet

The preparation of this map was financed in part through a grant provided by the North Carolina Coastal Management Program, through the funds provided by the North Carolina Coastal Management Act of 1972, as amended, which is administered by the Office of Ocean and Coastal Resource Management, National Oceanic and Atmospheric Administration.

Figure 3: Morehead City Neighborhood Planning Areas

Retail, commercial service and office establishments comprise the CBD area. The waterfront commercial district on Bogue Sound includes marinas, fish markets, restaurants, charter fishing boat docks, and general retail. The Morehead City Yacht Basin is located on Calico Creek just northeast of the CBD. A major industrial use in Neighborhood 1 is the state port facility that occupies approximately 150 acres at the extreme eastern end of the peninsula. A smaller industrial area is located northeast of the CBD. Public and institutional uses located in this neighborhood include the municipal building and administrative offices, Cape Lookout High School, two parks, the US Army Reserve Center, the Webb Library, a post office and numerous churches.

Neighborhood 1 contains little vacant land that is not located within a floodplain. Consequently, there is little potential for new construction on undeveloped land. Growth potential in Neighborhood 1 centers primarily on redevelopment and conversion of existing structures to different uses. Sugarloaf Island is undeveloped and, due to flood hazard potential and its inaccessibility to major urban services, will most likely not be intensively developed in the near future. However it has been recognized as having potential for a variety of land uses, including a public water access facility that is being developed by the Town. Annex Island (also known as Marsh Island), which is owned by the NC State Ports Authority, is also vacant and is used as a dredge spoil site and for wetlands mitigation purposes.

Reflective of the current land use pattern, Neighborhood 1 contains a variety of zoning classifications. The downtown business area is zoned for a variety of commercial retail, marine commercial and professional uses. The Bridges Street corridor is zoned primarily for office and professional service uses. The Calico Bay waterfront is zoned as floodplain between 5th and 9th Streets, port industrial from 5th Street east, and commercial marina between 11th and 12th Streets. The port facility and a three-block area between 4th and 5th streets from the Norfolk-Southern Railroad to Calico Bay are zoned for port industrial. Neighborhood 1 residential areas are predominantly zoned R5 which permits a maximum density of eight dwelling units per acre. The existing high-rise structures located on small tracts on the waterfront east of the CBD are zoned PD which allows a much higher residential density than the R5 classification. Sugarloaf and Phillips Islands are zoned as floodplain; Annex Island is zoned for industrial port use. With the exception of Annex Island, the zoning classifications in Neighborhood 1 generally parallel current and anticipated land use patterns. Since the 1999 update, Morehead City has received grant funding to develop a public waterfront site on Sugarloaf Island consisting of docking facilities for small boats, trails, and restroom facilities.

Radio Island consists of state owned property associated with the state port, as well as privately owned areas. Waterfront areas in the state-owned portion consist mostly of docking facilities and wharves, with upland areas having limited development potential. The remainder of Radio Island is privately owned, with condominiums, a marina and other uses. The Town recently extended water and sewer services to the privately owned portion of the island. A public beach access facility operated and maintained by the Town is located on the north side of Highway 70. Another public access facility located on the south side of US 70 is maintained by Carteret County. The nature of the future development of Radio Island has been identified as an important planning issue to be addressed in this Land Use Plan Update.

Although Neighborhood 1 is almost totally developed, continuation of existing land uses or conversion to new land uses are influenced by several existing natural and man-made features. Influencing features include the Norfolk-Southern Railroad, US 70, Bridges Street, the port facility, and Bogue Sound and Calico Bay, including their floodplains. All of these features play an important role, either positively or negatively, in the future development or redevelopment of the neighborhood.

Since the adoption of the 1999 update, Morehead City has supported the redevelopment and restoration of the downtown area by providing staff and financial support to the Downtown Morehead City Revitalization Association, amending ordinances to allow for mixed uses, worked to provide additional on-street parking and providing staff to serve on the downtown parking committee. The parking ordinance has been amended to set aside an area downtown where off-street parking is not required. The Town is studying alternative traffic patterns to increase available parking and is working with NCDOT and NC Railroad to preserve the rail corridor by closing certain crossings along the Highway 70 corridor. As noted above, public waterfront access facilities have also been provided in Neighborhood 1.

B. Neighborhood 2

Neighborhood 2 is located south of the Norfolk-Southern Railroad tracts from 10th Street westward to 34th Street. This neighborhood planning area is overwhelmingly residential in nature and consists of three subareas: (i) the waterfront along Bogue Sound, (ii) the south side of the US 70 corridor, and (iii) the interior blocks between (i) and (ii).

Neighborhood 2 contains primarily residential structures, the vast majority of which are single-family detached dwellings. A few low density multi-family units are scattered throughout the neighborhood. The only nonresidential uses in Neighborhood 2 are several commercial establishments scattered along Arendell Street in the vicinity of the Atlantic Beach Causeway and on Evans Street near the CBD, a private school, and several churches. Nonresidential uses account for only about ten percent of the total area in Neighborhood 2. There is less than ten percent vacant land in the neighborhood. The vacant land that is present consists primarily of small building-size lots. Consequently, the growth potential of Neighborhood 2 basically involves the renovation and/or the reuse of existing single-family residences.

The zoning pattern in Neighborhood 2 reflects the existing land use scheme in that almost the entire area is zoned R5S. Single-family residences at a maximum density of eight dwelling units per acre are permitted by the R5S zoning category. The small, scattered existing commercial land uses are zoned for office and professional use.

The existing natural and man-made features that influence Neighborhood 2 include Bogue Sound (including the floodplain), the Norfolk-Southern Railroad, US 70, the causeway to Atlantic Beach, and the proximity of the central business district.

The 1999 update included a policy that waterfront street/alley ends should remain open for public access, as well as policies intended to preserve the Neighborhood's residential characteristics. Accordingly, the Town has created a Waterfront Access Plan that requires public waterfront street/alley ends to remain open and has actually improved some of the street ends in accordance with the Waterfront Access Plan. Since the 1999 update, Morehead City has received a few rezoning requests to

allow for commercial development in this Neighborhood, but has consistently denied these requests.

C. Neighborhood 3

This area is generally described as north of Arendell Street, south of Calico Creek, between 14th Street and Barbour Road. This neighborhood contains a variety of land uses including single- and multi-family residences, businesses, industrial establishments, and public and institutional facilities. The subareas of Neighborhood 3 include: (i) the US 70 corridor, (ii) the Bridges Street corridor, and (iii) the residential areas between Bridges Street and Calico Creek.

Approximately three-fourths of residences located in Neighborhood 3 are single-family detached housing units. Multi-family residences, including some public housing units and several large medium density apartment developments comprise the remainder of the residential structures. Commercial establishments are concentrated on the north side of the US 70 (Arendell Street) corridor and in the Bridges Street corridor. The industrial uses in Neighborhood 3 are located on Bridges Street between 15th and 17th Streets and along the railroad spur north of Bridges Street. Public and institutional uses are scattered throughout the neighborhood and include 3 large cemeteries, a middle school, municipal facilities, churches, and recreational facilities. Available vacant land consists chiefly of scattered lots and small parcels. Other undeveloped land within Neighborhood 3 is floodable land located along the south bank of Calico Creek.

The zoning pattern in this neighborhood is more varied than those previously discussed. This variety is directly attributed to the multitude of land uses in Neighborhood 3. Residential zoning classifications include R5 for the majority of the area and R7 and R10 for small portions of the western sections of the neighborhood. The density permitted by these zoning classifications range from a low of 4 units per acre (R10) to 8 units per acre (R5). Commercial zoning is found in the Arendell Street and Bridges Street corridors and includes downtown commercial, highway commercial, neighborhood commercial, and office and professional categories. Interestingly, the commercial zoning pattern along Bridges Street is in a nodal pattern rather than a continuous strip pattern as in that portion of Bridges Street located in Neighborhood 1. The small industrial areas located on Bridges Street are zoned for unoffensive industrial use.

Due to the unavailability of vacant developable land, the growth potential of Neighborhood 3 is limited. The major vacant parcels in the neighborhood are zoned for residential use (R5 and R7 classifications). Consequently, the potential for future development appears to be primarily for multi-family residences and, to a lesser extent, institutional uses and commercial services.

The natural and man-made features which impact this neighborhood include Calico Creek and its floodplain, US 70, Bridges Street, the Norfolk-Southern Railroad, Morehead Middle School, cemeteries, and the proximity to the Morehead Plaza shopping center.

The 1999 update included policies intended to maintain the residential character of the Neighborhood, providing adequate screening/buffering between residences and

adjacent non-residential properties. Since the 1999 update, land use decisions in this neighborhood were made in conjunction with these policies.

D. Neighborhood 4

Neighborhood 4 is generally bounded on the east by Barbour Road, 28th Street between Bridges Street and Arendell Street, the Norfolk-Southern Railroad, and 34th Street; on the south by Bogue Sound; on the west by properties abutting the western ends of South Street, Guardian Avenue, and Galantis Drive; and on the north by the Carolina Power and Light Company transmission line right-of-way. This neighborhood planning area contains a wide variety of land uses including large-tract public and institutional, commercial, single-family and multi-family residential, manufactured home, and, industrial uses. Subareas of Neighborhood 4 include: (i) the US 70 corridor, (ii) the institutional and professional office complex centered around 35th Street, the community college campus and Carteret General Hospital, (iii) the Morehead Plaza shopping center area, and (iv) the Bridges Street corridor.

The residential dwelling units that are located in Neighborhood 4 consist primarily of multi-family residences and manufactured homes. This neighborhood contains the largest number of multi-family developments which are concentrated in the Bonner Avenue and Guardian Avenue/Symi Circle areas. Two large manufactured home parks, containing about 180 units, are situated on the north side of Bridges Street north of the Camp Glenn School. Scattered manufactured homes on individual lots are also found throughout Neighborhood 4, particularly in the Maple Lane area. Single-family detached residences, located in relatively small pockets of development, round out the residential uses. Commercial land use consists of the Morehead Plaza shopping center, retail and services in the US 70 and Bridges Street corridors, and the professional office/services concentration located north of the hospital between Penny Lane and North 35th Street. Major public and institutional uses consist of the Carteret General Hospital, Carteret Community College, the North Carolina Division of Marine Fisheries complex, the NC State Seafood Laboratory, Camp Glenn Elementary School, nursing and health care facilities, the National Guard Armory, the Carteret County Visitors Center, a small park with boat ramp, and an electrical substation. Approximately half of the developed acreage in Neighborhood 4 is in residential use. Institutional uses cover twice as much land as commercial.

The vacant land located in Neighborhood 4 is primarily in two general areas: a large tract north of Bridges Street and east of North 35th Street and a tract located north of Bridges Street and west of Barbour Road.

As in Neighborhood 3, the zoning pattern in Neighborhood 4 is varied due to the wide array of existing land uses. Overall, the zoning pattern parallels the existing land use pattern. Residential zoning is comprised of the R15M, R5, R10, and a limited amount of the R20 classifications. The major multi-family developments are located in areas that are zoned RMF or Office and Professional. The residential density permitted in Neighborhood 4 ranges from about 2 units per acre to 16 units per acre. Commercial zoning consists primarily of the office and professional, medical arts, community shopping, and highway commercial classifications. The major vacant parcels in Neighborhood 4 which were described earlier are zoned primarily for residential (chiefly R5 and R20), office and professional, and industrial use.

Undeveloped land in this neighborhood has decreased by almost half since the 1999 update. Given the remaining amount of vacant, developable land, the existing supporting infrastructure, and recent transportation improvements (such as new connector roads and improving traffic patterns) Neighborhood 4 should continue to be a strong growth area. An area west of North 35th Street, south of the Carolina Power and Light Company transmission line right-of-way, is currently being developed into a subdivision. Morehead Plaza is being redeveloped and is expected to become a highly visited retail center.

Neighborhood 4 is influenced by a variety of natural and man-made factors including US 70, the Norfolk-Southern Railroad, Bridges Street, Bogue Sound, the CP&L transmission right-of-way, Morehead Plaza shopping center, Carteret County Community College, Carteret General Hospital, and the Camp Glenn School. Access to the northwestern corner of Neighborhood 4 has improved with the completion of the Bridges Street Extension and has resulted in more institutional/office uses. The presence of wetlands in the western and northwestern portions of the neighborhood will impact future land development.

Policy statements contained in the 1999 Land Use Plan Update relating to this neighborhood include allowing mixed land uses, sidewalk/street improvements to Barbour Road and North 35th Street and reviewing all development plans with the Army Corps of Engineers to assure identification of wetlands. Since the adoption of the 1999 plan, Morehead City has adopted MATS (Morehead Alternative Transportation System) which includes recommendations for sidewalk and street improvements in the general area. Funding was received through a DOT Enhancement Grant to construct a sidewalk/bicycle path (a phase of MATS).

E. Neighborhood 5

Neighborhood 5 is overwhelmingly a single-family detached residential area consisting of both well established and newly developing subdivisions.

Neighborhood 5 is generally bounded on the north by the Newport River, on the east by vacant land abutting the Country Club East subdivision, on the south by the CP&L transmission line right-of-way, Bridges Street Extension and the Norfolk-Southern Railroad, and on the west by the town's western extraterritorial planning and zoning jurisdictional boundary which generally runs from the West Carteret High School northward to the Newport River. Subareas include (i) individual residential subdivisions, (ii) the Morehead City Country Club area and (iii) a new commercial and office area paralleling the Bridges Street Extension.

As noted above, Neighborhood 5 contains mostly residences, most of which are single-family dwellings. Major residential subdivisions include, Mandy Farms, Country Club East, Hedrick Estates, Westhaven, Lake and Shore Estates, Northwoods, Oaksmith Acres, West Car Meadows, and Creek Pointe. Multi-family residences are located in apartment developments which are generally concentrated in two areas: adjacent to North 35th Street south of Mandy Lane and on the north side of Country Club Road east of West Carteret High School. Several manufactured homes on individual lots are scattered throughout the neighborhood.

Major commercial development includes the neighborhood-oriented businesses located in the Mandy Park Shopping Center on North 35th Street at Old Gate Road,

the office development on the north side of Mandy Lane in the 35th Street Extension intersection area, a small industrial area on Friendly Road just north of the Norfolk-Southern Railroad and new commercial and office development along the Bridges Street Extension. Limited industrial uses have occurred since the 1999 update and are located along the Bridges Street Extension.

Public, institutional, and recreational uses in this neighborhood include the Morehead City Country Club and Golf Course, West Carteret High School, Morehead Primary School, a county-owned park (Swinson Park), a nursing care facility, and several churches.

Neighborhood 5 contains a considerable amount of vacant land. However, the vacant acreage includes the 520-acre nature preserve located in the extreme northwestern corner of the neighborhood as well as several hundred acres of land where wetlands have been identified. Consequently, the vacant land in Neighborhood 5 is not comprised entirely of vacant, buildable or developable land. However, it is estimated that about 25% of all vacant land in Neighborhood 5 is suitable for development purposes. These developable, vacant tracts are distributed throughout the neighborhood with the larger tracts located on the east and west sides of Friendly Road north of the Norfolk-Southern Railroad, and north of Country Club Road in the northern portion of the neighborhood.

The majority of land in this neighborhood is zoned for low-density and single-family uses (R20) with some small areas being zoned R15 and R15M. A small amount of property is zoned R5, R7, PD, and RMF which permits a higher density that ranges from 8 to 16 units per acres. Commercial zoning is basically limited to those areas that are currently developed for business purposes, such as day care centers and the Sports Center Complex. Industrial zoning is found on the north side of the Norfolk-Southern Railroad on both the east and west sides of Friendly Road. The majority of vacant land in Neighborhood 5 is zoned for residential use, chiefly R20 which allows 2 dwelling units per acre.

The growth potential is high in Neighborhood 5 given the large amount of vacant, developable land. Low-density residences are the most probable type of future land uses. Potential also exists for future light industrial or intensive commercial development in the area north of the Norfolk-Southern Railroad on the east and west sides of Friendly Road which is the location of the new Bridges Street Extension.

The natural and man-made features that influence the continuation of existing land uses and the development of future land uses include the Bridges Street Extension, West Carteret High School and Morehead Primary School, the Norfolk-Southern Railroad, the Newport River and its floodplain, wetland areas, and the country club and golf course.

Policy statements contained in the 1999 Land Use Plan for this neighborhood include promoting low density housing in areas lacking public water/sewer, allowing medium density residential development if public water/sewer exists, limiting curb cuts on Bridges Street Extension and recognizing the siltation problem in the Newport River. Again, any development that occurred in the area since the adoption of the current land use plan was done only after a review of the neighborhood policy statements.

F. Neighborhood 6

The area is generally described as being bounded on the north by Bridges Street Extension, on the east by properties abutting the end of South Street, on the south by Bogue Sound, and on the west by Spooners Creek.

This neighborhood can best be characterized as two subareas: a strip commercial area adjacent to both the north and south sides of the US 70 corridor and an older, established residential area located on the east and west sides of Peletier Creek and on the east side of Spooners Creek. Portions of the Mitchell Village and Spooners Creek East Harbor subdivisions are located in this neighborhood.

Neighborhood 6 contains primarily residences, three-quarters of which are single-family detached dwellings. Multi-family residences are generally located in relatively small developments scattered throughout the neighborhood. Several small manufactured home parks are located within the US 70 corridor. Commercial development is extensive and includes most parcels adjacent to US 70 and NC 24. Businesses located in this neighborhood include single-lot development, strip shopping centers and marinas. Institutional and recreational uses include small parks and churches. Very limited industrial land uses are located in this neighborhood, occurring adjacent US 70. Vacant land consists primarily of subdivided building lots. Since the 1999 update, growth in this neighborhood has been generally consistent with previous patterns, commercial along the US 70 corridor and residential from US 70 south to Bogue Sound.

Because Neighborhood 6 is comprised of two basic land use groups, the zoning in the area consists of two general zoning classifications, commercial and residential. Commercial zoning includes office and professional, shopping center, highway commercial, neighborhood commercial and marine commercial classifications. Residential zoning on the north and east sides of Peletier Creek involves primarily the R10 classification (maximum 4 units per acre) with some R7 (maximum 6 units per acre) and PD (maximum 36 units per acre). The vast majority of the neighborhood west of Peletier Creek is zoned for a maximum of 3 and 4 units per acre (R20 and R15) with some limited R5 (maximum of 8 units per acre) and R10. Most of the vacant land in Neighborhood 6 is zoned for residential use (primarily R15, R10, and R7) and highway commercial use. The greatest potential for growth in this neighborhood is low-density residential development and conversion of some existing residential parcels in the US 70 corridor to commercial use.

This neighborhood is most noticeably influenced by US 70, NC 24, the Norfolk-Southern Railroad, Bogue Sound, Peletier and Spooners Creeks and their floodplains.

Policy statements included in the 1999 Land Use Plan were aimed at discouraging commercial development along the Bogue Sound waterfront, working with NCDOT on providing sidewalks and landscaping along US 70, maintaining the character of existing residential areas, improving recreational opportunities and adopting regulations requiring connecting or shared parking lots to reduce curb cuts on US 70. Morehead City has worked diligently to extend water and sewer lines to newly annexed property to reduce the number of septic systems. The Town has also worked in conjunction with NCDOT to develop a sidewalk along the US 70 corridor.

There are plans to continue sidewalk development westward to the commercial areas of town. Site plans are consistently reviewed to assure connected/shared parking lots and all approved residential rezonings were completed to keep the current neighborhood characteristics.

G. Neighborhood 7

Like Neighborhood 5, Neighborhood 7 is chiefly a single-family residential area that consists of both mature and developing subdivisions. This neighborhood planning area is generally bounded on the north and east by the Newport River, on the east by Calico Bay, on the south by Calico Creek and on the west by Country Club East and Mandy Farms subdivisions. Subareas of Neighborhood 7 include: (i) the individual subdivisions adjacent to North 20th Street, (ii) the Crab Point peninsula and (iii) the Dills Creek area.

The majority of residences located in this neighborhood, are single-family detached dwellings. Major residential subdivisions include Keeter Park, Dill Creek, Sunrise Point, River Heights, Brook Woods, South Shores, Blair Farms and Cambridge Downs. Multi-family residences and condominiums are located on the south side of Mayberry Loop Road and on North 20th Street at the Haystacks Development. An estimated 225 manufactured homes are situated in Neighborhood 7, the majority of which are located in the Pelican Point and Sprookey's Mobile Home Parks on North 20th Street and in the Bay Meadows Mobile Home Park on Country Club Road at Crab Point. A small mobile home park is also located on Oglesby Road. A small number of manufactured homes on individual lots are scattered throughout the area. Commercial development in this neighborhood is limited to businesses clustered near the North 20th Street and Mayberry Loop Road intersection area. Public and institutional land uses are comprised of a small park and private recreational facilities, the town's wastewater treatment plant, and two churches. Industrial use in Neighborhood 7 is limited to the Carolina Telephone substation. Several large tracts of land are also used for farming/agricultural purposes. A new city-owned soccer complex will be completed in the fall of 2004 off Mayberry Loop Road.

This neighborhood contains the highest amount of vacant land of all ten neighborhood planning areas. Vacant land consists of many large tracts scattered throughout the entire neighborhood. Several of the vacant tracts, are identified as wetlands and are subject, in part, to flood hazards. Poor soil conditions limit development of much of the vacant tracts in the Crab Point Neck and Dills Creek areas. Generally, the largest developable vacant tracts are located along Country Club Road and west of North 20th Street.

The majority of land, developed and vacant, in Neighborhood 7 is zoned for residential use. The residential zoning classifications (R5, R7, R10, R-15, R-15SM, R20, and PD) range in maximum permitted density from 2 to 36 units per acre, with the lower density zoning occurring on most of the land in the neighborhood. This neighborhood also contains the largest amount of R15M zoning which permits manufactured home parks and manufactured homes on individual lots. Commercial zoning is basically limited to the area where the majority of the existing businesses are located, which is the North 20th Street and Mayberry Loop Road intersection area.

Growth potential in Neighborhood 7 is good provided the constraints to development can be overcome. Because of the amount of vacant land, it would appear that this

neighborhood has the ability to accommodate growth, particularly low-density residential development. Since the 1999 update, water service has been extended along the Country Club Road corridor, thus enhancing the growth potential of this area. Developmental constraints such as flood hazards, poor soil conditions, wetlands, and the lack of support infrastructure in areas of the neighborhood limit the location and intensity of future development

Neighborhood influences impacting this area, in addition to the developmental constraints discussed above, include Calico Creek, the Newport River, North 20th Street and Blair Farm Parkway, which serves as a minor thoroughfare connector between Country Club Road and North 20th Street.

Policy statements contained in the 1999 update for this neighborhood promoted low-density development in areas with no public water and sewer. Medium-density development was promoted in areas with public water and sewer, including mobile home parks. Traffic improvements along North 20th Street, Tootle Road and Mayberry Loop Road were also encouraged. Zoning to allow additional mobile home development was discouraged in the Crab Point area. Since the adoption of the 1999 update, Morehead City has adjusted its Thoroughfare Plan to include improvements to the three aforementioned corridors. In addition, no new rezonings in Crab Point that would increase the number of manufactured housing developments have been approved.

H. Neighborhood 8

With this update of the Land Use Plan, Neighborhood 8 has been divided into two planning areas. The new Neighborhood 8 is located west of Neighborhood 5 and is bounded by the Norfolk-Southern Railway, Hull Swamp, the Newport River and the westernmost boundary of Neighborhood 5. This area is generally referred to as Wildwood. The new planning area of Neighborhood 10 has been created from the old southern portion of Neighborhood 8.

This neighborhood is primarily residential with numerous large undeveloped tracts located between the railroad and the Newport River. The majority of Neighborhood 8 is zoned for low-density residential use. The Crystal Coast Business Park on Old Airport Road is zoned for industrial use and is counted as one of three industrial hubs in Carteret County. The other two hubs being the NC State Port and Jarrett Bay off Highway 101.

Growth potential in Neighborhood 8 is high where adequate support utilities can be extended. Neighborhood 8 contains the third largest amount of vacant land among the ten neighborhood planning areas. Industrial development is projected along the Business Drive Extension and along the railroad. Influencing features include the proposed connector between NC 24 and US 70 in the vicinity of Little Nine Road, the Norfolk Southern Railroad, and Hull Swamp. Recent road improvements, including the Business Drive Extension, add to the growth potential of this neighborhood.

Policy statements contained in the 1999 update encouraged annexation of property to promote economic development and supported installation of water system improvements to promote economic and industrial development. Since the adoption of the 1999 update, the Crystal Coast Business Park has been annexed.

I. Neighborhood 9

This neighborhood generally includes (i) properties along the Bogue Sound waterfront on the south side of NC Highway 24 from Spooners Creek to the Gull Harbor subdivision, which is located at the southwestern most boundary of the town's ETJ and (ii) the Brandywine Bay golf course development and surrounding properties.

Neighborhood 9 is primarily residential. The largest residential developments in this neighborhood include Brandywine Bay, Bogue Village, Bogue Landing, Spooners Creek West, the Village at Camp Morehead by the Sea, Phillips Landing and Bay Colony.

The major institutional and recreational uses in Neighborhood 9 include the Brandywine Bay golf course, several churches and a cemetery. Commercial uses are limited and there are no industrial uses located within Neighborhood 9. Several tracts located on the west side of McCabe Road are currently used for agricultural purposes. The majority of the undeveloped and vacant land within this neighborhood is located on the south side of NC 24 and on the west side of McCabe Road.

The majority of this neighborhood is within residential zoning classifications that permit a density of 2 to 3 dwelling units per acre. The Brandywine Bay development is zoned PD, Planned Development. The greatest potential for growth in this neighborhood is low-density residential development. The natural and man-made features that influence Neighborhood 9 include NC 24, Spooners Creek, and Bogue Sound.

As with other primarily residential neighborhoods, policies contained in the 1999 update encourage low-density development in areas where there is no public water or sewer available. Medium density development is allowed where there is public water or sewer available. There is a policy statement that encourages better connectivity between the residential developments along the NC 24 corridor. The extension of Little Nine Drive south to intersect with Highway 24 is also mentioned. Any development that occurred in the area since the adoption of the 1999 update was completed only after a review of the neighborhood policy statements.

J. Neighborhood 10

Neighborhood 10 has been delineated since the 1999 update to include an area previously found in Neighborhood 8. It is best described as south of the Norfolk Southern Railroad and Neighborhood 8, north of Mitchell Village and Spooners Creek, east and north of Brandywine Bay and west of Neighborhood 6.

This neighborhood includes three distinct subareas. Subarea (i) is primarily composed of commercial and industrial lots abutting the US 70 corridor from the US 70 / NC 24 intersection to the western terminus of the town's extraterritorial planning jurisdiction. Subarea (ii) includes chiefly commercial and vacant lots abutting the north side of NC 24 corridor from the US 70 / NC 24 intersection to just east of the Brandywine Bay development. Subarea (iii) encompasses the mixture of commercial and residential uses north of US 70 and south of the Norfolk Southern Railroad that parallels US 70.

The majority of subareas (i) and (ii) are zoned for commercial use-highway commercial, shopping center, and office and professional. The remaining areas in Neighborhood 10 are zoned primarily for low-density residential use.

Policy statements contained in the 1999 update supported coordination with NCDOT on sidewalks and landscaping improvements, encouraged annexation of property to promote economic development and supported installation of water system improvements to promote economic and industrial development. Other policies supported improved recreational opportunities by development of a park in the neighborhood, limiting curb cuts on US 70 and NC 24 by requiring interconnected parking lots and connecting the water mains between Morehead City and Newport. Since the adoption of the current land use plan, Morehead City has successfully completed improvements to the water system, including the construction of an elevated water tank. Site plan reviews for new commercial development require interconnected parking lots. Morehead City and Newport have also successfully connected their water mains which will provide backup water supplies for each community.

Since the 1999 update, commercial growth along US 70 and in the vicinity of the US 70 / NC 24 intersection has been strong, resulting in the opening of several new or expanded businesses, including a new Super Wal-Mart and Lowes Home Improvement Store. Outside of the downtown area, Neighborhood 10 is now the main commercial area in Morehead City and Carteret County. Also, Morehead City has been working to develop a road connection in the vicinity of Little Nine Drive between NC 24 and US 70.

Growth potential in Neighborhood 10 is high, particularly along the US 70 and NC 24 corridors and in areas where adequate support utilities can be extended. Continued retail and commercial services development is anticipated along the highway corridors. Industrial development is projected along Little Nine Road and along the railroad. The recent connection of the Newport and Morehead City water systems also contributes to the attractiveness of the area for growth. Features that have the potential to influence growth include the Bridges Street Extension, the Norfolk Southern Railroad, the existing US 70 and NC 24 highways and the recently connected water line with Newport.

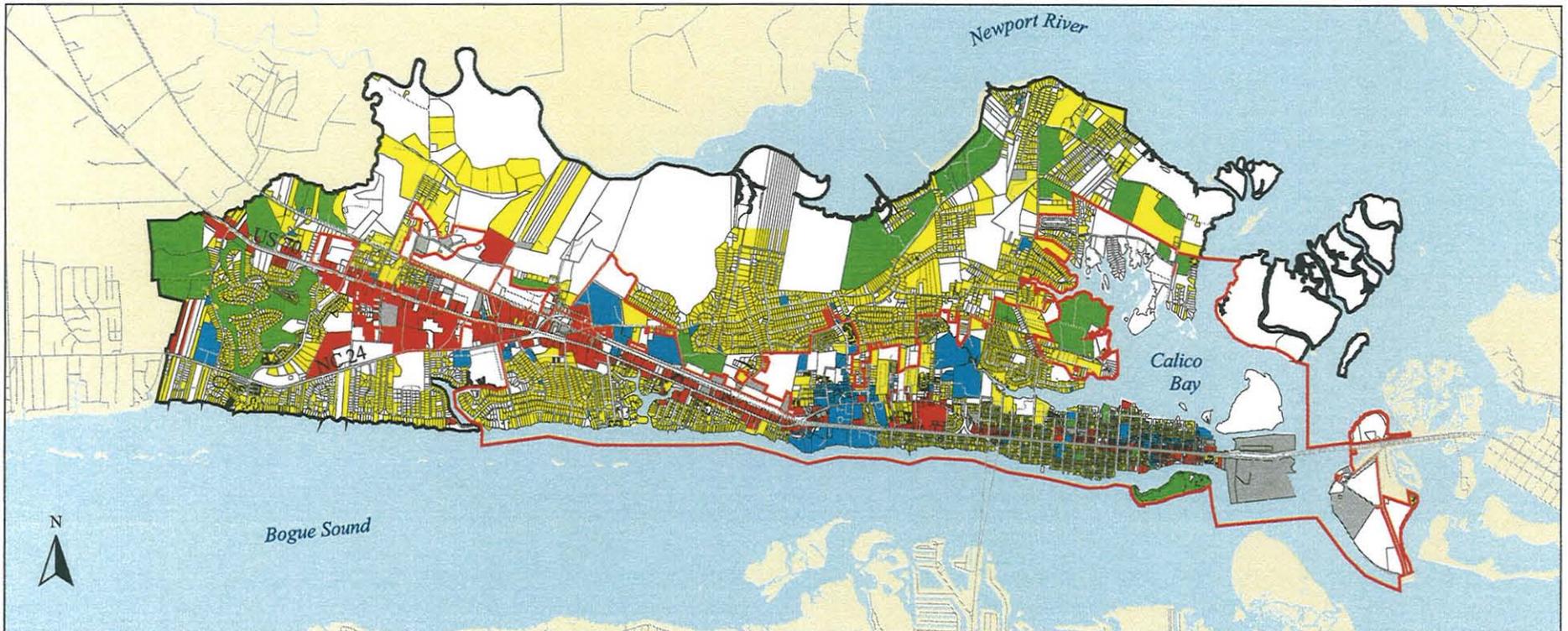
The following table shows the number of acres in each land use category by neighborhood:

Table 3.26
Morehead City Existing Land Use by Neighborhood (in acres)

Neighborhood	Residential	Commercial	Industrial	Institutional	Ag/Open Space	Undeveloped	Total Area in Neighborhood
1	47	36	217	32	53	297	682
2	109	1	0	5	2	7	124
3	92	24	11	74	2	50	253
4	161	65	11	138	0	103	478
5	752	7	10	102	36	1,308	2,215
6	162	82	3	6	146	208	607
7	859	5	6	17	317	1,487	2,691
8	503	38	25	1	53	1,188	1,808
9	466	22	0	51	290	384	1,213
10	93	313	30	5	46	310	797
Total	3,244	593	313	431	945	5,342	10,868
Percent of Total	29.8%	5.5%	2.9%	4.0%	8.7%	49.2%	100%

Over 50% of the total land area in Morehead City is developed. Vacant or undeveloped land makes up approximately 49% of the total area within the Morehead City planning jurisdiction. Approximately 60% of the developed area (30% of the total land area) within the Morehead City planning jurisdiction is in residential use. Commercial uses represent approximately 11% of the developed area (5% of the total), industrial uses comprise approximately 5% of the developed area (3% of the total) and institutional uses represent 7% of the developed area (4% of the total). Agriculture/open space (which includes farming operations, parks, recreation areas and golf courses) represents approximately 17% of areas considered as developed (9% of the total area). Figure 4, Existing Land Use shows the land use for each parcel in the planning area.

Since the 1999 update, the percentage of developed land used for residential purposes has decreased slightly from approximately 68% to about 60%, while all other uses have shown an increase. In general, there is potential for growth in all of the neighborhoods. In Neighborhood 1, further development of Radio Island is expected to occur, with a mix of industrial, residential and recreational uses. The downtown business area is expected to experience continued restoration and



The preparation of this map was financed in part through a grant provided by the North Carolina Coastal Management Program, through the funds provided by the North Carolina Coastal Management Act of 1972, as amended, which is administered by the Office of Ocean and Coastal Resource Management, National Oceanic and Atmospheric Administration.

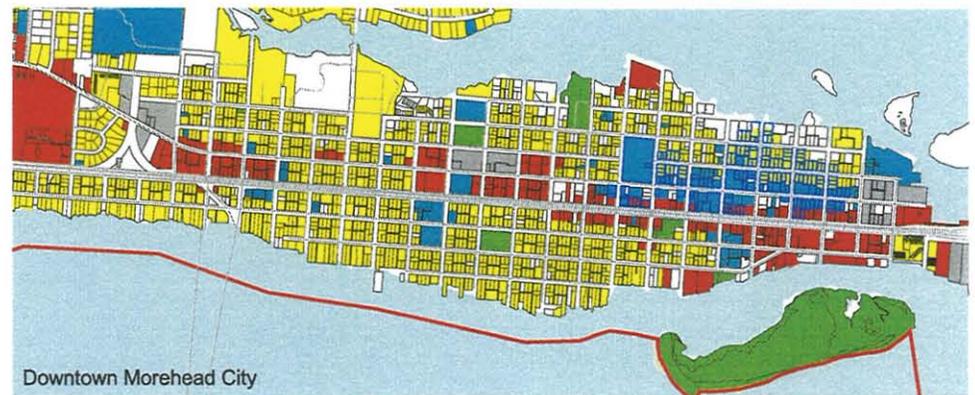
- Commercial
- Residential
- Agriculture/Open Space
- Institutional/Office
- Undeveloped

- Parcels
- City Limits
- ETJ
- Railroads
- Roads
- Water

**Figure 4: Existing Land Use Map
CAMA Land Use Plan Update
Morehead City, NC**



4000 0 4000 8000 Feet



redevelopment. Given the attractiveness of Morehead City as a retirement/second home destination and the rising monetary value of waterfront property, the established waterfront residential areas along the Bogue Sound and Calico Creek waterfronts in Neighborhoods 1, 2 and 3 are expected to experience redevelopment pressures. Neighborhood 4 has large amounts of undeveloped property, existing infrastructure, including improved roads and varied zoning, that will allow for mixed uses. The potential for low-density residential uses is strong in Neighborhood 5. Also in Neighborhood 5, the potential for light industrial and intense commercial uses are good along Bridges Street Extension. Neighborhood 7, particularly along the Country Club Road corridor, has good growth potential for low-density residential uses, provided that constraints to development can be overcome. Given the existence of numerous large undeveloped tracts, as well as the Crystal Coast Business Park, the potential for residential and industrial development is good in Neighborhood 8 in areas where adequate support utilities can be extended. The greatest potential for growth in Neighborhood 9 is continued low-density residential development. The potential for retail and commercial growth in Neighborhood 10 is high in areas where adequate utilities can be extended, particularly along the US 70 and NC 24 corridors. Industrial development is expected along Little Nine Road and the railroad.

3.3.3 Watershed Development

The level of development in a watershed is an essential consideration in developing land use policies to protect open shellfish waters and restore closed shellfish waters, as required by the Coastal Resources Commission. There is a link between the type and intensity of land use and nonpoint source pollution has been established.

The land area within the Morehead City planning jurisdiction is located within three small (14-digit hydrologic) watersheds. These watersheds do not correspond to municipal or county boundaries. Therefore, it is important to note that portions of these watersheds are not under the jurisdiction of the Town.

Table 3.27 shows the number of acres of each of these watersheds that are under Morehead City jurisdiction and the percent of these areas that are developed. The percentage calculations are based on the area that the town actually has the ability to influence. Other land exists in the watershed but it is under different planning jurisdictions. In this table, 'developed' includes agricultural areas as these areas can contribute sediment and pollutants to surface water, thus impacting water quality.

*Table 3.27
Watershed Development in Morehead City (in acres)*

Watershed	Land under Jurisdiction	Developed	Undeveloped	Percent Developed
03020106030070	9564 ac	4858 ac	4706 ac	50.8
03020106030060	367 ac	260 ac	107 ac	70.8
03020106030020	1346 ac	921 ac	425 ac	68.4

*Total acres of land in watershed exceed land use total acreage. Watershed development includes roads

3.3.4 Land Use and Land / Water Conflicts

Existing and potential land uses that have negative impacts on water quality are identified below:

- In recent years, a major compatibility problem has centered on land development in areas classified as wetlands (also referred to as non-coastal wetlands, freshwater wetlands and "404" wetlands). The delineation of wetland boundaries is often controversial and their presence can alter or preclude land development proposals. Consequently, the goal of protecting or preserving wetlands and water quality often conflicts with economic development objectives. To minimize the potential of this conflict, Morehead City has implemented a policy of reviewing all development plans with the regulatory branch of the US Army Corps of Engineers.
- The Town of Morehead City's Wastewater Treatment Plant discharges into Calico Creek, which is classified as a Primary Nursery Area. Due in part to a pattern of heavy rains in recent years, the facility has repeatedly exceeded its permitted limits. The Town has identified and implemented corrective actions, including removing sources of rainwater inflow and groundwater infiltration. The facility was previously under a sewer line moratorium. The purpose of the moratorium was to facilitate a sewer rehabilitation project that was started in June 2003. Sewer system improvements included in the project are expected to reduce extraneous infiltration from the system and hopefully improve water quality in Calico Creek.
- Stormwater concerns also impact the existing and planned road improvements that serve development in the Morehead City planning jurisdiction. The Carteret County Transportation Committee has recommended to the NCDOT that stormwater improvements for the Towns of Morehead City and Beaufort be included as a priority in the 2006-2012 Transportation Improvement Program. Stormwater drainage problems along US 70 (Arendell Street) from the state port to Carteret General Hospital and Carteret Community College are noted as a particular problem, although other roadways also experience stormwater drainage problems. The existing drainage system has deteriorated and is not large enough to handle stormwater runoff in many areas. This leads to ponding and hazardous driving conditions.
- Septic system failure problems exist with some of the older systems in the Town's extraterritorial jurisdiction, and affect water quality in nearby waters.

Potential and existing land use conflicts in the Morehead City planning jurisdiction include the following:

- Ongoing development of Radio Island may result in conflicts between industrial (state port-related), residential and recreational uses. The potential for hazardous uses would result in negative impacts on both residential and recreational uses, including quality of life issues and potential property devaluations.
- Continuing industrial development of the Crystal Coast Business Park may conflict with nearby existing and adjacent future residential uses. It

will be important to consider buffering requirements, potential rezonings and other tools to prevent these potential conflicts.

- Industrial uses in predominantly residential areas exist in parts of Morehead City. Of particular concern is the railroad “Y” area located on Arendell Street near the approach to the Atlantic Beach Causeway. Existing zoning would allow another industrial use on the site.
- Blighted areas, mostly consisting of dilapidated housing structures interspersed with newer, more expensive development, are scattered throughout the jurisdiction. This is a particular problem in the older waterfront areas of Neighborhoods 1, 2 and 3.
- The Town requires public waterfront street/alley ends on Bogue Sound to remain open for public access. Although some of the street ends have been improved, the resulting public access function has created some conflicts with neighborhood residents.

3.3.5 Land Needs Forecast

The following table provides short and long-term projections of residential land area needed to accommodate the projected future permanent and seasonal population projections. These land needs projections are based, in part, upon permanent population projections for Carteret County prepared by the NC State Data Center (Section 3.1.4 A) and on seasonal and peak population projections (Section 3.1.4 B.). The 7B Guidelines allow the projections of land needs to be increased by up to 50 percent to account for unanticipated growth and to provide market flexibility.

The table also projects commercial, industrial, and public and institutional land needs through 2025. Nonresidential land needs projections are based upon the proportional relationship of each of the nonresidential land use categories to total existing residential land as demonstrated in the existing land use patterns evaluated in Section 3.3.2, Existing Land Use. Commercially-used land represents about 18 percent of the existing residential acreage, industrially-used land approximately 15 percent, and public and institutionally-used acreage about 13 percent. The nonresidential land needs projections assume that these proportional ratios will remain constant in future years.

*Table 3.28 Land Needs Projections
Morehead City Planning Jurisdiction*

	2000-2005	2005-2010	2010-2015	2015-2020	2020-2025	Total 2000-2025
Projected Permanent Population	14,869	15,622	16,166	16,669	17,033	---
Permanent Population Increase	771	753	544	502	365	2,935
Permanent Dwelling Unit Increase*	378	369	267	246	179	1,439
Seasonal Dwelling Unit Increase**	36	36	26	24	17	139
Total Dwelling Unit Increase	414	405	292	270	196	1,577
Residential Acres Per Dwelling Unit***	1.0	1.0	1.0	1.0	1.0	---
Additional Residential Acres Needed	414	405	292	270	196	1,577
Total Residential Acres w/50% Adjustment	621	607	438	404	294	2,366
Additional Commercial Acres Needed	114	111	80	74	54	433
Additional Industrial Acres Needed	93	91	66	61	44	355
Additional Public and Institutional Acres Needed	83	81	58	54	39	315
* Assumes 2.07 pph						
** Assumes 12.6% of permanent du will be seasonal du						
*** Assumes 1.0 acre per du						
Nonresidential land needs projections are based upon the current approximate proportional relationship of each category of nonresidential land to residential land.						
Source: The Wooten Company, October 2006						

It appears that sufficient undeveloped land and redevelopable tracts currently exist within or on the immediate periphery of the current Morehead planning jurisdictional area to meet projected residential and nonresidential land needs through 2025.

3.4 Community Facilities Analysis

This section of the Land Use Plan analyzes the existing and planned capacity and adequacy of the water, wastewater, and transportation systems of Morehead City and its planning jurisdiction. Maps of the water, sewer and transportations systems are included in Appendix D.

The Water and Sewer Systems Map (see Figure 11 in Appendix D) shows the approximate location of the Town of Morehead City's water lines and sewer lines as well as water supply wells and storage tanks. Virtually all primary and secondary roads in the town have water and sewer lines, and portions of the ETJ are also served. Drainage system adequacy is briefly addresses in the transportation section. It is impossible to pinpoint the exact areas with drainage problems as only part of the drainage infrastructure within the city limits is mapped and there is very little data associated with it. Most surveys of the drainage systems note problems, such as ponding due to a clogged pipe, at the time of the survey but do not address long term issues.

3.4.1 Water

The Town of Morehead City's water system is operated as a division of the Public Utilities Department. Five wells located throughout the Town of Morehead City and its extra territorial jurisdiction (ETJ) provide raw water supply for the system (NCDENR 2002). The raw water is treated with chlorine and fluoride at each of the 5 wells before it enters the system. According to the 2003 Water Quality Report, the system had no violations and drinking water met or exceeded all federal and state requirements (Town of Morehead City-A 2003).

The town has approximately 4,944 metered connections. Of these connections, 82.3% are residential, 16.6% are commercial, 1.0% is institutional and 0.1% is industrial (NCDENR 2002).

The system has approximately 2.55 million gallons per day (MGD) of available supply (NCDENR 2002). Average daily use, according to the 2002 Town of Morehead City Water Supply Plan, is 1.178 MGD or 46.2% of the current available supply. The Public Utilities Department estimates the average daily demand will grow to 1.514 MGD in 2020 or 48% of the current available supply (NCDENR 2002). The future demand is below 80% of available supply, which is the maximum allowed without adding additional supply. The system has three storage tanks with a combined total storage of approximately 1.5 million gallons of water (NCDENR 2002).

According to the town's 2002 Water Supply Plan, the average annual daily water use was 1.178 MGD with a peak daily use of 1.870 MGD. The average annual daily use in 2002 was 0.540 MGD for residential uses, 0.299 MGD for commercial customers, 0.043 MGD for industrial uses and 0.083 MGD for institutional uses. Water used by the system accounted for 0.982 MGD and there was .016 MGD of unaccounted for water (leaks etc.)

Projected average daily demand is expected to increase from the current level of 1.178 MGD to 1.966 MGD by 2030, or to 63 percent of the total available supply. The projected average annual daily use in 2030 is expected to be 0.901 MGD for residential uses, 0.499 MGD for commercial customers, 0.072 MGD for industrial uses, and 0.138 MGD for institutional uses. Water used by the system in 2030 is estimated to account

for 1.638 MGD and there is anticipated to be 0.328 MGD of unaccounted for water (leaks etc.) Average daily water demand is not projected to exceed 63 percent of available supply through 2030.

The following table summarizes projected water supply demand and needs for the town's water system:

	2010	2020	2030
Year-Round Service Area Population	8,900	10,000	13,000
Seasonal Service Area Population	11,000	13,000	18,000
Total Service Area Demand, MGD	1.346	1.514	1.966
Total Available Water Supply, MGD	3.126	3.126	3.126
Total Average Daily Demand, MGD	1.346	1.514	1.966
Demand as Percent of Supply	43%	48%	63%
Additional Supply Needed to Maintain 80% of Available Supply, MGD	0.000	0.000	0.000

Source: Morehead City 2002 Water Supply Plan

Future system plans include adding a sixth well providing an additional 0.576 MGD of supply to the system in 2010 (NCDENR 2002). The location of this new well is currently undetermined. The Public Utilities Department has noted that the system may need additional water treatment to meet Tri-Halo Methane (THM) standards and/or color standards in the drinking water (NCDENR 2002).

3.4.2 Sewer

The Town of Morehead City's Wastewater Treatment Plant (WWTP) is also operated as a division of the Public Utilities Department. The facility is a permitted 1.7 million gallon per day (MGD) treatment plant which consists of primary clarifiers, trickling filters, secondary clarifiers and chlorination (Town of Morehead City-B 2003). The wastewater treatment plant has a design capacity of 2.8 MGD. The discharge receiving stream is Calico Creek in the White Oak River Basin.

The facility was previously under a sewer line moratorium that was imposed in April 1999 by the NC Division of Water Quality (NCDWQ 2004). Under this moratorium, limits were set for particular parameters under the National Pollutant Discharge Elimination System (NPDES) Permit could be relaxed for a time determined to be reasonable for making necessary improvements to the facility (NCDWQ 2004). The purpose of the moratorium was to facilitate a \$3,000,000 sewer rehabilitation project. This project began in June 2003 and includes replacement of approximately 250 manholes and five miles of sewer line to help reduce the inflow/infiltration of rainwater that enters the sewer collection system (Town of Morehead City-B 2003). This has resulted in the elimination of approximately 264,028 gallons per day of extraneous infiltration from the system (Town of Morehead City-B 2003). Additional work is anticipated to provide additional improvements toward meeting the goals of the project.

The normal hydraulic design of the wastewater treatment facility for the year 2030 is projected at 2.66 MGD, with facilities to handle individual day peak hydraulic loads of up to 4.0 MGD. In 2030 the land use breakdown will be as follows (based on current percentage of total use): for residential uses is 1.68 MGD, 0.86 MGD for commercial uses, 0.03 MGD for industrial use, 0.09 MGD for institutional uses, and 0.00 MGD for plant use and maintenance. It has been recommended that planning for proposed

improvements to the wastewater treatment facility tentatively provide for a daily hydraulic capacity of 3.0 MGD. In addition, it has been recommended that the wastewater treatment facility be designed to accommodate peak daily flows of 4.5 MGD.

In 2000 the Wastewater Treatment Plant was fined two times for limit violations at a cost of \$1040.55 for each violation (NCDENR 2004) (Town of Morehead City-B 2000). The facility repeatedly exceeded its permitted limit of 1.7 MGD in 2003 due to the area receiving 91.5 inches of rainfall (average annual rainfall is 55 inches per year.) The Town exceeded the monthly average Wastewater Treatment Plant flow for 8 of the 12 months. Future plans for the Wastewater Treatment Plant through 2010 include expansion of the facility infrastructure to treat 2.5 MGD (NCDENR 2002).

3.4.3 Transportation

The 1996 NC Department of Transportation (NCDOT) Transportation Improvement Program (TIP) listed two major highway projects that impact Morehead City. Both of these projects have been completed. The Bridges Street Extension from its previous terminus at Arendell Street westward to the US Highway 70 / NC Highway 24 intersection was completed in 1998. The second highway improvements project listed in the TIP involved the multi-lane widening of NC Highway 24 from Swansboro to US Highway 70 in Morehead City and was completed in 2001.

The NCDOT Transportation Improvement Program for 2004-2010 does not include any projects for Morehead City. The Carteret County Transportation Committee presented transportation priorities for the county to NCDOT in November of 2003 to be considered for inclusion in the 2006-2012 TIP.

The Committee report identified six priorities for the 2006-2012 Transportation Improvement Program. Five of these pertain to the US 70 corridor. Although only one priority would actually take place within the Town of Morehead City's planning jurisdiction, all of the projects will affect the municipality.

The highest priority recommended by the Carteret County Transportation Committee is the replacement of the Gallants Channel Bridge. The second priority for the County is the completion of bypasses at Clayton, Goldsboro, Kinston, and Havelock as well as projects between these cities so that Highway 70 will be a fully controlled-access freeway from Raleigh to the Port of Morehead City. The third priority involves widening and improvement of US 70 from Beaufort to East Carteret High School.

The fourth priority consists of stormwater improvements for Beaufort and Morehead City. The report notes there are stormwater drainage problems in the older sections along US 70 from the Port of Morehead City to Carteret General Hospital and Carteret Community College. The existing system has deteriorated and is not large enough to handle stormwater run-off in many areas. This leads to ponding of stormwater and hazardous driving conditions. Currently, a feasibility study is recommended as the scope of these needed improvements is beyond the capabilities of the NCDOT Division 2 budget. Priority five is the widening and improvement of the Newport River Bridge. Priority six is construction of the Northern Bypass from the Havelock Bypass to the Port of Morehead City. A preliminary environmental feasibility study identified three potential locations for the bypass.

The Carteret County Transportation Committee also reported on roads that were at or near capacity in the county in 1996. In the Morehead City planning jurisdiction, US 70 was near capacity from the western edge of the planning area to Old Murdock Road and from 24th to 4th Streets. It was at or over capacity from Old Murdock Road to 24th Street and from 4th Street to Radio Island. Other road sections near capacity include a section of Country Club Road less than one mile in length near the intersection with US 70, 35th Street between US 70 and Bridges Street, and Bridges Street near Barbour Road. Projections for 2025 show the above-mentioned road sections at or over capacity. Country Club Road from US 70 to N 35th Street and Bridges Street from 35th Street East to US 70 will be near capacity.

Comparing traffic volumes over time is a good indicator of areas where growth is occurring. For those roads monitored in the same location in 1999 and 2002, all but two (Bridges Street between 24th and 25th Streets and US 70 between 8th and 9th Streets) saw an increase in traffic volume (Table 3.29). The Transportation Systems Map (see Figure 12 in Appendix D) shows the locations of roads at or near capacity, roads over capacity and the locations of the traffic count points.

*Table 3.29
Traffic Volumes in Morehead City*

Location	1999	2002
West of the US 70/NC 24 Intersection	27,000	31,000
Country Club Rd near intersection with US 70	N/A	120
East of the US 70/NC 24 Intersection	30,000	32,000
Friendly Rd near intersection with US 70	N/A	5,500
US 70 east of intersection with N 35 th St	N/A	31,000
US 70 between N 35 th St and Taylor St	26,000	30,000
US 70 between 28 th and 30 th Streets	25,000	31,000
Bridges St between 24 th and 25 th Streets	14,000	13,000
US 70 between 19 th and 20 th Streets	N/A	25,000
US 70 between 8 th and 9 th Streets	21,000	21,000
Country Club Rd near the intersection with Tootle Rd	4,300	5,200
Mayberry Loop Rd between N 20 th St and Mizzell Rd	1,100	1,300
N 20 th St north of intersection with Golden Ln	3,500	3,700

Source: NCDOT 1999, NCDOT 2002

In 1992 NCDOT, in cooperation with the Towns of Morehead City and Beaufort, Carteret County and the Federal Highway Administration, completed the Morehead City / Beaufort Thoroughfare Plan. The planning period for the study extended through 2010. The 1992 Thoroughfare Plan has as its major objective improving operational efficiency through street system coordination and layout. The plan considered existing and projected conditions, including population statistics and projections, vehicle usage trends and transportation needs of the area. The study compared traffic volumes to road capacities, considered parking needs and identified problem areas as indicated by traffic accident records.

In addition to the capacity issues identified by the Carteret County Transportation Committee, the 1992 Thoroughfare Plan identified the following local areas which are at or exceed their practical capacity: NC 24 west of the US 70 / NC 24 intersection and the Causeway from Morehead City to Atlantic Beach. Projections by the NCDOT indicate

that by 2010, Barbour Road, 20th Street / Crab Point Road and a portion of Mayberry Loop Road will also be near or exceeding practical capacity.

Major recommendations contained in the 1992 Thoroughfare Plan include the following:

- A new east-west road in the Crab Point area
- An extension of Bridges Street westward past the US 70 / NC 24 intersection
- A new street tying Country Club Road to Arendell Street west of the Swinson Park area
- An interchange at the intersection of US 70 and NC 24

Additional transportation improvement goals and issues identified by Morehead City officials for the planning period include the following:

- Developing a connector road between US 70 and NC 24 in the vicinity of Little Nine Drive to provide a link between the Crystal Coast Business Park and NC 24 (Business Drive Extension has been completed to provide multiple access to industrial sites at the Business Park, convenient access to NC 24 will improve opportunities for further development of the Business Park)
- Straightening of the curve in the Mayberry Loop Road
- Decreasing the number of traffic lights on US 70
- Balancing the functionality of US 70 with rights of property owners to develop and redevelop property
- Promoting of the Morehead City waterfront as a destination of traveling boaters along the Atlantic Intracoastal Waterway
- Installing additional sidewalks along area streets / Morehead Alternative Transportation System (MATS)

Parts of MATS have been implemented since the last plan update and when complete will provide a network of sidewalks throughout the Town's planning area. A connected sidewalk system has been installed on the south side of Arendell Street from Rochelle Drive to the downtown area. Sidewalk construction is under contract to be constructed along portions of Country Club Road and Bridges Street Extension. Sidewalks are also planned along NC 24 within the town limits and into the ETJ.

Air service to Morehead City is provided by the county owned Beaufort–Morehead City Airport located in Beaufort, which provides three runways that accommodate single and twin engine aircraft. Commercial airports are located in nearby New Bern and Jacksonville. Rail freight service to the area is provided by Atlantic and East Carolina Railway. The Port of Morehead City provides water transportation services, specializing in bulk, break bulk and specialty cargoes. Commercial bus service is available to the area through Seashore Transportation Company (Trailways). Major truck lines serving Morehead City include Estes Express, Old Dominion, Roadway Express, Southeastern Freight and Yellow Freight.

3.4.4 Stormwater

The existing stormwater drainage facilities within the Town of Morehead City consist of a system of piping, catch basins, drainage ditches, and swales (see Figure 13 in Appendix

D). Approximately two-thirds of the 22.8 miles of stormwater piping consists of concrete pipes; the remainder is composed of vitrified clay, corrugated metal, PVC, and steel pipes. Pipe sizes range from 2 to 48 inches. Over half of the pipes are 12 to 15 inches in diameter. Of the total 1,080 catch basins in the storm drain system, a recent assessment determined that 80 percent functioned properly. Blockage, ponding, and structural problems were reported for the remaining 20 percent of the catch basins.

The Town's existing stormwater management program involves:

- Maintaining existing ditches.
- Building new city projects utilizing low impact development design techniques (i.e. Rotary Park).
- Updating stormwater facilities as part of street improvement projects. Such projects usually include the installation of underground storage facilities that allow seepage.
- Development of a draft stormwater management ordinance. The draft ordinance has not been adopted and implemented due to insufficient staffing to enforce the ordinance. Once the adequate staff is hired, adoption and administration of the ordinance is anticipated.
- Maintaining a database and maps of the existing stormwater system.
- Identifying illicit discharge areas.
- Reporting malfunctioning/poorly maintained stormwater ponds to the State.

The Town of Morehead City has agreed to the following voluntary mitigation measure to address the impacts of increased stormwater resulting from increased development associated with the expanded wastewater treatment plant capacity:

1. No sewer service to Sugarloaf Island, Haystacks Marshes, Newport Marshes (more specifically identified as being west of Northwoods Subdivision, north of Westhaven Subdivision and east of now/formerly Luther Jones property) and Phillips Island.
2. To the maximum extent practical, by the completion of the new wastewater treatment plant, the Town will proceed with voluntarily developing and implementing a local stormwater management program for the Town's entire jurisdiction designed to utilize measures identified in the State of North Carolina's NPDES Stormwater program including:
 - a. Public Education
 - b. Public Involvement
 - c. Illicit Discharge Detection & Elimination
 - d. Construction Site Stormwater Runoff Controls
 - e. Post Construction Stormwater Management.
 - f. Municipal Housekeeping & Pollution Prevention
3. Inventory potential opportunities for Clean Water Management Trust Fund grant applications which include identification of environmentally sensitive areas and pursue grant funding.

4. Pursue grants to enhance and complement the Advanced Identification of Wetlands mapping that was completed for Carteret County in the 1990's, including Morehead City.
5. Continued cooperative efforts between various state agencies and environmental groups to evaluate and improve stormwater management in Morehead City (i.e. Visitor's Center Stormwater Project).
6. No additional or enlarged stormwater discharge points into SA waters in accordance with State regulations.
7. In an effort to mitigate and reduce wastewater and existing stormwater discharges into Calico Creek, the Town will complete an inventory of existing stormwater discharges and evaluate retrofit opportunities prior to completion of the new wastewater treatment plant. It will also pursue projects such as the demonstration water reuse project which pipes discharge to a 5-acre sod area on North 25th Street. The Town will pursue grant funding to complete this study and to fund retrofit opportunities.
8. Pursue staff training to assist the state in monitoring stormwater projects. Implement a model 'Community Watch' system as an extension of the State's stormwater program and convey collected data to the Division of Water Quality.
9. Conduct a self-evaluation of existing ordinances and policies utilizing the Watershed Protection Manual provided by the Center for Watershed Protection.

3.5 Land Suitability Analysis

The land suitability analysis (LSA) is a process for identifying land in the Morehead City planning jurisdiction that is most suitable for development. The analysis is not intended to "rule out" any land or site from development. The LSA simply ranks land from least suitable to most suitable for development. It is intended to provide this information to local decision-makers in order to guide the formulation of local policies.

The LSA is based on consideration of several factors. These include the following:

- Natural features and their capabilities
- Existing development
- Compatibility with existing land uses
- Proximity/availability of community facilities
- Regulatory restrictions on land development

As part of the land suitability analysis, the CAMA Land Use Planning Guidelines require the development of a Land Suitability Map. The Division of Coastal Management (DCM), in conjunction with the NC Center for Geographic Information and Analysis, has provided a geographic information system-based model for analyzing land suitability and development of

the LSA map. This system utilizes the suitability factors shown in the table on the following page.

The LSA model puts land areas into one of four categories: least, low, medium, and high suitability. Areas that are the most undesirable for development, such as coastal wetlands, are placed into the least suitable category and cannot be weighted or changed in the model.

The remaining characteristics, such as soil septic suitability or proximity to water lines, are weighted as important, very important or extremely important in determining suitability. Using a weighting scale, the local planners and decision-makers can determine the relative importance of these characteristics. The chart below illustrates the weighting scale.

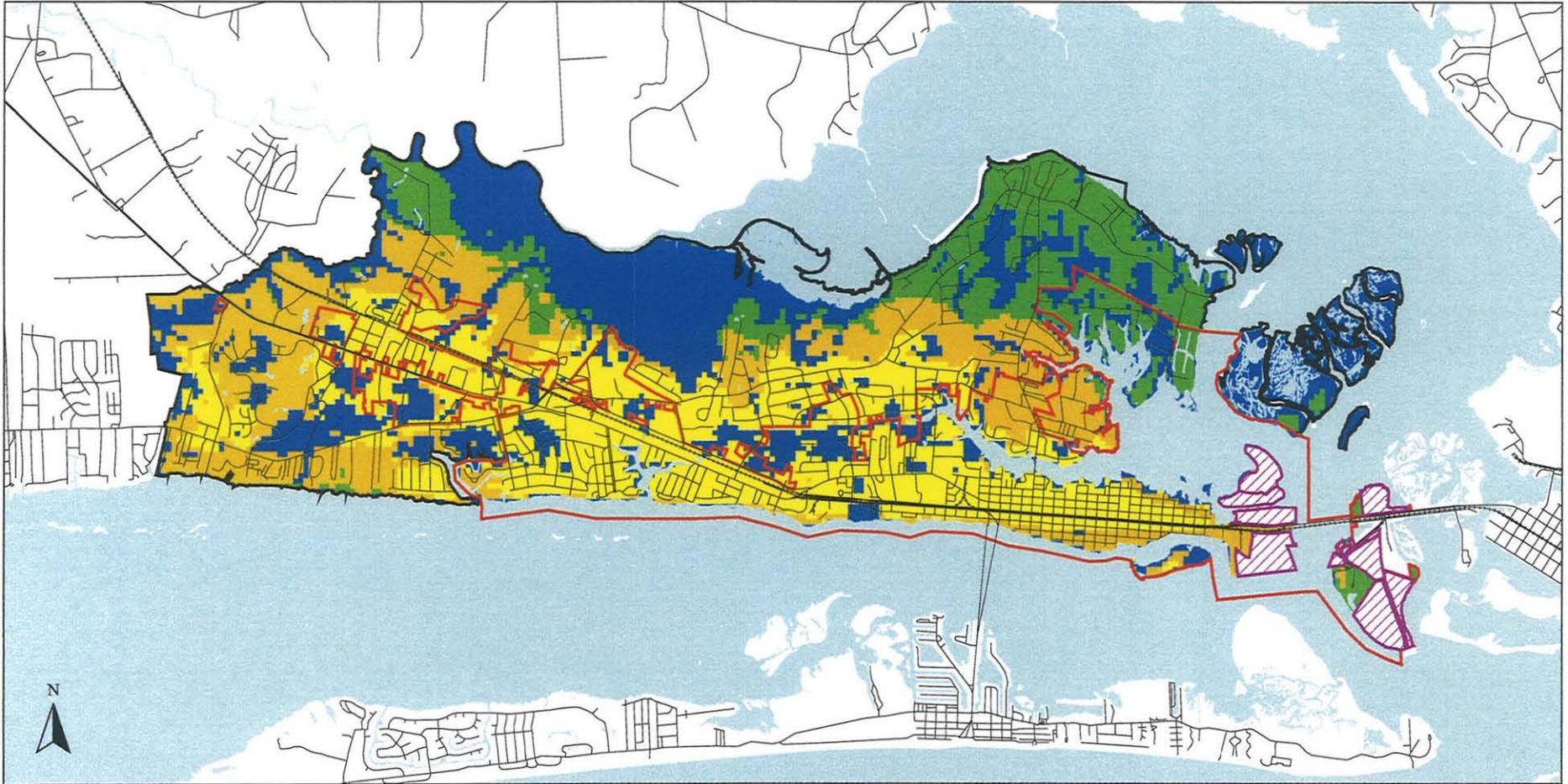
<u>Relative Importance</u>	<u>Numerical Weight</u>
Important	1
Very important	2
Extremely important	3

To develop the local LSA map, the Land Use Plan Advisory Committee assigned numerical weights indicating the relative importance of each factor. The following table represents the factors included in the analysis, the suitability rating of each factor and the locally assigned weights:

Table 3.30
Morehead City Land Suitability Analysis Weights

Suitability Factor	Least Suitable Rating	Low Suitability Rating	Medium Suitability Rating	High Suitability Rating	Local Assigned Weight
(A) Coastal Wetlands	Inside		Outside		n/a
(B) Exceptional & Substantial Noncoastal Wetlands	Inside		Outside		n/a
(C) Estuarine Waters	Inside		Outside		n/a
(D) Protected Lands	Inside		Outside		n/a
(E) Beneficial Noncoastal Wetlands		Inside		Outside	2
(F) High Quality Waters		Inside		Outside	1
(G) Storm Surge Areas		Inside		Outside	1
(H) Soils with septic limitations		Severe	Moderate	Slight	3
(I) Flood Zones		Inside		Outside	2
(J) Significant Natural Heritage Areas		<500'		>500'	1
(K) Hazardous Substance Disposal Sites		<500'		>500'	1
(L) NPDES Sites		<500'		>500'	1
(M) Wastewater Treatment Plants		<500'		>500'	1
(N) Sewer Discharge Points		<500'		>500'	1
(O) Airports		<500'		>500'	1
(P) Developed Land		>1 mi	.5 – 1 mi	<.5 mi	2
(Q) Primary Roads		>1 mi	.5 – 1 mi	<.5 mi	2
(R) Water Pipes		>.5 mi	.25 – .5 mi	<.25 mi	3
(S) Sewer Pipes		>.5 mi	.25 – .5 mi	<.25 mi	3

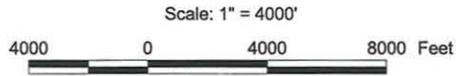
The suitabilities have been established in the LSA model by DCM. Factors in rows A through D are least suitable for development and cannot be weighted. However, the Land Use Plan Advisory Committee has determined the importance of each of the other factors (rows E through



The preparation of this map was financed in part through a grant provided by the North Carolina Coastal Management Program, through the funds provided by the North Carolina Coastal Management Act of 1972, as amended, which is administered by the Office of Ocean and Coastal Resource Management, National Oceanic and Atmospheric Administration.

- City Limits
 - ETJ
 - Railroads
 - Roads
 - Water
 - State Port
(not assessed as per Town of Morehead City)
- Land Suitability**
- least suitable
 - low suitability
 - medium suitability
 - high suitability

**Figure 5: Land Suitability Map
CAMA Land Use Update
Morehead City, NC**



S) and assigned weights (1, 2 or 3) to meet local goals and policies. Weights have been assigned based on the local government's determination of the importance of each factor as it relates to suitability to development. The following categories remained at their default classification: High Quality Waters, Flood Zones, Hazardous Substance Disposal Sites, NPDES Sites, Wastewater Treatment Plants, Sewer Discharge Points, Airports, Primary Roads, Water Pipes, and Sewer Pipes. The Soils with Septic Limitations factor was raised from a default assigned weight of 1 to a weight of 3. Beneficial Non-coastal Wetlands and Developed Land were both raised from a default weight of 1 to a weight of 2. Storm Surge and Significant Natural Heritage Areas were both lowered from a default weight of 2 to a weight of 1. Figure 5, Land Suitability Map shows the results of the land suitability analysis for the Morehead City planning jurisdiction.

The map shows four classes of land – least suitable, low suitability, medium suitability and high suitability. In general, the higher suitability areas are located along the Bogue Sound and Calico Creek waterfront areas, along major roads and areas served by water and sewer. According to the land suitability analysis, 15% of the undeveloped land in Morehead City is highly suitable for development. In addition, 13% is classified as medium suitability, and 13% is classified as low suitability. Over 58% of the undeveloped land in Morehead City is classified as least suitable for development.

State Port property, including portions of Radio Island, is identified on the map as it has statewide significance, but the Town's jurisdiction over these properties is limited. As shown in Table 3.27, federal lands fall into the least suitable category because of ownership.

3.6 Review of Existing Policies

The purpose of this section of the Land Use Plan is to evaluate how the 1999 Town of Morehead City Land Use Plan has been used to guide growth and development and the Town's success in implementing policies contained in the plan. Morehead City's approach to land use planning is different from most other local governments. The 1999 plan divided the planning jurisdiction into nine neighborhoods and incorporated specific policy statements for the individual neighborhoods, as well as citywide policy statements.

3.6.1 Resource Protection Issues

The main resource protection issues discussed during the development of the 1999 plan and reflected in the adopted policy statements include the following:

- Surface and groundwater quality
- Stormwater runoff impacts to water quality
- Long-term solutions to wastewater treatment and disposal
- Protection of Sugarloaf Island while allowing flexible use options
- Conservation of Phillips Island and the Newport Marshes
- Economic and environmental impacts of deepening Calico Creek
- Preservation of wetlands
- The implication of anticipated sea level rise

Overall, Morehead City's general policy relating to resource protection is to give the highest priority to the protection and management of the area's natural resources.

Since the adoption of the 1999 CAMA Land Use Plan, Morehead City has accomplished the following:

- Reviewed and adopted policies to encourage property owners to tie into the City's sewer system rather than using septic tanks
- Initiated a slip-lining project of old sewer lines to reduce the amount of extraneous inflow and infiltration into the City's waste treatment plant
- Extended sewer lines to properties that had failing septic systems
- Provided water and sewer service to property that was being developed with marginal soil capacity
- Conducted a storm water study for the corporate limits and the extraterritorial jurisdiction and worked towards meeting the Phase II requirements (although Morehead City is not a scheduled Phase II community)
- Developed an education program for utility customers to encourage water conservation and adopted incentive programs
- Purchased Sugarloaf Island to preserve it as a natural open space park with limited improvements
- Assisted the Federal Emergency Management Agency (FEMA) with the development and adoption of more accurate flood maps
- Continued participation in the FEMA Community Rating System and increased the flood insurance rate reduction to 10%

3.6.2 Economic and Community Development Policies

The main issues that were considered and addressed in the development of these policies were:

- Maintenance of low residential densities
- Impacts of high-rise development
- Redevelopment of downtown
- Infill development in established residential areas
- Commercial land use encroachment in residential areas
- Economic impact of the North Carolina State Port
- Strip commercial development management adjacent to US 70
- Impact of tourism
- Thoroughfare improvements
- Promotion of voluntary annexations
- Norfolk-Southern Railroad corridor
- Waterfront access
- Industrial development promotion

Morehead City's overall policy concerning economic and community development is to consider growth of the community as a desirable objective. Furthermore, the Town promotes only those types of development that do not significantly impact natural resources and which retain and maintain the Town's present character.

Morehead City has made the following advances regarding implementation of policies addressing the above-mentioned issues:

- Incorporated a review of the Land Use Plan as a part of the rezoning decision making process
- Amended the land development ordinances to allow for mixed use development
- Adjusted procedures to ensure the opportunity to develop affordable housing
- Updated the City's Thoroughfare Plan
- Provided financial and staff support to the Downtown Morehead City Revitalization Association, whose mission is to encourage redevelopment and restoration of the central business district
- Worked to develop additional on-street parking in the downtown area
- Extended water and sewer service to the Crystal Coast Business Park and helped coordinate the development of an industrial grade road leading to the park
- Continued cooperation with federal and state agencies relating to land development
- Developed and began implementation of a waterfront access plan.

3.6.3 Neighborhood Policies

As noted above, the 1999 Land Use Plan divided the planning jurisdiction into nine neighborhoods to address specific issues of the different areas.

Neighborhood 1: This is primarily the downtown area and most of the policy statements deal with improving and enhancing the neighborhood. Since the adoption of the 1999 Land Use Plan, Morehead City has:

- Supported the redevelopment and restoration of the downtown area by providing staff and financial support to the Downtown Morehead City Revitalization Association
- Amended ordinances to allow for mixed uses
- Worked to provide additional on-street parking and provided staff to serve on the downtown parking committee
- Studied alternative traffic patterns to increase available parking
- Continued to work with the NCDOT and NC Railroad to preserve the rail corridor by closing certain crossings along the US 70 corridor

Neighborhood 2: This area is located south of Arendell Street from 9th to 34th Street. Many of the policy statements for this neighborhood relate to preserving its residential characteristic by limiting commercial rezoning requests and maintaining the current use, density and building height requirements. The plan also contains a policy that waterfront street/alley ends should remain open for public access. Implementation measures include:

- Denial of rezoning requests to allow commercial development in this neighborhood
- Development of a waterfront access plan which requires public waterfront street/alley ends to remain open and improvement of some of the street ends in accordance with the Waterfront Access Plan

Neighborhood 3: This area is generally described as north of Arendell Street, south of Calico Creek, between 14th Street and Barbour Road. Three subareas include the

Highway 70 corridor, the Bridges Street corridor and residential neighborhoods. The policy statements speak to maintaining residential areas and providing adequate screening/buffering between residences and adjacent non-residential properties. Land use decisions in this neighborhood have been made in conjunction with these policies.

Neighborhood 4: This area can generally be described as south of Mandy Farms subdivision and west of Barbour Road, including Carteret General Hospital, Carteret Community College, the Medical Park and Madisen Parke Subdivision. The policy statements for this neighborhood include allowing mixed land uses, sidewalk/street improvements to Barbour Road and North 35th Street and reviewing all development plans with the Corps of Engineers to assure identification of wetlands. Since the adoption of the City's current land use plan, Morehead City has:

- Adopted MATS (Morehead Alternative Transportation System) which provides recommendations for sidewalk and street improvements in the general area
- Obtained funding through a DOT Enhancement Grant to construct a sidewalk/bicycle path (a phase of MATS)
- Continued to review development plans with the Corps of Engineers

Neighborhood 5: This is primarily a low-density residential area and includes Country Club East, Mandy Farms, Morehead City Country Club, Hedrick Estates, Northwoods, Westhaven, West Carteret High School, Morehead Primary and Swinson Park. The neighborhood policy statements include promoting low density housing in areas lacking public water/sewer, allowing medium density residential development if public water/sewer exists, limiting curb cuts on Bridges Street Extension and recognizing the siltation problem in the Newport River. Any development that has occurred in the area since the adoption of the 1999 update was completed only after a review of the neighborhood policy statements.

Neighborhood 6: This neighborhood is best described as south of Bridges Street Extension and west of Oak Drive, including Mitchell Village. Policy statements include discouraging commercial development along the Bogue Sound waterfront, coordination with NCDOT on providing sidewalks and landscaping along US 70, maintaining the character of existing residential areas, improving recreational opportunities and adopting regulations requiring connecting or shared parking lots to reduce curb cuts on US 70. Implementation includes the following:

- Extending water and sewer lines to newly annexed property to reduce the number of septic systems
- Worked with NCDOT to develop a sidewalk along the US 70 corridor and continue to develop it westward to the commercial areas of town
- Reviewed site plans to assure connected/shared parking lots
- Limited rezoning approvals were limited to those which maintain the current neighborhood characteristics

Neighborhood 7: This neighborhood is bounded on the south by Calico Creek, the north and east by the Newport River and the west by Country Club East and Mandy Farms. Policy statements for this neighborhood include promoting low density development in areas with no public water and sewer and allowing medium density

development in areas with public water and sewer, including mobile home parks. Traffic improvements along North 20th Street, Tootle Road and Mayberry Loop Road are also encouraged. Zoning in the Crab Point area to allow additional mobile home development is discouraged. Morehead City, since the adoption of the current land use plan, has:

- Amended the Thoroughfare Plan to address improvements to the above mentioned corridors
- Denied rezoning requests in Crab Point that would increase the number of manufactured housing developments

Neighborhood 8: This neighborhood is located west of Neighborhood 5 and includes the land north of Mitchell Village and Spooner's Creek. It also includes the land east and north of Brandywine Bay subdivision. It is generally referred to as Wildwood. Policy statements include working with the NCDOT on sidewalks and landscaping improvements, encouraging annexation of property to promote economic development, installation of water system improvements to promote economic and industrial development, improving recreational opportunities by developing a park, limiting curb cuts on US 70 and NC 24 by requiring interconnected parking lots and connecting the water mains between Morehead City and Newport. Since the adoption of the current land use plan, Morehead City has:

- Successfully completed improvements to the water system, including the construction of an elevated water tank
- Annexed the Crystal Coast Business Park into the Town limits
- Reviewed site plans for new commercial development to ensure they include interconnected parking lots
- Connected water mains between Morehead City and Newport, which will provide backup water supplies for each community

Neighborhood 9: This neighborhood includes Brandywine Bay and the land south of NC 24 to Mitchell Village. As with other primarily residential neighborhoods, policies encourage low-density development in the absence of public water or sewer, while medium density development is allowed where there is public water or sewer. Transportation policies encourage better connectivity between the residential developments along the NC 24 corridor and the extension of Little Nine Drive south to intersect with Highway 24. Implementation measures include:

- Reviewed neighborhood policy statements before approving any development since the adoption of the 1999 update
- Made efforts to develop a highway connection in the vicinity of Little Nine Drive between NC 24 and US 70

SECTION 4 PLAN FOR THE FUTURE

This section of the Plan is organized in accordance with the requirements of Subchapter 7B .0702(d). Section IV includes goals, land use and development policies, and a future land use map. This portion of the Plan is intended to guide the development and use of land within the Morehead City planning jurisdiction in a manner that achieves the community's goals as well as the goals of the Coastal Area Management Act program.

Within this section specific definition of terms used in the goals and policies are as follows:

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

Encourage: To stimulate or foster a particular condition through direct or indirect action the private sector or through Town 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 Town staff involvement at all levels of planning. This could include financial support.

Implement: Actions to guide the accomplishment of the Plan recommendations.

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.

Support: Supply the needed staff support, policies, and financial assistance at all levels to achieve the desired goal.

Work: Cooperate and act in a manner through the use of Town staff, actions, and policies to create the desired goal.

During the course of the preparation of the land use plan update, specific issues have been identified that the Town's goals and policies strive to address. The following table summarizes, by CRC land use plan management topic, those issues.

Table 4.0
Land Use Issues and Management Topics

Management Topic	Issue
<i>Public Water Access</i>	Providing for public water access to all segments of the community, including persons with disabilities.
	Development of comprehensive policies that provide access opportunities for the public along the shoreline within the planning jurisdiction.
<i>Land Use Compatibility</i>	Development of local development policies that balance protection of natural resources and fragile areas with economic development.
	Development of policies that provide clear direction to assist local decision making and consistency findings for zoning, divisions of land, and public and private projects.
	Compatibility of Town land use regulations in future municipal utility service areas.
	Development of land use and development policies that minimize adverse impacts on Areas of Environmental Concern (AECs) and which support overall CAMA goals.
<i>Infrastructure Carrying Capacity</i>	Establishment of service area boundaries for existing and future infrastructure
	Development of infrastructure service policies and criteria consistent with future land needs projections
	Correlating future land use map categories with existing and planned infrastructure such as water, sewer, and transportation facilities
	Ensuring that public infrastructure systems are appropriately sized, located, and managed so that the quality and productivity of AECs and other fragile areas are protected or restored
<i>Natural Hazard Areas</i>	Development of policies that minimize threats to life, property, and natural resources resulting from land development located in or adjacent to hazard areas such as those subject to erosion, high winds, storm surge, flooding, or sea level rise.
	Development of location, density, and intensity criteria for new, existing development, and redevelopment (including public facilities and infrastructure) so as to avoid or better withstand natural hazards.
	Ensuring that existing and planned development is coordinated with existing and planned evacuation infrastructure.
<i>Water Quality</i>	Development of policies to prevent or control nonpoint source discharges (sewage and storm water) such as impervious surface limits, vegetated riparian buffers, wetlands protection, etc.
	Establishment of policies and land use categories for protecting open shellfishing waters and restoring closed shellfishing waters.
	Adoption of policies for coastal waters within the planning jurisdiction to help ensure that water quality is maintained if not impaired and improved if impaired.
<i>Areas of Local Concern</i>	Identify and address local concerns and issues, such as cultural and historic areas, scenic areas, economic development, or general health and human service needs.

4.1 Land Use and Development Goals

The formulation of land use and development goals is based upon Morehead City's evaluation of its identified concerns and aspirations (Section 2 of this Plan) and the needs and opportunities identified in the analysis of existing and emerging conditions (Section 3 of this Plan). These land use plan goals were formulated after a review and analysis of the goals and objectives contained in the 1999 Town of Morehead City CAMA Land Use Plan (see Appendix J) and the Coastal Resource Commission (CRC) management goals and planning objectives

(see Appendix F). Delineation of goals is a foundation upon which policy statements can be built.

The following table summarizes the land use and development goals, organized by CRC land use plan management topic, that have been formulated by Morehead City.

<i>Table 4.1 Morehead City Land Use and Development Goals</i>	
Management Topic	Goals
<i>Public Water Access</i>	Provide adequate opportunities for public access to coastal waters
<i>Land Use Compatibility</i>	Balance growth and development and conservation/preservation of natural resources
	Promote land use and public infrastructure development that is compatible with land suitability as well as capabilities to provide requisite public services
	Promote land use and land development compatible with the functional purposes of Areas of Environmental Concern
<i>Infrastructure Carrying Capacity</i>	Promote land use and public infrastructure development that is compatible with land suitability as well as capabilities to provide requisite public services
<i>Natural Hazard Areas</i>	Conserve and maintain natural hazard areas
<i>Water Quality</i>	Maintain and enhance the water quality of coastal waters
<i>Areas of Local Concern</i>	Preserve historic and cultural resources
	Ensure compatible development along the downtown waterfront
	Provide a variety of housing opportunities
	Promote diversified economic development

4.2 Land Use and Development Policies

The formulation of land use and development policies is based upon a review and analysis of policy statements contained in the 1999 Morehead City CAMA Land Use Plan (see Section 3.6 of this Plan); an evaluation of identified concerns and aspirations (see Section 2 of this Plan) and the needs and opportunities identified in the analysis of existing and emerging conditions (see Section 3 of this Plan); input from the Land Use Plan Advisory Committee, local planning board, and elected officials; and input obtained through citizen participation efforts including public informational meetings, and Land Use Plan Advisory Committee meetings.

<i>Table 4.2 Morehead City Land Use and Development Policies</i>	
Management Topic	Land Use and Development Policies
<i>4.2.1 Public Access to Public Trust Waters</i>	
	Policy 1: It is the policy of the Town of Morehead City to ensure a variety of opportunities for access to public trust waters to all segments of the community, including persons with disabilities.
	Policy 2: Morehead City supports the state's shoreline access policies as set forth in NCAC Chapter 15A, Subchapter 7M and the goals and recommendations set forth in the town's Waterfront Access Plan. The town will conform to CAMA and other state and federal environmental regulations affecting the development of estuarine access areas.
	Policy 3: The town will continue to ensure that existing water access points,

*Table 4.2
Morehead City Land Use and Development Policies*

	including street ends and alleys, are not closed.
4.2.2 Land Use Compatibility	
	Policy 1: It is the policy of the Town of Morehead City to ensure that land use and development activities provide a balance between economic development needs and protection of natural resources and fragile environments.
	Policy 2: Morehead City will support growth and development at the densities specified in the Future Land Use Map land classifications as delineated in Section 4.5 of this plan.
	Policy 3: The town will promote the continued low-density residential development character of areas located on the fringes of the extraterritorial jurisdiction and in locations adjacent to identified fragile areas.
4.2.3 Infrastructure Carrying Capacity	
	Policy 1: It is the policy of the Town of Morehead City to coordinate the establishment of service area boundaries for existing and future water and sewer infrastructure with Carteret County, adjoining municipalities, and other utility providers.
	Policy 2: It is the policy of the Town of Morehead City to ensure that public infrastructure systems are sized, located and managed in accordance with the need to protect or restore natural resources and fragile environments.
	Policy 3: Public water and sewer will be required for all new development occurring within the town's corporate limits in areas in which municipal sewer service is available or can be made readily available.
	Policy 4: The town supports the use of water conservation practices and groundwater protection measures in order to prevent lowering the water table, to limit the quantity of wastewater generated, and to protect the quality of water.
	Policy 5: Package treatment plants may be permitted in areas in which municipal sewer service is currently unavailable and where the town has determined that the municipal sewer system is not likely to be extended in the future, provided that they conform to state permitting requirements and are designed for compatibility with the Morehead City sewer system in the event of ultimately tying into the town's system.
	Policy 6: The town will encourage land development in areas that currently have the necessary support infrastructure (water, sewer, streets, etc.) or where these services can readily be made available. Land development will be guided to areas that have public water and sewer services and an adequate street system to accommodate increased land development.
4.2.4 Natural Hazard Areas	
	Policy 1: It is the policy of the Morehead City to conserve the natural resources and fragile environments that provide protection from such natural hazards as floods and storm surges.
	Policy 2: It is the policy of the Town of Morehead City to minimize the threat to life, property, and natural resources that may result from land use and development within or adjacent to identified natural hazard areas.
	Policy 3: The Town will avoid zoning areas located in V-flood zones for high density residential or intensive nonresidential use.
	Policy 4: Based upon the availability of federal and state grant funds, land acquisition programs will be utilized in the most hazardous areas to minimize future damage and loss of life.
	Policy 5: If any portion of the Town's public infrastructure is significantly damaged by a major storm, consideration will be given to the feasibility of

*Table 4.2
Morehead City Land Use and Development Policies*

	relocating or modifying the affected facilities to prevent the reoccurrence of storm damage.
4.2.5 Water Quality	
	Policy 1: It is the policy of the Town of Morehead City to establish land use and development policies to help ensure that water quality in coastal wetlands, rivers, streams, and estuaries is maintained if not impaired and improved if impaired.
	Policy 2: Within the corporate limits, extension of water and sewer to areas in which poor soil conditions create septic field problems shall have the highest priority when the town undertakes system extensions.
	Policy 3: The town encourages voluntary annexation requests to facilitate adequate wastewater disposal in order to prevent the installation of additional septic systems and to improve environmental conditions, particularly in areas with poor soil conditions for subsurface sewage disposal systems.
	Policy 4: Morehead City will promote the use of best available management practices to minimize the degradation of water quality resulting from stormwater runoff; examples of these practices include using pervious or semi-pervious materials for driveways and walks, retaining natural vegetation along marsh and waterfront areas, and allowing stormwater to percolate into the ground rather than discharging it directly to coastal waters.
	Policy 5: Morehead City will ensure that developments locating adjacent to coastal waters make every effort to mitigate any adverse effects on riverine and estuarine water quality and on primary nursery and fish habitat areas.
	Policy 6: The Town of Morehead City supports retaining existing vegetation, creating buffers, and limiting impervious surface areas in new commercial developments to assist with managing stormwater runoff.
4.2.6 Areas of Environmental Concern	
General	Policy 1: The Town of Morehead City supports state and federal law regarding land use and development in AECs.
Coastal Wetlands	Policy 2: Morehead City considers coastal wetland areas to be valuable passive recreation areas. These areas should be protected in their natural state. Only uses which are permitted by 15A NCAC 7H will be allowed.
	Policy 3: Marina construction will not be permitted in coastal wetlands except in the case of an upland marina site requiring access dredging only and meeting state and/or federal permitting requirements for acceptable impacts.
	Policy 4: Coastal wetlands should only be filled in connection with activities or projects that are directly related to erosion control or water dependent uses. However, coastal wetlands should only be filled in extreme cases when a permit applicant has exhausted all means of avoiding coastal wetlands in development of the project plans, and only in cases where the filling of coastal wetlands would have an overwhelming public benefit and proper mitigative measures are to be incorporated in the project.
Estuarine Waters and Public Trust Areas	Policy 5: Morehead City supports the use standards for estuarine and public trust areas as specified in 15A NCAC .0207.
	Policy 6: Marina construction will be permitted in estuarine waters which are classified as primary nursery areas in accordance with the CAMA 7H Use Standards, local zoning, and other land use regulations.
	Policy 7: Dry stack storage boat facilities, either in conjunction with or independent of marina development, may be permitted in accordance with provisions of the Unified Development Ordinance. Water access to such facilities shall meet state and/or federal permitting requirements for acceptable

Table 4.2
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	<p>impacts on active shellfishing areas.</p> <p>Policy 8: Morehead City opposes the location of floating structures in primary nursery areas, outstanding resource waters, public trust areas, and estuarine waters except that floating structures are allowed in marinas and are required to have an approved sewage hook-up or a self-contained holding tank. Floating structures are defined as any structure, not a boat, supported by a means of flotation, designed to be used without a permanent foundation, which is used or intended for human habitation or commerce. A structure will be considered a floating structure when it is inhabited or used for commercial purposes for more than thirty days in any one location. A boat may be deemed a floating structure when its means of propulsion has been removed or rendered inoperative and it contains at least 200 square feet of living space area. A boat is defined as a vessel or watercraft of any type or size specifically designed to be self-propelled, whether by engine, sail, oar, or paddle or other means, which is used to travel from place to place by water.</p> <p>Policy 9: Public mooring fields shall be permitted in accordance with CAMA regulations.</p> <p>Policy 10: The town encourages marina siting and design which promotes proper flushing action. Such design features include locating marinas near inlets, maximizing the opening of entrance channels, and minimizing stagnant corners by using rounded corners, level bottoms sloping towards the entrance, and avoiding bends.</p> <p>Policy 11: Morehead City will permit bulkhead installation provided that all of the use standards of 15 NCAC 7H.0208(b)(7) are adhered to.</p> <p>Policy 12: Trawling activities in estuarine waters are not opposed by the town as long as such activities meet state and/or federal permitting requirements for acceptable impacts on the estuarine waters.</p>
4.2.7 Areas of Local Concern	
General	
	<p>Policy 1: Morehead City will promote the diversification of housing in varying types, densities, and costs to meet the demands of all income levels and age groups.</p> <p>Policy 2: The town will encourage voluntary annexations as a mechanism for promoting orderly city growth and utility extensions.</p> <p>Policy 3: Morehead City will continue to promote a variety of land uses which complement the residential, commercial, institutional, recreational and industrial needs of the community.</p> <p>Policy 4: Current residential densities will be maintained in order to preserve the overall low-density character of Morehead City's residential sector.</p> <p>Policy 5: The residential integrity of existing neighborhoods will be maintained by discouraging the encroachment of non-residential uses into such areas.</p> <p>Policy 6: Multi-family and higher density residential development will be encouraged at a moderate density range of six to sixteen dwelling units per acre. Such development will be guided to locations in which adequate water and sewer services and a sufficient street system are available. High-rise residential development will be encouraged only where emergency services can be adequately provided.</p> <p>Policy 7: In-fill development in existing residential areas will be encouraged only if it is compatible in density and scale to that in the surrounding area.</p> <p>Policy 8: Morehead City will encourage the redevelopment and restoration of the central business district as a retail, business and professional services,</p>

*Table 4.2
Morehead City Land Use and Development Policies*

	office, and commercial marine center of the community. The town will encourage uses which provide for a multi-purpose central business district which includes living space as well as shopping and services. The town will promote the adaptive reuse of buildings in the central business district.
	Policy 9: Neighborhood-oriented commercial development will be encouraged only in areas where such use is compatible with existing surrounding and anticipated residential areas and where the street system is adequate to accommodate commercial vehicular traffic.
	Policy 10: Industrial development will be encouraged in those sections of town with adequate public water and sewer services and vehicular access to a major arterial highway.
	Policy 11: The town encourages the continued operation and expansion of the Port of Morehead City.
	Policy 12: The town will promote the location of office and professional land uses in transitional areas between intensive nonresidential uses and residential neighborhoods.
	Policy 13: Any development located outside of the corporate limits requesting water and sewer service from the town will be required to petition for voluntary annexation to the town.
	Policy 14: Expansion of and improvements to the town's water and sewer systems will be planned through a capital improvements program and budget. Water and sewer impact fees will be utilized to assist in the financing of water and wastewater facility improvements.
	Policy 15: The town will encourage new commercial development to integrate design features that are compatible with Morehead City's existing architecture.
	Policy 16: The town will encourage the installation of landscaping improvements, pedestrian walkways, and bicycle paths along thoroughfares and city streets in accordance with the Morehead Alternative Transportation System (MATS) Plan.
4.2.8 Neighborhood-Specific Policies	
Neighborhood 1	
	Policy 1: Morehead City will encourage the redevelopment and restoration of the central business district as a retail, business and professional services, office, and commercial marine center of the community. The town will encourage uses which provide for a multi-purpose central business district which includes living space as well as shopping and services. The town will promote the adaptive reuse of buildings in the central business district.
	Policy 2: The town will cooperate with and assist the NCDOT and the Norfolk-Southern Railroad in preserving US 70 and the railroad as a vital transportation corridor.
	Policy 3: The town will continue to address the parking concerns and issues in the downtown area and will consider alternative traffic patterns as a possible solution to parking concerns.
	Policy 4: The town will continue to support the redevelopment of the Morehead City waterfront and business district, while supporting DMCRA projects.
	Policy 5: The town will work with the Corps of Engineers and the Division of Coastal Management to extend the Morehead City harbor line south of its present location in order to promote economic development in the downtown area.

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	Policy 6: The town will work to connect existing alleys and streets to improve development in the downtown area and make it more pedestrian friendly.
	Policy 7: The Town will encourage development of Radio Island with a good blend of residential, recreational and industrial uses, while only encouraging industrial uses that are not hazardous to or would diminish the value of the residential or recreational uses. The Town will continue to support activities on the State Port-owned properties.
	Policy 8: In an effort to promote tourism, the Town will explore opportunities to encourage the cruise ship industry in the area.
<i>Neighborhood 2</i>	
	Policy 1: The town will prohibit any commercial rezoning in the Evans and Shepard Street areas in order to limit commercial encroachment into residential areas.
	Policy 2: The creation of additional commercial districts on Arendell Street in Neighborhood 2 will also be discouraged by avoiding the rezoning of existing residential areas to commercial zoning districts.
	Policy 3: The current use, density, and building height requirements of the R5S classification will be maintained to ensure the existing character of the neighborhood.
	Policy 4: Street and alley ends that terminate at Bogue Sound will be kept open as public water access points.
<i>Neighborhood 3</i>	
	Policy 1: The town will encourage, through its unified development ordinance, screening and buffering between nonresidential uses and adjacent residences.
	Policy 2: The highest priority for the development of major vacant parcels located north of Fisher Street will be given to residential use.
	Policy 3: The town will promote the enhancement of the North 20th Street corridor as a major thoroughfare to improve access to the residential areas located in the northern section of town.
	Policy 4: Commercial rezonings that promote neighborhood retail and service uses will be closely evaluated to monitor impacts on community character and scale.
	Policy 5: The Town recognizes the problem with the siltation of Calico Creek and supports dredging efforts outside the Primary Nursery Area to eliminate the adverse impacts of siltation on the productivity of the waterbody.
<i>Neighborhood 4</i>	
	Policy 1: The review of development plans for tracts where potential wetlands have been identified will be coordinated with the US Army Corps of Engineers.
	Policy 2: Morehead City will continue to promote development in this neighborhood which is comprised of a variety of land uses--office and professional, medium-density residential, commercial, institutional, and medical.
	Policy 3: The Town will strive to maintain Barbour Road a south collector street and will discourage abutting developments that negatively impacts the functional capacity of the street.
	Policy 4: The town will pursue the installation of sidewalk improvements along Barbour Road, the North 35th Street Bridges Street.

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<i>Neighborhood 5</i>	
	Policy 1: The review of development plans for tracts where potential wetlands have been identified will be coordinated with the US Army Corps of Engineers.
	Policy 2: Low-density residential development will be promoted in those areas lacking public water and wastewater facilities.
	Policy 3: Medium-density residential development will be encouraged in those areas with public water and sewer, with vehicular access to major streets, and in transitional locations between intensive nonresidential uses and existing low-density residential uses.
	Policy 4: The town will pursue the installation of sidewalks and roadway improvements along Barbour Road and the North 35th Street corridor.
	Policy 5: The town supports the policy of limiting curb cuts on the Bridges Street Extension. New development will be encouraged to provide connecting and/or shared parking lots, if economically feasible, in order to reduce the number of curb cuts along the corridor.
	Policy 6: The town will evaluate the feasibility of improvements to Country Club Road and Friendly Road to improve traffic flow and will evaluate the need for a connector street west of Friendly Road to connect Bridges Street Extension and Country Club Road.
	Policy 7: The town recognizes the problem with the siltation of the Newport River and supports dredging efforts to eliminate the adverse impacts of siltation on the productivity of the river.
	Policy 8: Morehead City will work with the North Carolina Department of Transportation (NCDOT) on installing landscaping improvements, pedestrian walkways and bicycle paths from the NCDOT welcome station to the commercial areas located to the west.
<i>Neighborhood 6</i>	
	Policy 1: The town will discourage nonresidential development adjacent to the Bogue Sound waterfront within existing residential neighborhoods.
	Policy 2: Morehead City will work with the North Carolina Department of Transportation (NCDOT) on installing landscaping improvements, pedestrian walkways and bicycle paths from the NCDOT welcome station to the commercial areas located to the west.
	Policy 3: The current use, density, and building height requirements of the residential zoning classification in this neighborhood will be maintained to ensure the existing character of the area, unless developed as a Planned Development.
	Policy 4: The town will strive to improve recreational opportunities through the development of a park in the western section of town.
	Policy 5: New development, along the Highway 70 corridor, will be encouraged to provide connecting and/or shared parking lots, if economically feasible, in order to reduce the number of curb cuts along the corridor.
<i>Neighborhood 7</i>	
	Policy 1: The review of development plans for tracts where potential wetlands have been identified will be coordinated with the US Army Corps of Engineers.
	Policy 2: Low-density residential development will be promoted in those areas lacking public water and wastewater facilities.
	Policy 3: Medium-density residential development will be encouraged to locate in those areas with public water and sewer and with vehicular access

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	to major streets.
	Policy 4: The town will promote the enhancement of the North 20th Street corridor as a major thoroughfare to improve access to the residential areas located in the northern section of town.
	Policy 5: The town will promote traffic improvements on Tootle Road and Mayberry Loop Road through roadway realignment and through the installation of sidewalks and roadway improvements.
<i>Neighborhood 8</i>	
	Policy 1: Morehead City will work with the North Carolina Department of Transportation (NCDOT) on installing landscaping improvements, pedestrian walkways and bicycle paths from the NCDOT welcome station to the commercial areas located to the west.
	Policy 2: The town will encourage the annexation of adjacent areas to promote jobs and economic development.
	Policy 3: The town will study water system improvements, including the installation of an elevated water storage tank, to promote light industrial and economic development.
	Policy 4: The town will study landscaping and curb cut issues along the US Highway 70 and NC Highway 24 corridors. Along the Pond Drive and Business Drive extension, joint driveway cuts will be required and interconnect the roads if possible. This area will be more industrial than retail.
	Policy 5: The town will strive to improve recreational opportunities through the development of a park in the western section of town.
	Policy 6: New development, along the Highway 70 corridor, will be encouraged to provide connecting and/or shared parking lots, if economically feasible, in order to reduce the number of curb cuts along the corridor.
	Policy 7: Bridges Street Extension shall continue west to connect to Pond Drive/Business Drive.
<i>Neighborhood 9</i>	
	Policy 1: The town will discourage nonresidential development adjacent to the Bogue Sound waterfront within existing residential neighborhoods.
	Policy 2: Low-density residential development will be promoted in those areas lacking public water and wastewater facilities.
	Policy 3: The current use, density, and building height requirements of the residential zoning classifications in this neighborhood will be maintained to ensure the existing character of the area.
	Policy 4: Medium-density residential and mixed-use development will be encouraged in those areas with public water and sewer, with vehicular access to major streets, and in transitional locations between intensive nonresidential uses and existing low-density residential areas.
	Policy 5: The town will encourage better interconnection between residential developments located along the NC Highway corridor so that local residential vehicular traffic is not totally dependent upon Highway 24 for access and circulation.
	Policy 6: The town will support the extension of Little Nine Road from its present terminus southward to NC Highway 24 in order to improve access between Highway 24 and US Highway 70.
<i>Neighborhood 10</i>	
	Policy 1: Morehead City will work with the North Carolina Department of Transportation (NCDOT) on installing landscaping improvements, pedestrian

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	walkways and bicycle paths along US Highway 70.
	Policy 2: New development, along the Highway 70 corridor, will be encouraged to provide connecting and/or shared parking lots, if economically feasible, in order to reduce the number of curb cuts along the corridor.
	Policy 3: Low density residential development will be promoted in areas that do not have the adequate infrastructure (utilities and streets) to support intensive development.

4.3 Analysis of the Impact of Policies on Management Topics

The following table summarizes the general impact of the Morehead City land use and development policies on the CRC land use plan management topics.

Table 4.3
Impact of Local Policies on CRC Land Use Plan Management Topics

Policies	CRC Land Use Plan Management Topics					
	Public Water Access	Land Use Compatibility	Infrastructure Carrying Capacity	Natural Hazard Areas	Water Quality	Local Areas of Concern
<i>Public Water Access</i>	Positive					Positive
<i>Land Use Compatibility</i>		Positive	Positive	Positive	Positive	
<i>Infrastructure Carrying Capacity</i>		Positive	Positive	Positive	Positive	Positive
<i>Natural Hazard Areas</i>		Positive	Positive	Positive	Positive	
<i>Water Quality</i>		Positive		Positive	Positive	
<i>Areas of Environmental Concern</i>	Positive	Positive	Positive	Positive	Positive	
<i>Areas of Local Concern</i>	Positive	Positive		Positive		Positive

Note: Blank space in table indicates neutral impact. All local policies have been determined to have either a positive or neutral impact on CRC management topics. No specific actions or programs are required to mitigate negative impacts.

A general analysis of the impact of Morehead City's policies on the CRC land use plan management topics is provided below.

Public Water Access

Numerous water access points currently exist within the Morehead City planning jurisdiction. The Town's Unified Development Ordinance requires that waterfront subdivisions provide water access every one-quarter mile along the shoreline.

The *Morehead City Waterfront Access Plan*, adopted in 1998, identifies water access needs and potential locations for additional public water accesses. Additional water access improvements

are scheduled for FY 05 and FY 07. The Town's policies support the implementation of the *Waterfront Access Plan*.

The Town's policies encourage the provision of public water access and the continued assessment of its water access needs and opportunities for improving public water access. The Town's policies have a positive impact on the CRC public water access goals and objectives.

Land Use Compatibility

Overall, the Town's existing building intensities and densities are consistent with infrastructure availability and land suitability. Generally, the most intense development is located in areas with adequate water and sewer facilities and other support infrastructure and outside of sensitive natural environments.

The Town's policies provide for a balance of growth and the preservation of fragile environments. Development with acceptable impacts on natural resources and which is in harmony with the Town's existing character is encouraged. Town policies concerning Areas of Environmental Concern support state and federal law regarding development with AECs. Development is encouraged in those portions of the Town's planning jurisdiction that possess the support infrastructure necessary to sustain that growth.

Morehead City's policies support the implementation of the recommended sewer system improvements which will vastly improve the Town's ability to provide effective and reliable wastewater collection, treatment, and disposal systems. The Town's policies have a positive impact on the CRC land use compatibility goals and objectives.

Infrastructure Carrying Capacity

The Town of Morehead City supports managing and directing development in balance with the availability of municipal services. The most intensive land uses and highest residential densities are guided to those portions of the Town's planning jurisdiction that possess the support infrastructure necessary to sustain that level of development.

Within the next five years, Morehead City is anticipated to grow mainly to the north and west. However, infill development and redevelopment of existing developed properties are also expected to accommodate future short-term growth. The majority of the Town's future land development will be in areas that currently have the necessary infrastructure already in place or in areas where that infrastructure can be readily provided.

Morehead City's policies support the implementation of the recommended sewer system improvements which will vastly improve the Town's ability to provide effective and reliable wastewater collection, treatment, and disposal systems. The Town's policies ensure that public infrastructure is located and managed in harmony with fragile environments and natural resource areas. Morehead City's policies have a positive impact on the CRC infrastructure carrying capacity goals and objectives.

Natural Hazard Areas

Town policies encourage the conservation of natural resources and fragile environments that provide protection from natural hazards. Intensive nonresidential development and high density residential development is discouraged within areas susceptible to storm surge and flooding. Flood damage prevention policies encourage compatible development and redevelopment with flood hazard areas. The Town's policies have a positive impact on the CRC natural hazard areas goals and objectives.

Water Quality

The Town's policies support the maintenance, protection, and enhancement of water quality. Morehead City's policies support land development that has minimal adverse impacts on water quality. Best management practices are encouraged to minimize stormwater impacts. Town policies support the continued use of land in conservation-designated areas for appropriate land uses that are compatible with their fragile nature.

Morehead City's policies support the implementation of the recommended sewer system improvements which will vastly improve the Town's ability to provide effective and reliable wastewater collection, treatment, and disposal systems. Morehead City's policies also support the development of a stormwater management plan and ordinance. The Town's policies have a positive impact on the CRC water quality goals and objectives.

Local Areas of Concern

Morehead City's policies regarding local areas of concern support and have a positive impact on the CRC public water access, land use compatibility, and infrastructure carrying capacity goals and objectives. The Town's policies encourage increased public access, compatible development, and the redevelopment and restoration of the downtown and waterfront areas. Town policies also promote tourism-related economic development. Neighborhood policies encourage land use compatibility and intensity of development commensurate with available infrastructure.

Appendix G provides a more detailed analysis of the impact of Morehead City's policies on the CRC land use plan management topics.

4.4 Statement of Local Support Regarding Areas of Environmental Concern

The Town of Morehead City supports state and federal law regarding land use and development in Areas of Environmental Concern (AECs). Specific policy statements have been developed that support the general use standards of the North Carolina Administrative Code (15 NCAC 7H) for development within the estuarine system (see Section 4.2.6). No policy statements have been developed which exceed the requirements of CAMA regarding land use and development within AECs.

4.5 Future Land Use Map

The purpose of the Future Land Use Map is to graphically depict Morehead City's policies for growth and land development and the projected patterns of future land use. The Future Land Use Map has been prepared with consideration given to land development objectives and policies, natural constraints and limitations, overall land suitability, and the ability to provide the infrastructure to support growth and development.

The Future Land Use Map for the Morehead City planning jurisdiction encompasses the Morehead City corporate limits and the Town's extraterritorial planning and zoning jurisdiction.

The Town's Future Land Use Map classifications include the following categories and subcategories:

- Residential
 - Low Density Residential
 - Medium Density Residential
 - High Density Residential
- General Commercial
- Downtown Mixed Use
- Public and Institutional
- General Industrial
- Port Mixed Use
- Conservation/Open Space

Generally, growth and land development is anticipated to occur in all future land use categories except for the Conservation/Open Space classification. The type and intensity of projected development varies within each future land use map classification. Future Land Use projections are delineated in Figure 14, Future Land Use Map.

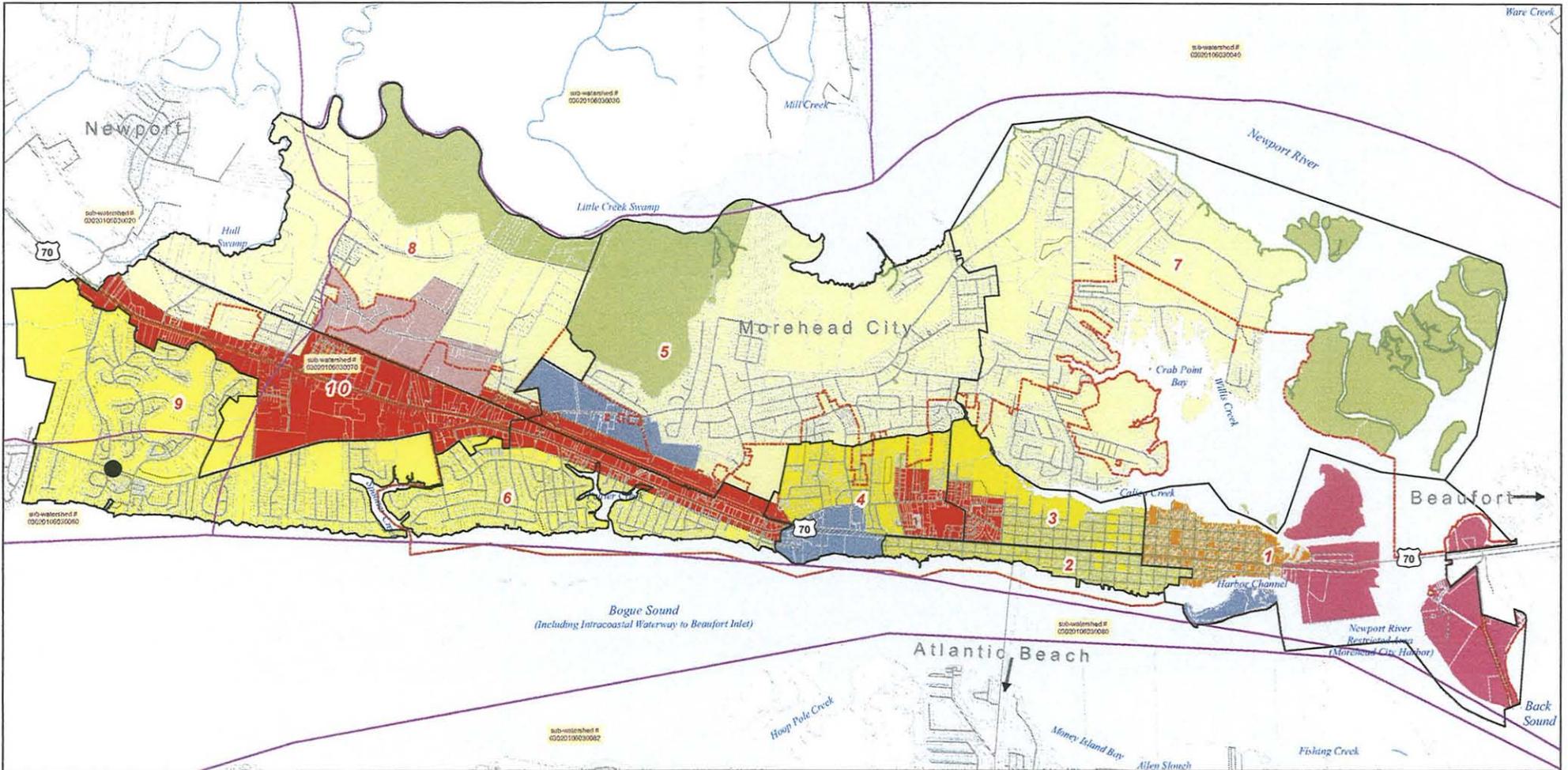
A. Residential Classification

The Residential classification is subdivided into three subcategories: Low Density, Medium Density, and High Density.

Low Density Residential Classification. The Low Density Residential classification encompasses approximately 5.8 square miles (3,691 acres) or about 38 percent of the total planning jurisdiction. The majority of the lands classified as Low Density Residential are located primarily in the northern one-half of the Town's planning jurisdiction and include the majority of Neighborhoods 5, 7, and 8.

The Low Density Residential classification is intended to delineate lands where the predominant land use is low density detached residences. The residential density within this classification is generally 2 to 2.5 dwelling units per acre. Minimum lot sizes vary from 15,000 to 20,000 square feet unless a larger minimum lot area is required by the health department for land uses utilizing septic systems. Single-family detached residences are the predominant types of dwellings within these areas. Manufactured homes on individual lots are also dwelling types found within this classification. Land uses within Low Density Residential-designated areas are generally compatible with the R-20, R-15, R-15M, and R-15SM, Single-Family Residential zoning classifications. Public water service is available on a limited basis throughout the Low Density Residential-classified areas. Public sewer service is generally not available within this classification.

The Town's goals and policies support the continued use of land in Low Density-classified areas for low density dwellings and for public and institutional land uses that support and that are compatible with this type of residential development. Future development is projected to be approximately 2 dwelling units per acre. Some Low Density Residential areas may evolve into higher density areas over time, particularly where public utilities and other infrastructure will be available to support increases in residential density.



MOREHEAD CITY, NC

Figure 14: Future Land Use



- | | | | |
|--------------------------------|----------------------------|-----------------------|--------------------------|
| Morehead City Corporate Limits | Future Land Use | General Commercial | Port Mixed Use |
| Morehead City ETJ | Low Density Residential | Downtown Mixed Use | Conservation/ Open Space |
| Neighborhood Boundaries | Medium Density Residential | Public/ Institutional | General Industrial |
| USDA Sub-watershed Boundary | High Density Residential | | |

The preparation of this map was financed in part through a grant provided by the North Carolina Coastal Management Program, through funds provided by the Coastal Zone Management Act of 1972, as amended, which is administered by the Office of Ocean and Coastal Resource Management, National Oceanic and Atmospheric Administration.

March 7, 2005



Medium Density Residential Classification. The Medium Density Residential classification encompasses approximately 2.3 square miles (1,454 acres) or about 15 percent of the total planning jurisdiction. The majority of the properties classified as Medium Density Residential are generally located in the southwestern portion of the Town's planning jurisdiction between Bogue Sound and US Highway 70 and include Neighborhoods 6 and 9.

The Medium Density Residential classification is intended to delineate lands where the predominant land use is higher density single-family residential developments, two-family developments, and multifamily developments. The residential density within this classification is generally 3 to 8 dwelling units per acre. Minimum lot sizes vary from 7,000 to 10,000 square feet unless a larger minimum lot area is required by the health department for land uses utilizing septic systems. Land uses within Medium Density Residential-designated areas are generally compatible with the R-10 and R-7 Single-Family Residential zoning classifications. Public water is widely available and sewer service is required to support the higher residential densities in this classification. Adequate streets to accommodate higher traffic volumes are also necessary to support Medium Density Residential development.

The Town's goals and policies support the use of land in Medium Density-classified areas for single-family and two-family dwellings where adequate public utilities and streets are available or can be upgraded to support the higher residential densities encouraged in this classification.

High Density Residential Classification. The High Density Residential classification encompasses approximately 0.7 square miles (448 acres) or about 5 percent of the total planning jurisdiction. The properties classified as High Density Residential are generally located west of the downtown in Neighborhoods 2, 3, and 4.

The High Density Residential classification is intended to delineate lands where the predominant land use is higher density single-family residential developments, multifamily developments, and planned mixed use developments. The residential density within this classification is generally 8 to 16 dwelling units per acre. Much higher densities, approaching 30-70 dwellings per acre are possible in Planned Development and Downtown Commercial zoning districts. Land uses within High Density Residential-designated areas are generally compatible with the RMF, Residential Multi-Family District; the Downtown Commercial; the PD, Planned Development District, and the R-5 and R-5S, Single-family Residential District zoning classifications. Public water and sewer service is required to support the residential densities in this classification. Adequate streets to accommodate higher traffic volumes are also necessary to support High Density Residential development.

The Town's goals and policies support the use of land in High Density-classified areas for single-family and multifamily dwellings where adequate public utilities and streets are available or can be upgraded to support the higher residential densities encouraged in this classification. The higher density residential developments anticipated to occur during the planning period are encouraged within the High Density-classified areas.

B. General Commercial Classification

The General Commercial classification encompasses approximately 1.4 square miles (881 acres) or about 9 percent of the planning jurisdiction. The properties classified as General Commercial are located along the Town's major road corridors-US Highway 70 and NC Highway 24. The majority of neighborhood 10 and the northern portion of Neighborhood 6 are classified as General Commercial.

The General Commercial classification is intended to delineate lands that can accommodate a wide range of retail, wholesale, office, business services, and personal services. Areas classified as General Commercial may also include some heavy commercial uses as well as intensive public and institutional land uses. While there are no minimum required lot size regulations, lot sizes typically range from 10,000 to 40,000 square feet. Land uses within General Commercial-designated areas are generally compatible with the CH, Highway Commercial; CS, Shopping Center; CN, Commercial Neighborhood; and CM, Commercial Marina zoning classifications. Public water service is needed to support the land uses characteristic of this classification. Public sewer service is needed to support the most intensive commercial uses. Adequate streets to accommodate higher traffic volumes are necessary to support commercial development.

General Commercial-classified areas are anticipated to accommodate some of the most intensive land uses found in the Town's planning jurisdiction. The Town's goals and policies support the use of land in General Commercial-classified areas for a wide variety of retail and commercial services uses where adequate public utilities and streets are available or can be upgraded to support the intensity of development encouraged in this classification. Public and institutional land uses that support and that are compatible with this type of commercial development are also encouraged.

C. Downtown Mixed Use Classification

The Downtown Mixed Use classification encompasses approximately 0.2 square miles (129 acres) or about 1 percent of the total Town planning jurisdiction. The properties classified as Downtown Mixed Use are located in and immediately surrounding the Morehead City Central Business District and the downtown waterfront area. The Downtown Mixed Use area is generally located includes the westernmost portion of Neighborhood 1.

The Downtown Mixed Use classification is intended to delineate properties that can accommodate a variety of retail, office, business services, and personal services. Areas classified as Downtown Mixed Use may also include medium and high density residences and public and institutional land uses, particularly government buildings and facilities. Multifamily densities are consistent with the current requirements of the Town's zoning ordinance which allows a density range of 8 to 69 dwellings per acre for planned developments. Residential building types encouraged within this classification include condominiums, cluster developments, and multifamily dwellings. The Downtown Mixed Use classification also specifically includes waterfront tourist-oriented land uses. While there are no minimum required lot size regulations, lot sizes typically range from 3,000 to 20,000 square feet. Minimum lot sizes are generally dependent upon the specific nature and characteristics of the land use but typically range from 10,000 to 40,000 square feet for residential land uses and 3,000 to 8,000 square feet for nonresidential land uses. Land uses within

the Downtown Mixed Use-designated areas are generally compatible with the CD, Downtown Commercial and the CMD, Commercial Marina Downtown zoning districts.

Public water and sewer service is needed to support the land uses characteristic of this classification. Adequate streets to accommodate higher traffic volumes are also necessary to support the intensive land uses within this classification.

The City's goals and policies support the use of land in Downtown Mixed Use-classified areas for a wide variety of retail and commercial services uses where adequate public utilities and streets are available or can be upgraded to support the intensity of development encouraged in this classification. Redevelopment of the downtown waterfront area for tourist-oriented mixed uses consisting of retail shops, places of entertainment, restaurants, boating services, and overnight lodging is promoted by the City's goals and policies.

D. Public and Institutional

The Public and Institutional classification encompasses approximately 1.2 square miles (744 acres) or about 8 percent of the total planning jurisdictional area. The majority of the properties classified as Public and Institutional are located in the south central portion of the Town's planning jurisdiction in the southwestern section of Neighborhood 4. Sugarloaf Island, located in Neighborhood 1, is also designated as Public and Institutional. The largest individual properties within the Public and Institutional classification include the Carteret General Hospital, the Carteret Community College, NC Divisions of Marine Fisheries complex, and the Carteret County Civic Center.

The Public and Institutional classification is intended to delineate large land areas that are used for intensive public and educational purposes. Land uses within this classification include primarily government buildings and service facilities, public recreational facilities, and public educational facilities. Some private office and institutional facilities may also be included within this classification. Minimum lot sizes are generally dependent upon the specific nature and characteristics of the land use but typically range from 5,000 to 40,000 square feet for low intensity uses to multiple acres for more intensive land uses. Land uses within the Public and Institutional-designated areas are generally compatible with the OP, Office and Professional and IC, Institutional Campus zoning districts. Generally, public water service is needed to support the land uses characteristic of this classification. Public sewer is needed to support the most intensive public and institutional uses. Adequate streets to accommodate higher traffic volumes are necessary to support the intensity of development expected within the Public and Institutional Classification.

E. General Industrial

The General Industrial classification encompasses approximately 1.0 square miles (663 acres) or about 7 percent of the planning jurisdiction. The properties classified as General Industrial are located in the west central section of the town's planning jurisdiction in the southern portion of Neighborhood 8.

The General Industrial classification is intended to delineate lands that can accommodate industrial and manufacturing establishments. Some heavy

commercial uses as well as services and businesses which support industrial land uses are also appropriate land uses within the General Industrial classification. While there are no minimum required lot size regulations, lot sizes typically range from 40,000 square feet to multiple acres. Minimum lot sizes are generally dependent upon the specific nature and characteristics of the land use. Land uses within the Industrial-designated areas are generally compatible with the IU, Unoffensive Industrial and IP, Port-Industrial zoning districts. Public water and sewer service is needed to support the land uses characteristic of this classification. Adequate streets to accommodate higher traffic volumes are necessary to support the intensity of development expected within the General Industrial Classification.

The General Industrial areas are expected to accommodate the majority of the future industrial growth projected for the planning period. Critical factors that will determine the development potential of these General Industrial-classified areas include market demand and the provision of the necessary support infrastructure (particularly public water and sewer utilities). Consequently, the development potential of the majority of the lands within the General Industrial areas may be more long-term than short-term.

The Town's goals and policies support the use of land in General Industrial-classified areas for a wide variety of manufacturing and heavy commercial services uses where adequate public utilities and streets are available or can be upgraded to support the intensity of development encouraged in this classification. Public and institutional land uses as well as commercial services that support and that are compatible with this type of industrial development are also encouraged. General Industrial-classified areas may include certain land uses which, due to their nature and characteristics, have potential adverse impacts on surrounding land use types. Consequently, the Town's objective is to ensure the compatible location of industrial land uses and to require the necessary measures to mitigate any adverse impacts.

F. Port Mixed Use Classification

The Port Mixed Use classification encompasses approximately 0.6 square miles (419 acres) or 4 percent of the total land area. The properties classified as Port Mixed Use include the NC Port Authority facility and Radio Island. Port Mixed Use-classified properties include all of the eastern section of Neighborhood 1.

Port Mixed Use-classified areas include the existing state port facilities as well as surrounding properties that are suitable for multiple land uses including industrial, commercial, and high density residential. Portions of the area identified as Port Mixed Use are potential growth areas that may develop primarily as one use type or may evolve into multi-use areas.

Industrial uses with this classification include marine port facilities, warehousing, and related uses. Commercial uses include a variety of support retail, office, business services, personal services, and marine-related uses. The anticipated residential density within this classification includes primarily high density developments. Residential building types encouraged within this classification include single-family attached dwellings, condominiums, and multifamily dwellings. While there are no minimum required lot size regulations, lot sizes typically range from 40,000 square feet to multiple acres. Minimum lot sizes are generally dependent upon the specific nature and characteristics of the land use but typically range from 10,000 to 40,000 square feet for residential land uses and 40,000 square feet to multiple acres for

nonresidential land uses. Land uses within the Port Mixed Use-designated areas are generally compatible with the IP, Port-Industrial and PD, Planned Development zoning districts. Public water and sewer service is needed to support the land uses characteristic of this classification. Adequate streets to accommodate higher traffic volume are necessary to support the intensity of development expected within the Port Mixed Use Classification.

The Town's goals and policies support the use of land in Port Mixed Use-classified areas for a range of industrial, commercial, and medium/high density residential uses where adequate public utilities and streets are available or can be upgraded to support the intensity of development encouraged in this classification. Public and institutional land uses that support and that are compatible with this type of mixed development are also encouraged.

While the Port Mixed Use areas are expected to accommodate future growth and development, they may or may not actually be developed during the planning period. Critical factors that will determine the development potential of these areas include market demand and the provision of the necessary support infrastructure (particularly public water and sewer utilities). Consequently, the development potential of the some of the lands within the Port Mixed Use areas may be more long-term than short-term.

In order to permit the type of mixed use development envisioned in this classification, the Town of Morehead City may have to prepare amendments to its existing Unified Development Ordinance to establish specific conditions and standards for such mixed use development.

G. Conservation/Open Space

Conservation/Open Space areas are scattered throughout the Morehead jurisdiction and include coastal wetlands, estuarine waters, estuarine shoreline, public trust areas, and '404' wetlands. Due to the small size of such areas, they are not individually identified on the Future Land Use Map. Generally, the precise location of such areas must be determined by field investigation. Conservation/Open Space areas that are delineated on the Future Land Use Map include the NC Coastal Land Trust tract located in the north central portion of the planning jurisdiction (in Neighborhood 5) and the Newport River Marshes and Phillips Island (in Neighborhood 7). These Conservation/Open Space-designated areas encompass approximately 1.9 square miles (1,229 acres) or approximately 13 percent of the planning jurisdictional area.

The Conservation/Open Space classification is intended to delineate areas where traditional land uses are not desirable or expected to develop. Land development may, however, include public building and facilities necessary to support existing land uses within the areas classified as Conservation/Open Space. Lot coverage is limited to 40% and building heights are limited to 35 feet. Land uses within the Conservation/Open Space-designated areas are generally compatible with the FP, Floodplain zoning district. Public water or sewer utilities are not needed to support the types and intensities of land uses in these areas. Extensions of water and sewer utilities into these areas are not expected or encouraged.

The Town's goals and policies support the continued use of land in Conservation/Open Space-classified areas for appropriate uses that are compatible with the fragile nature of the Conservation/Open Space areas. Traditional urban growth and development in such areas is discouraged. Conservation/Open Space areas are expected to retain their existing character over time.

Table 4.4
Future Land Use Map Calculations

Future Land Use Map Classification	Total Acres	% of Total Acres
Low Density Residential	3,691	38%
Medium Density Residential	1,454	15%
High Density Residential	448	5%
General Commercial	881	9%
Downtown Mixed Use	129	1%
Public and Institutional	744	8%
General Industrial	663	7%
Port Mixed Use	419	4%
Conservation/Open Space	1,229	13%
Totals	9,658*	100%

* Excludes street rights-of-way
Source: The Wooten Company, October 2006

4.6 Cost Estimates for Planned Community Facility Improvements

- Addition of a 6th well: \$300,000
- Wastewater collection, treatment, and disposal systems improvements: \$10 million
- Water and sewer system improvements to Causeway Area and Radio Island: \$200,000.
- Water and sewer system improvements along Little Nine Drive: \$100,000.
- Newport River Park Water Access: \$300,000
- Morehead City Water Access at 7th Street: \$250,000
- Continued implementation of the Waterfront Access Plan: \$250,000

Estimated total cost for all proposed capital improvements is \$11.4 million.

4.7 Consistency With Natural Systems and Land Suitability Analyses

The land use patterns depicted on the Future Land Use Map are consistent with the analysis of natural systems and the analysis of land suitability. The Future Land Use Map depicts very generalized patterns of projected land use. The intent of the map is to illustrate a typical pattern of use for a general area and not the specific use of an individual parcel. The Future Land Use Map is not intended for site-specific land planning or for regulatory purposes.

The northern and eastern portions of the Town's planning jurisdiction contain the greatest concentrations of natural constraints, primarily floodplains and wetlands. Major undeveloped areas with significant natural constraints and low suitability ratings within the Morehead City jurisdiction are designated as Conservation/Open Space on the Future Land Use Map. The majority of developed areas with significant natural constraints and low suitability ratings are designated on the Future Land Use Map for conservation/open space use.

Other Conservation/Open Space areas are scattered throughout Morehead City and include coastal wetlands, estuarine waters, estuarine shoreline, public trust areas, and '404' wetlands. Due to the small size of such areas, they are not specifically identified on the Future Land Use Map. Other areas with significant natural constraints and low suitability ratings are designated on the Future Land Use Map for low intensity land uses such as those anticipated to occur in the Low Density Residential classification.

The table below illustrates the amount of land area within the Morehead City planning jurisdiction by land suitability rating.

Suitability Rating	Total Acres	Percent
High	3,336.7	31.2%
Medium	2,250.0	21.0%
Low	1,511.6	14.1%
Least	3,599.6	33.7%
Totals	10,697.9	100.0%

Source: The Wooten Company, January 2005

Some portions of the projected use classifications shown on the Future Land Use Map may include land which is designated as having moderate or serious natural limitations or land which is rated as having low suitability for development. Inclusion of such areas within a specific projected future use classification does not denote a recommendation for future development. Rather, it means that while such areas are located within a broader general use pattern, their ultimate future use may be different from other properties because of their natural constraints and regulatory limitations. Some of the designated fragile areas may always remain in their current natural state or, if permitted by regulatory authority, may be altered and any negative impacts overcome through approved mitigation measures. Some of the areas currently designated as having low suitability for development may lose that rating over time as, for example, public utilities are installed and roads are constructed. Consequently, the future use of such areas, if the low suitability conditions are eliminated, will be in accordance with the broader general use classification.

Land development activity within most environmentally fragile areas is subject to local, state, and/or federal restrictions. Local land use regulations such as the Town's Unified Development Ordinance include specific standards for land development activities. Site-specific soil analyses are required by the Carteret County Environmental Health Department to evaluate the suitability of a particular parcel for septic system suitability. Encouraging good site planning principles and

best management practices can assist with mitigating the impacts of land development on environmentally fragile areas.

Development within the designated Areas of Environmental Concern is limited by CAMA regulations and development guidelines. Generally, the development standards for coastal wetlands, estuarine waters, and public trust areas permit only water-dependent uses such as navigation channels, dredging projects, docks, piers, bulkheads, boat ramps, groins, and bridges. Priority is, however, given to the conservation of these AECs. CAMA standards for estuarine shoreline development generally require that (i) the development not cause significant damage to estuarine resources; (ii) the development not interfere with public rights of access to or use of navigable waters or public resources; (iii) the development preserve and not weaken natural barriers to erosion; (iv) impervious surfaces not exceed 30 percent of the lot area located within the AEC boundary; (v) the development comply with state soil erosion, sedimentation, and stormwater management regulations; and (vi) the development comply with the CAMA Land Use Plans. Specific CAMA development standards for AECs can be found in 15 NCAC 7H.

The US Army Corps of Engineers is responsible for regulating non-coastal or '404' wetlands. Authorization must be obtained from the Corps prior to disturbing such wetlands.

Opportunities exist for the conservation of fragile areas and natural resource areas through both private and public means. Private land trusts and conservancies are tax-exempt organizations that acquire and preserve natural areas, open spaces, and historical properties. Such organizations offer mechanisms such as conservation easements to protect natural resources (natural habitats, places of scenic beauty, farms, forestlands, floodplains, watersheds, etc.) while also providing compensation and possible tax incentives to private property owners. Tax incentive programs, such as the North Carolina Conservation Tax Credit Program, provide opportunities for property owners donating land for conservation purposes to receive tax credits. State and local governments may also accept land donations for conservation purposes.

Public land use regulations, such as conservation design subdivision requirements, can be developed to assist with the conservation of environmentally sensitive areas and open space as land is being subdivided into building parcels.

The timing of the provision of infrastructure improvements, particularly water and sewer services and roads, will also have a tremendous impact on the rate and location of growth and development. Development will occur where infrastructure is available or can readily be made available to sustain that development. Consequently, achieving the Future Land Use Map land use projections will depend in large part upon if and when infrastructure is provided. The provision of public infrastructure generally depends upon capability to provide the service and demand for the service. Economic climate will be a major factor in the capability to make infrastructure available as well as the level of service demand.

4.8 Comparison of Future Land Use Allocations and Projected Land Needs

The following table provides a comparison of the amount of projected future residential land area with projected residential land needs.

**Table 4.6
Comparison of Future Land Allocation with Projected Needs**

		Existing Acres from the Existing Land Use Map	Gross Undeveloped Acres*	Projected Additional Acres Needed Through 2025
Gross Acres Allocated on the Future Land Use Map				
Residential**	5593	3244	2349	2366
Commercial	1010	593	417	433
Industrial	663	313	350	355
Public & Institutional	744	431	313	315

Source: The Wooten Company, October 2006

* Gross Future Land Use Map Acres less Existing Land Use Map Acres.

** Includes the allowable 50% increase in residential acreage to accommodate market flexibility and unanticipated growth (see Section 3.3.5, Land Needs Forecast).

Note that the 'Mixed-Use' future land use classifications have been omitted from the comparison table as a separate line item, as there is no corresponding category on the existing land use map. However, the Downtown Mixed Use and Port Mixed Use future land use category have been integrated into the Residential, Commercial, and Industrial Future Land use categories in the table. Mixed Use was divided according to the ratio of residential and nonresidential development which currently exists within the Town, with the assumption that the ratio will roughly continue. The breakdown results in the following division of the 548 acres of proposed Mixed Use: 123 additional acres added to the Commercial category, 398 acres to the Industrial category, and 27 acres added to the Residential category for comparison with existing land use acreage. Also, acreage adjustments have been made to some of the future land use map classifications to more accurately reflect multiple land uses that are accommodated within a single future land use classification such as a public and institutional land uses in residential classifications and industrial land uses in commercial classifications.

Based upon this comparison, the projected residential land needs through 2025 can be met with the estimated amount of available developable acreage in the current Morehead City jurisdiction. It should be noted, however, that some undeveloped land within the Town's jurisdiction containing developmental constraints can be utilized by employing mitigating measures. Therefore, a greater supply of land that will support development, with environmental mitigation techniques, exists than is delineated here.

Based on the water and wastewater capacity and projected needs through the year 2030 as outlined in Sections 3.4.1 and 3.4.2, the projected land use needs will be supported by the associated necessary water and sewer infrastructure. The improvements to each system that the town has planned within the next five years will support the associated growth.

The following table summarizes a hypothetical maximum buildout scenario and utility demand by future land use map classifications using assumed density and intensity levels as identified in the table:

**Table 4.7
Projected Utility Demand at Buildout**

Future Land Use Map Classification	Estimated Buildable Acreage	Average DU/AC	Maximum Projected DU	Average Nonresidential Lot Size (Acres)	Maximum Projected Nonresidential Users	Projected Water & Sewer Demand MGD*
Low Density Residential	2,411	2	4,822	na	na	0.964
Medium Density Residential	1,147	5	5,735	na	na	1.147
High Density Residential	388	12	4,656	na	na	0.931
General Commercial	664	na	na	1.0	664	0.332
Downtown Mixed Use	76	12	72	0.5	140	0.120
Public and Institutional	212	na	na	5.0	42	0.042
General Industrial	201	na	na	3.0	67	0.335
Port Mixed Use	247	12	252	20.0	11	1.365
Totals	5,346		15,537		924	5.237

* Based upon an average consumption of 200 gpd for residential users, 500 gpd for commercial users, 1,000 gpd for public and institutional users, and 5,000 gpd for industrial users

Source: The Wooten Company, October 2006; average consumption rates by the Town of Morehead City.

This hypothetical projection helps to illustrate the areas of Morehead City that have the greatest potential for intensive growth as well as the highest demand for water and sewer services.

4.9 Use of the Future Land Use Plan to Guide Development

In preparing the Future Land Use Map, consideration was given to land development objectives and policies, land suitability, and the ability to provide the infrastructure to support growth and development. The Future Land Use Map depicts the general location of projected patterns of future land uses. The Future Land Use Map is a plan or guideline for the future.

The ultimate use and development of a particular parcel of land will be determined by property owners' desires, overall market conditions, implementation tools employed by the Town to regulate land use and development (such as the Town's Unified Development Ordinance), the absence of specific natural constraints to development, and the availability of the necessary infrastructure (water, sewer, roads, etc.) to support development. Consequently, even though the Future Land Use Map may indicate a specific projected use in a particular location, many factors come into play to determine if the projected use is appropriate and the land can be developed as projected. Also, formal amendments to the Unified Development Ordinance will be required to specifically authorize the type of mixed use development envisioned in this Land Use Plan.

In the way of an example, the Morehead City Future Land Use Map indicates General Industrial use in the southern portion of Neighborhood 8. Thus, it has been determined through the Land Use Plan that the industrial use of property in this area is desirable and is expected to occur. However, the actual industrial use of a specific piece of property in this generally-identified area will depend upon the following:

- Is the property owner willing to use or sell the parcel for the proposed industrial use? Change of use or change of development intensity is, in most cases, initiated by the desires of the property owner.
- Is the parcel properly zoned for industrial use? If not, a rezoning must be requested and approved by the Town Council. In reviewing the rezoning request, the Town Council will determine if industrial use is appropriate and desirable for the parcel.
- If the parcel is already zoned for industrial use, a zoning and building permit must be requested and approved by the Town. The proposed use and layout of the proposed building will be reviewed to determine conformance with the Town's land use and development regulations and standards. Water supply and sewage disposal systems must be approved.
- In reviewing rezoning requests and zoning and building permit applications, site characteristics of the parcel will be a major consideration by the review and approval authority. Are site characteristics such that the parcel can be physically used for the proposed industrial use? Do poor soils, poor drainage, wetlands, flood hazards, etc. limit the use of all or a portion of the parcel for industrial development? Can adverse site conditions be overcome or mitigated in accordance with Town, County, State, and Federal regulations? The allowable building intensity and density of development may need to be reduced to ensure compatibility with existing site conditions.
- Are adequate utilities in place to support the proposed industrial use? If adequate utilities are not in place, improvements will have to be planned, approved, and extended to the parcel in accordance with Town, County, State, and utility provider standards and regulations. Are improvements and extensions economically feasible?
- Are adequate roads in place to provide access to the parcel? If new roads or improvements to existing roads are needed, they will have to be planned, approved, and constructed in accordance with Town and NCDOT standards.

Achieving the projected patterns of land use indicated by the Future Land Use Map will be greatly impacted by timing. Much of the projected land use indicated on the Future Land Use Map will not come to fruition without market demand. Therefore, market and economic conditions must be conducive for growth and development. While the Land Use Plan attempts to provide a general expectation of growth based upon projected population change, it simply cannot predict the economic future. The demand for houses, businesses, industries, etc. will fluctuate widely with economic conditions.

The timing of the provision of infrastructure improvements, particularly water and sewer services and roads, will also have a tremendous impact on growth and development. Development will occur where infrastructure is available or can be made available to sustain that development.

Consequently, achieving the Future Land Use Map land use projections will depend in large part upon if and when infrastructure is provided. The provision of public infrastructure depends upon capability to provide the service and demand for the service. Economic climate will be a major factor in both the capability to make infrastructure available and the level of service demand.

SECTION 5 TOOLS FOR MANAGING DEVELOPMENT

This section of the Plan is organized in accordance with the requirements of Subchapter 7B .0702(e). Section V includes a description of the Town of Morehead City land management tools and programs as well as the actions and strategies that the Town will use to implement the Land Use Plan.

5.1 Guide for Land Use Decision-making

The Land Use Plan, as adopted by the elected officials of the Town of Morehead City and as may be amended from time to time, will serve as the primary guide upon which to make land use policy decisions. Every land use policy decision, such as a rezoning request or approval of a conditional or special use permit, will be measured for consistency with the goals, policies, and recommendations of the Plan. The elected officials, Planning Board, Board of Zoning Adjustment, and Town staff should utilize the Land Use Plan as the basic policy guide in the administration of the zoning ordinance, subdivision regulations, and other land development regulatory tools. Persons involved in the land development business as well as the general public can also utilize the Land Use Plan to guide private decisions regarding land use and land development.

The policy statements and recommendations of the Land Use Plan can also be of assistance to the elected officials in making long-range decisions regarding such matters as the provision of municipal services, thoroughfare planning, stormwater planning and management, implementation of economic development strategies, recreational facility planning, and preparation of capital and operating budgets. It should be noted, however, that the Land Use Plan is one of a variety of guides in making a public policy decision. The Plan should be viewed as a tool to aid in decision making and not as the final decision.

Additional information regarding utilizing the Land Use Plan to guide development is provided in Section 4.9.

5.2 Existing Land Use and Development Management Program

Morehead City's existing land development management program includes the following land regulatory ordinances and related plans:

- Unified Development Ordinance.
- Airport Height Regulations for the Michael J. Smith Field, 2000.
- CAMA Land Use Plan Update, Certified in May 1999.
- Waterfront Access Plan, 1998.
- Hazard Mitigation Plan, 2004.
- Parks and Recreation Master Plan.
- Utility extension policies and requirements.
- Crystal Coast Thoroughfare Plan.

The Town's land development management program is administered primarily by the Town of Morehead City Planning Department. The Town's land development regulations are applicable to all land areas located within the Morehead City planning and zoning jurisdiction. The Town of

Morehead City Planning Department provides staff support for the Morehead City Planning Board and the Morehead City Board of Adjustment. The Planning Board serves primarily in an advisory capacity, making recommendations to the Town Council on zoning and subdivision matters. The Board of Adjustment is responsible for hearing requests for special use permits as well as requests for appeals and variances from the zoning ordinance. The Town Council's responsibilities in the zoning process include adopting and amending the zoning ordinance text and map and making approval decisions regarding applications for planned residential developments. The Town Council is also responsible for making approval decisions on all preliminary and final subdivisions.

Building inspections throughout the Morehead City jurisdiction are administered by the Town of Morehead Inspections Division.

5.3 Additional Implementation Tools

5.3.1 Amendments or Adjustments to Existing Land Development Ordinances

Amendments to land development ordinances necessary to ensure consistency with the Land Use Plan include the following:

- UDO amendment regarding building heights and residential densities.
- UDO amendment regarding retaining existing vegetation, buffers, and tree preservation.
- UDO amendment regarding design guidelines for commercial development.
- UDO amendment regarding sign standards and requirements.

5.3.2 Capital Improvements

Proposed water and wastewater systems capital improvements include the following:

- Addition of a 6th well: \$300,000.
- Wastewater collection, treatment, and disposal systems improvements: \$10 million.
- Water and sewer system improvements to Causeway Area and Radio Island: \$200,000.
- Water and sewer system improvements along Little Nine Drive: \$100,000.

In addition, proposed public water access and recreation facilities improvements include:

- Newport River Park Water Access: \$300,000.
- Morehead City Water Access at 7th Street: \$250,000.
- Continued implementation of the Waterfront Access Plan: \$250,000.

Estimated total cost for all proposed capital improvements is \$11.4 million.

5.4 Implementation Plan and Schedule

The Town of Morehead has developed the following action plan and schedule to implement the Land Use Plan.

5.4.1 Public Water Access Implementation Actions

1. **FY 05:** Morehead City Water Access at North 7th Street improvements.
2. **FY 07:** Newport River water access improvements.
3. **Ongoing:** The town will require, through its Unified Development Ordinance, provisions for common water access in waterfront subdivisions and public water access for major residential developments which adjoin a waterfront for a distance of 1200 feet or more.
4. **Ongoing:** Review, through the subdivision plat and site plan review and approval process, proposed waterfront land development projects to ensure consistency with the town's Waterfront Access Plan and the town's public access goals and policies.

5.4.2 Land Use Compatibility Implementation Actions

1. **Ongoing:** Review the Unified Development Ordinance and other Town land use and development regulations and policies to ensure that residential densities and building intensities are consistent with the Town's land suitability goals and policies. Prepare revisions and updates as determined appropriate. Coordinate the review with the Carteret County Health Department.
2. **Ongoing:** In areas where municipal sewer service is unavailable and the soils are identified as having severe limitation for urban development, major new development shall be required, through the town's unified development, prior to approval, to present data indicating how the limitation can be mitigated. Major development is defined as shopping centers, office parks, planned unit developments, multi-family complexes, industrial parks, and any residential subdivision that includes more than 5 acres.

5.4.3 Infrastructure Carrying Capacity Implementation Actions

1. **FY 08:** Water and sewer improvements along Little Nine Mile Drive.
2. **FY 09:** Water system improvements to the Causeway and Radio Island.
3. **FY 10:** Addition of a 6th well to the town's water system.
4. **Ongoing:** Utilize the Land Use Plan, Unified Development Ordinance, and utilities extension policies to guide public infrastructure and services to areas where growth and development are desired.
5. **Ongoing:** The town will continue to review and evaluate its current water and sewer extension policies to determine if revisions are necessary to better encourage new development located outside of the existing service area to utilize the town's water and sewer system.
6. **Ongoing:** In order to discourage additional septic system use in areas where municipal sewer service is currently unavailable, major subdivisions (subdivisions of 5 or more lots) will be required, through the town's unified development ordinance, to contact the town during the subdivision review process to discuss municipal sewer availability and the feasibility of extending the town's sewer system to the subdivision.

5.4.4 Natural Hazard Areas Implementation Actions

1. **Ongoing:** The Town will review its Unified Development Ordinance and flood damage prevention ordinance to determine if more specific locational and density regulations regarding development or redevelopment activities within identified flood hazard areas and storm surge areas are warranted. Issues to be addressed include restrictions on land uses that utilize or store hazardous materials on-site, establishment of riparian buffers, increasing the minimum freeboard height above base flood elevation, etc.
2. **Ongoing:** Coordinate the review and approval of development plans for major subdivisions, multifamily developments, and large public and institutional uses located within identified natural hazard areas with the County Emergency Management Agency. Continue the active enforcement of the State Building Code provisions regarding wind-resistance requirements and participation in the National Flood Insurance Program.
3. **Ongoing:** The town will continue to enforce the Flood Damage Prevention Ordinance which requires new construction to be elevated at least one foot above the established 100-year flood elevation.
4. **Ongoing:** The town will continue to participate in the Federal Emergency Management Agency's Community Rating System Program which results in lower flood insurance rates.
5. **Ongoing:** The town will continue implementation of the action plan contained in the 2004 Morehead City Hazard Mitigation Plan

5.4.5 Water Quality Implementation Actions

1. **FY 06:** Begin wastewater collection, treatment, and disposal systems improvements.
2. **FY 07:** UDO amendment regarding retaining existing vegetation, buffers, and tree preservation.
3. **FY 08:** Pursue grant funding for retrofitting existing stormwater discharges.
4. **FY 10:** Implementation of a stormwater management program.
5. **Ongoing:** The Town will continue to require, through its subdivision regulations, adequate stormwater drainage systems for new developments. The Town will continue to promote the use of best management practices to minimize the degradation of water quality resulting from stormwater runoff. The Town will continue to coordinate the approval of land development projects with the applicable State agencies.

5.4.6 Areas of Environmental Concern Implementation Actions:

1. **FY 06:** Sugarloaf Island improvements regarding environmental education.
2. **FY 10:** Pursue Clean Water Management Trust Funds grants for identification of environmentally sensitive areas.
3. **Ongoing:** The Town will review its Unified Development Ordinance to determine if revisions are needed to include additional protective measures for AECs.

5.4.7 Areas of Local Concern Implementation Actions:

1. **FY 07:** UDO amendment regarding building heights and residential densities.
2. **FY 07:** UDO amendment regarding design guidelines for commercial development.
3. **FY 08:** Coordinate an annexation boundary agreement with the Town of Beaufort.
4. **FY 06:** Review UDO regarding sign standards and requirements.
5. **Ongoing:** The Town will prepare a comprehensive community services/facilities plan. This plan will identify major municipal services and facilities needs and deficiencies, prioritize those needs, and prepare cost estimates and a budgeting plan for the recommended improvements.

5.5 Description of Public Participation Activities to Assist in Monitoring Plan Implementation

The Town of Morehead City has developed the following action plan to assist in monitoring implementation of the Land Use Plan.

Annual Performance Review

The Town of Morehead City, through the Director of Planning and the Planning Board, will undertake an annual review of the proposed implementation activities delineated in Section 5.4 to determine the following:

- The status of the implementation actions proposed during the previous fiscal year.
- If the implementation action has been completed, evaluate the general effectiveness of the implementation action taken and make recommendations on any follow-up action deemed necessary to assist in implementing the goals, objectives, and policies of the Land Use Plan.
- If the implementation action has not been undertaken, assess the reasons that the action has not been completed, evaluate the current need to undertake the action, and make recommendations regarding a revised schedule for carrying out the action.

In addition to reviewing specific implementation actions outlined in Section 5.4, the Town will also undertake an assessment of the general effectiveness of the policies outlined in Section 4.2 and make recommendations on any follow-up action deemed necessary to improve the effectiveness of the policies.

The Planning Director and Planning Board will forward their evaluation and recommendations to the Town of Morehead City Town Council. The Town Council, following a review of the recommendations, will make a determination of what action, if any, should be taken to ensure implementation of the Land Use Plan. All Planning Board and Town Council meetings are open to the public and citizen comments are welcomed.

If a formal amendment to the Land Use Plan is deemed necessary, such amendment shall be processed in accordance with the requirements of NCAC 7B.0900.

The Town of Morehead City will utilize a variety of media outlets (i.e., webpage, newsletter, etc.) to distribute information regarding the Town's overall planning program, annual reports and evaluations, and specific implementation activities.

APPENDICES

Appendix A

Citizen Participation Plan

Morehead City has received grant funding from the Department of Environment and Natural Resources (DENR) through the Local Government Planning and Management Grant Program to prepare an update to the existing CAMA Land Use Plan. A condition of the funding agreement requires the local government to “employ a variety of educational efforts and participation techniques to assure that all socio-economic segments of the community and non-resident property owners have opportunities to participate during plan development” [15A NCAC7L .0506 (a)].

Development and implementation of a Citizen Participation Plan is the main resource to address these public participation requirements.

The Citizen Participation Plan provides the following opportunities:

1. Sharing of information about the CAMA land use planning process between the local government, the State and local residents.
2. Actively involving citizens in the process of identifying land use issues, identifying and evaluating options and the development of land use policies.

Active citizen involvement in the development of the Land Use Plan is essential to the development of a quality plan and the success of its implementation. To provide information to the public and to encourage adequate citizen involvement, the following Citizen Participation Plan will be utilized by Morehead City.

Designation of Lead Planning Group: The Morehead City Council will appoint a Land Use Plan Advisory Committee to oversee the preparation of the land use plan. The Land Use Plan Advisory Committee (LUPAC) will be composed of two Councilmen, two Planning Board members and seven citizens representing a broad cross-section of the population of Morehead City. The LUPAC will advise and coordinate plan development with the Morehead City Planning Board, the Morehead City Council and the City’s Consultant, BLUE: Land, Water, Infrastructure, PA (BLWI).

The LUPAC will have the following duties and responsibilities:

- Provide overall direction for development of the Draft Land Use Plan;
- Serve as a public contact for citizens to get information and to comment on the proposed plan;
- Review technical planning materials for accuracy;
- Assist with preparation of major plan elements, including identification of concerns and key planning issues, development of a community vision, goal development, preparation of draft policies and future land use map;
- Assist with organization, management and facilitation of public participation events;
- Help publicize public participation events in the community; and,
- Recommend and present a draft land use plan to the Morehead City Planning Board and the Morehead City Council.

The Land Use Plan Committee will meet approximately 9 times in the course of the next 18 months with special meetings being called as needed. Generally, meetings will be scheduled on the first Tuesday of the month at 5:30 p.m.

All meetings will be held in the Morehead City Council Chambers located on the 2nd floor of the Municipal Building, 202 South 8th Street. A time for public comment will be reserved at all LUPAC meetings. The City will keep a record of residents and property owners who speak at Land Use Plan meetings and other plan events and will retain any written comments that are received. The names of the speakers and written comments will be provided to the Division of Coastal Management (DCM) District Planner for use in draft plan review.

An initial Land Use Plan orientation meeting will be held during the LUPAC's first meeting scheduled for December 2, 2003.

Initial Public Information Meeting: The County's funding agreement with DENR requires a public information meeting(s) at the beginning of the process. The meeting will be an educational opportunity to inform the general public of the purpose of the CAMA Land Use Plan and to outline the County's public participation process. The meeting is tentatively scheduled for Tuesday, December 2, 2003 at 5:30 p.m. in the Council Chambers located on the 2nd floor of the Municipal Building, 202 South 8th Street in conjunction with the orientation meeting.

The following items will be discussed at the Initial Public Information Meeting:

- Policy statements contained in the current Morehead City Land Use Plan;
- Effect of current policies on the City;
- Ways the current plan has been used to guide development during the last planning period;
- An explanation of how Morehead City will report to the public and solicit the views of citizens in the development of updated policy statements;
- The tools to be used to report planning process to the public during plan development;
- A description of the methods and techniques that shall be used to solicit public participation and input from residents and non-resident property owners, including the results that are expected from these methods and techniques; and,
- The general meeting schedule for the preparation of the Land Use Plan Update.

Opportunity for public comment will be provided during the Initial Public Information Meeting.

The City will give two public notices of the initial public information meeting. The first notice will be published in the Carteret County News-Times not less than 30 days before the meeting. The second notice will be published not less than 10 days before the meeting. In addition, the City will notify local members of the Coastal Resources Advisory Council (CRAC) and the DCM District Planner of the date, time, and place of the meeting.

Public participation tools: Morehead City will use several methods to solicit public participation in the Land Use Plan process. These methods were selected to assist in meeting the citizen participation objectives of education, listening, collaboration and support. The public participation tools include:

- A *community/neighborhood forum* near the beginning of the process will provide an opportunity for a wide range of residents and property owners to express their views on land use and development issues and the Land Use Plan on a citywide and neighborhood basis. It will also provide an opportunity for citizens to learn about the views of others. This method will help meet the listening and education goals of the citizen participation program.
- *Open house* to be conducted prior to the Preliminary draft being presented to the Planning Board and the Morehead City Council to allow for public review of maps and policies. This will provide an opportunity for the community to express views and concerns about what is being proposed. It provides an informal setting for stakeholders to examine work products and to interact with members of the planning group. This technique will assist in meeting the listening and collaborative objectives of the citizen participation program.
- *Media releases* will keep the community informed and educated about the Land Use Plan process. Newspaper articles and public service announcements will be used to report planning progress, as well as to encourage participation in and support for the planning process.
- *Quarterly newsletter and Morehead City website updates* The City's website (townofmorehead.com) will be used to report planning progress to and solicit participation by the public, including non-resident property owners. Progress will also be reported through the newsletter which is mailed out quarterly.

Tentative Meeting/Public Participation Schedule

1. **October 7, 2003** – Morehead City Council review and approval of Citizen Participation Plan/appointment of Land Use Plan Advisory Committee (LUPAC).
2. **December 2, 2003** – LUPAC Initial Public Information Meeting/Orientation on Land Use Plan Process.
3. **January 6, 2004** – LUPAC holds Neighborhood Forum to receive input on issues, concerns, and opportunities citywide and by neighborhood.
4. **February, 2004** – LUPAC to review
 - existing and emerging conditions
 - key planning issues
 - vision statement
5. **March, 2004** – LUPAC to review technical analyses
 - population, housing, and economy
 - natural systems and existing land use
 - stormwater and community facilities
6. **April, 2004** – LUPAC review of land suitability and current plans and policies.
7. **May, 2004** – LUPAC to continue review of land suitability analysis and begin review of draft policies.
8. **June, 2004** – LUPAC to continue review of draft policies.
9. **August, 2004** – LUPAC to continue review of draft policies.
10. **September, 2004** – LUPAC to review Future Land Use Map and Tools for Managing Development.
11. **November, 2004** – Open House for citizens to review and comment on preliminary draft of policies and Future Land Use Map.
12. **November, 2004** – Present preliminary draft and comments received at Open House to the Planning Board for review and recommendation.
13. **December, 2004** – Present preliminary draft to Morehead City Council. Identify needed adjustments.
14. **March, 2005** – Review DCM plan comments and make necessary adjustments.
15. **May, 2005** – Morehead City Council to hold required Public Adoption Hearing.

Appendix B

Census Explanation

According to the US Census Bureau (USCB) decennial census statistics are considered to be 100% data based on short-form questionnaires that are sent to every person and housing unit and long-form questionnaires that are sampled of every 1 in 6 persons and households. All demographic data for the non-decennial years are estimates based on the latest decennial data. Population estimates are released annually by the US Census Bureau and are calculated by using predictor variables or administrative records that are available on an annual basis. Examples of some administrative records include: birth and death certificates, Internal Revenue Service data, Medicare enrollment records, Armed Forces data, etc. Growth rates based on changes in these administrative records are combined with the latest decennial census statistics to form the yearly demographic estimates (USCB 2003).

POPULATION ESTIMATES

U.S. Census Bureau annual demographic estimates are considered to be rough estimates based on administrative records easily available to Federal Demographers. State Demographers are privy to more detailed annual administrative records and may have access to local data from the Department of Motor Vehicles, housing permits, Medicare, birth and death data, and school enrollment data which can be analyzed to produce population estimates. The North Carolina Demographers Unit uses a similar methodology and any annual administrative records available to make their population estimates.

For example, in calculating the 2002 North Carolina county population estimates, the North Carolina State Demographer used the 2002 US Census Bureau population estimates (that were released in April 2003) as a starting base (North Carolina State Demographics Unit 2003). For this 2002 estimate, the U.S. Census Bureau assumed that the institutional population for each North Carolina county would be the same as that of 2001 (NCSDU 2003). Available data from current state Medicare enrollees and all North Carolina military bases and institutions proved that assumption invalid, so the data was used to adjust the US Census Bureau's original estimate (NCSDU 2003). Due to the fact the North Carolina Demographer has access to more detailed administrative records, demographic data released by the state may differ slightly from US Census Bureau data estimates and can be considered to be more accurate.

POPULATION PROJECTIONS

A population projection differs from an estimate in that it relies on certain assumptions about long-term trends in data that are not yet available, while an estimate is based on data from predictor variables or administrative records that are available for the estimate year. Recent population projections were released in June 2002 by the North Carolina Office of State Budget and Management for all geography types in the state. The base decade used to determine the forecasting trend for the population projections is 1990-2000 (NCSDU 2002). The most fundamental base year for these projections is the 2000 US Census Bureau's modified age, race and sex file (NCSDU 2002). The most basic technique used to project the population projections for age, race and sex is to combine the trends of birth and death data, migration data and institutional population (NCSDU 2002). It is important to note that it was assumed all institutional population would remain constant after 2000 (NCSDU 2002).

1990 MOREHEAD CITY EXTRA JURISDICTIONAL AREA POPULATION ESTIMATE

This population estimate was derived from U.S Census Bureau block group data. Using a Geographic Information System (GIS), the 2004 Morehead City ETJ boundary was overlaid onto

1990 U.S. Census Bureau block group data. The population for block groups inside the ETJ boundary were combined to produce a population estimate. The block group boundaries were, in many cases, not coincident with the ETJ boundary. This resulted in several block groups being partially inside and partially outside the ETJ boundary. In these instances, a simple estimate of population was derived for each of the block groups based on the percentage of the block group area inside the ETJ boundary. For example, if a block group with a population of 100 persons was split by the ETJ boundary so that 60% of its area was inside the ETJ boundary and 40% was outside the ETJ boundary, it was estimated that the portion of the block group inside the ETJ boundary contained 60 persons.

2000 MOREHEAD CITY EXTRA JURISDICTIONAL AREA POPULATION ESTIMATE

This population estimate was derived from U.S. Census Bureau block data. Using a Geographic Information System (GIS), the 2000 Morehead City ETJ boundary was overlaid onto 2004 U.S. Census Bureau blocks. The population for blocks inside the ETJ boundary were combined to produce a population estimate. The block boundaries were, in many cases, not coincident with the ETJ boundary. This resulted in several blocks being partially inside and partially outside the ETJ boundary. In these instances, a simple estimate of population was derived for each of the blocks based on the percentage of the block area inside the ETJ boundary. For example, if a block with a population of 100 persons was split by the ETJ boundary so that 60% of its area was inside the ETJ boundary and 40% was outside the ETJ boundary, it was estimated that the portion of the block inside the ETJ boundary contained 60 persons.

HOUSING, INCOME, EMPLOYMENT AND ECONOMIC STATISTICS

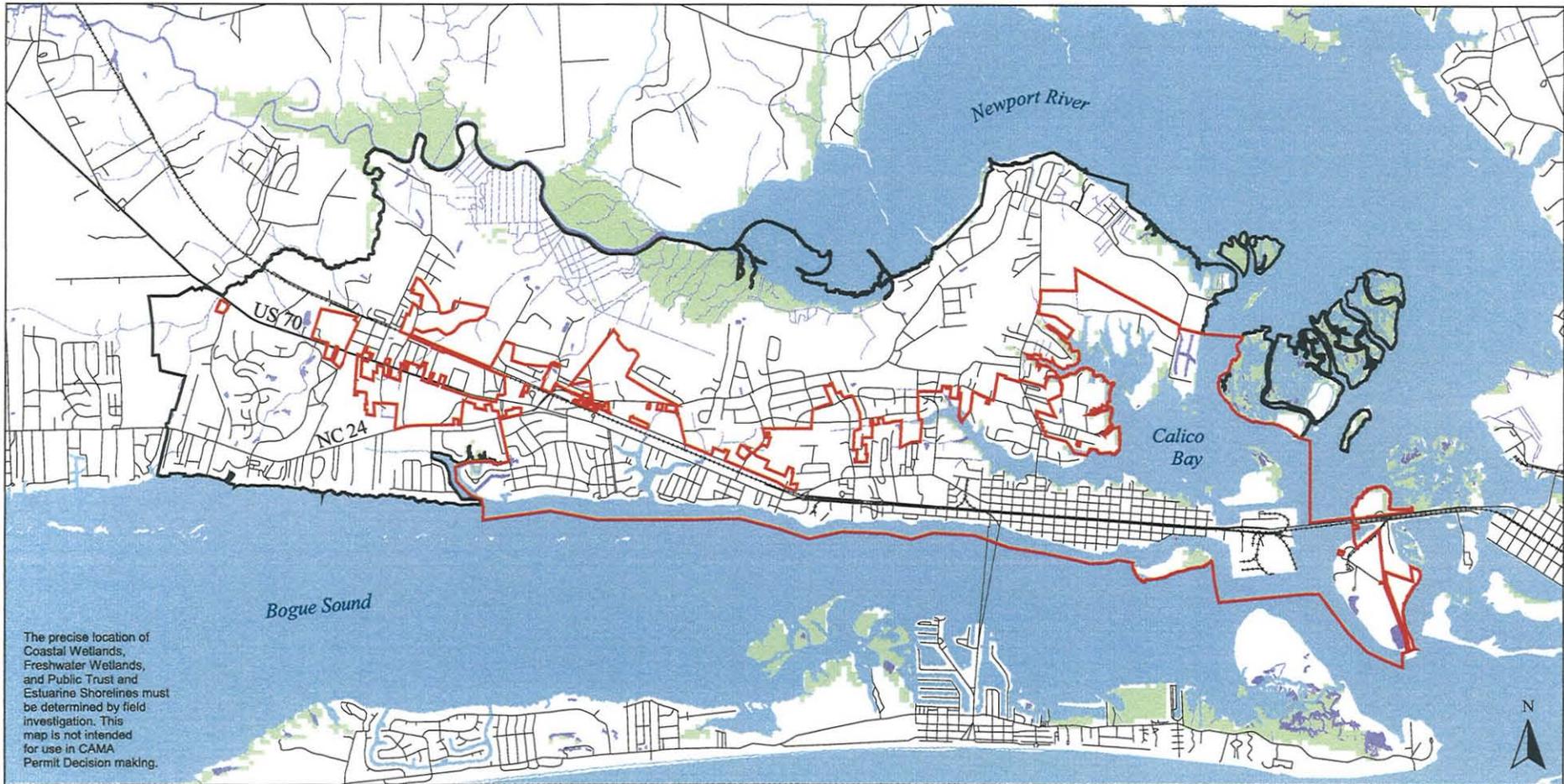
Statistics regarding housing, income, employment and economics are not generated by the North Carolina State Demographics Unit. They are listed on the North Carolina State Demographics Internet site for convenience, but are generated by federal agencies including the US Census Bureau and the Bureau of Economic Analysis. All data of this type included in this report has been checked for consistency between the federal agencies and the North Carolina State Demographics Unit. Any discrepancies have been noted.

Appendix C

Natural Features Maps

The following maps are provided in Appendix C:

- Figure 6, Areas of Environmental Concern
- Figure 7, Soil Suitability for Septic Systems
- Figure 8, Water Quality Classes
- Figure 9, Fragile Areas
- Figure 10, Flood Hazard Areas



The preparation of this map was financed in part through a grant provided by the North Carolina Coastal Management Program, through the funds provided by the North Carolina Coastal Management Act of 1972, as amended, which is administered by the Office of Ocean and Coastal Resource Management, National Oceanic and Atmospheric Administration.

Unnamed Tributaries are depicted as Public Trust Waters on this map.

-  City Limits
-  ETJ
-  Railroads
-  Roads
-  Public Trust Waters
-  Estuarine Water
-  Coastal Wetlands

Estuarine shoreline AECs are those non-ocean shorelines extending from the normal high water level or normal water level along estuarine waters for a distance of 75 feet landward.

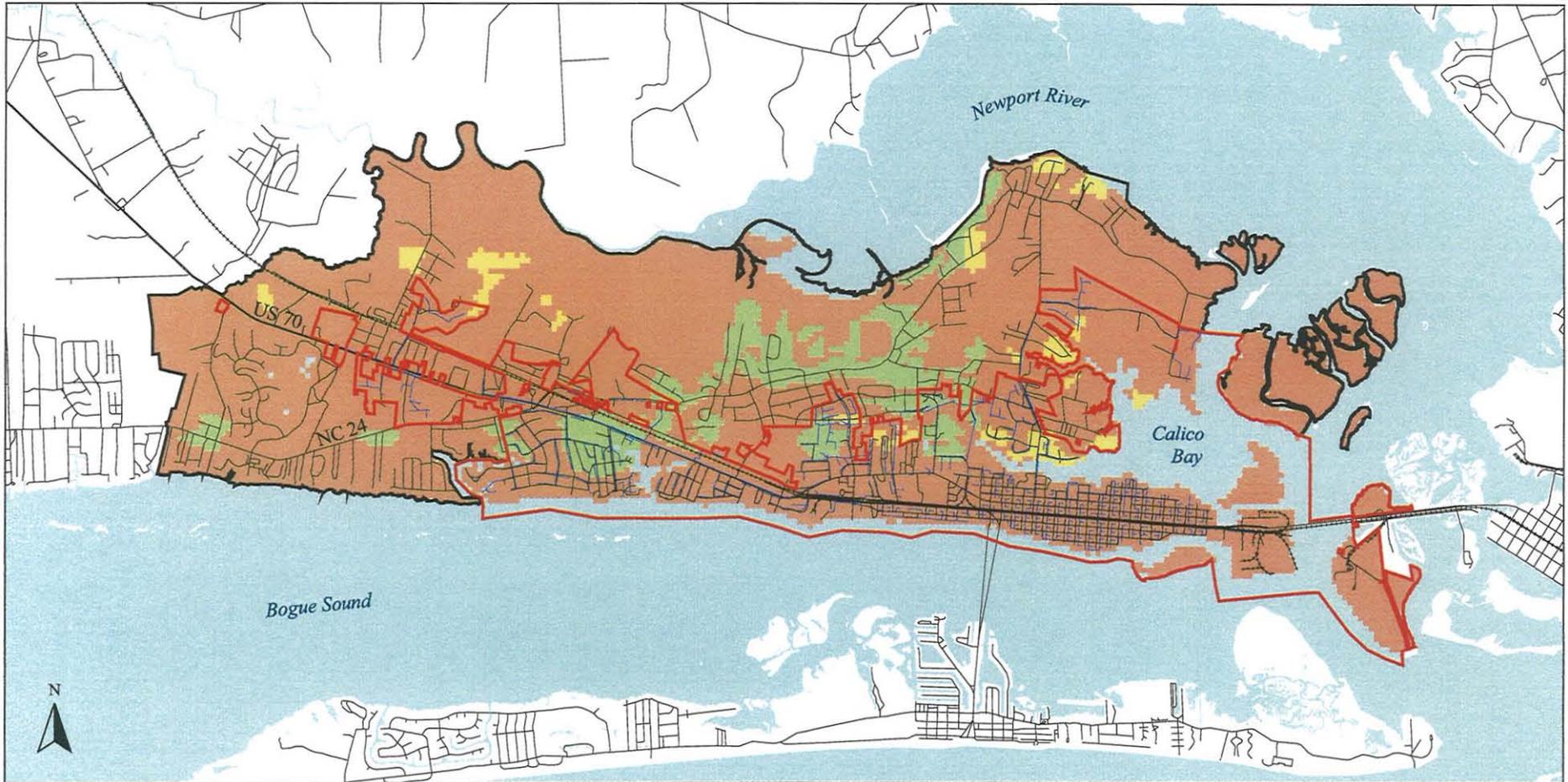
Public Trust shoreline AECs are those non-ocean shorelines immediately contiguous to public trust areas extending 30 feet landward of the normal high water level or normal water level.

**Figure 6: Areas of Environmental Concern
CAMA Land Use Plan Update
Morehead City, NC**

Scale: 1" = 4000'



BLUE Land Water Infrastructure



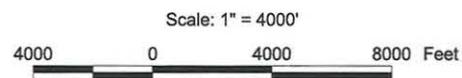
The preparation of this map was financed in part through a grant provided by the North Carolina Coastal Management Program, through the funds provided by the North Carolina Coastal Management Act of 1972, as amended, which is administered by the Office of Ocean and Coastal Resource Management, National Oceanic and Atmospheric Administration.

- City Limits
 - ETJ
 - Railroads
 - Roads
 - Water
 - Sanitary Sewer Mains
- Soil Suitability for Septic Systems**
- Severe Limitations
 - Moderate Limitations
 - Slight Limitations

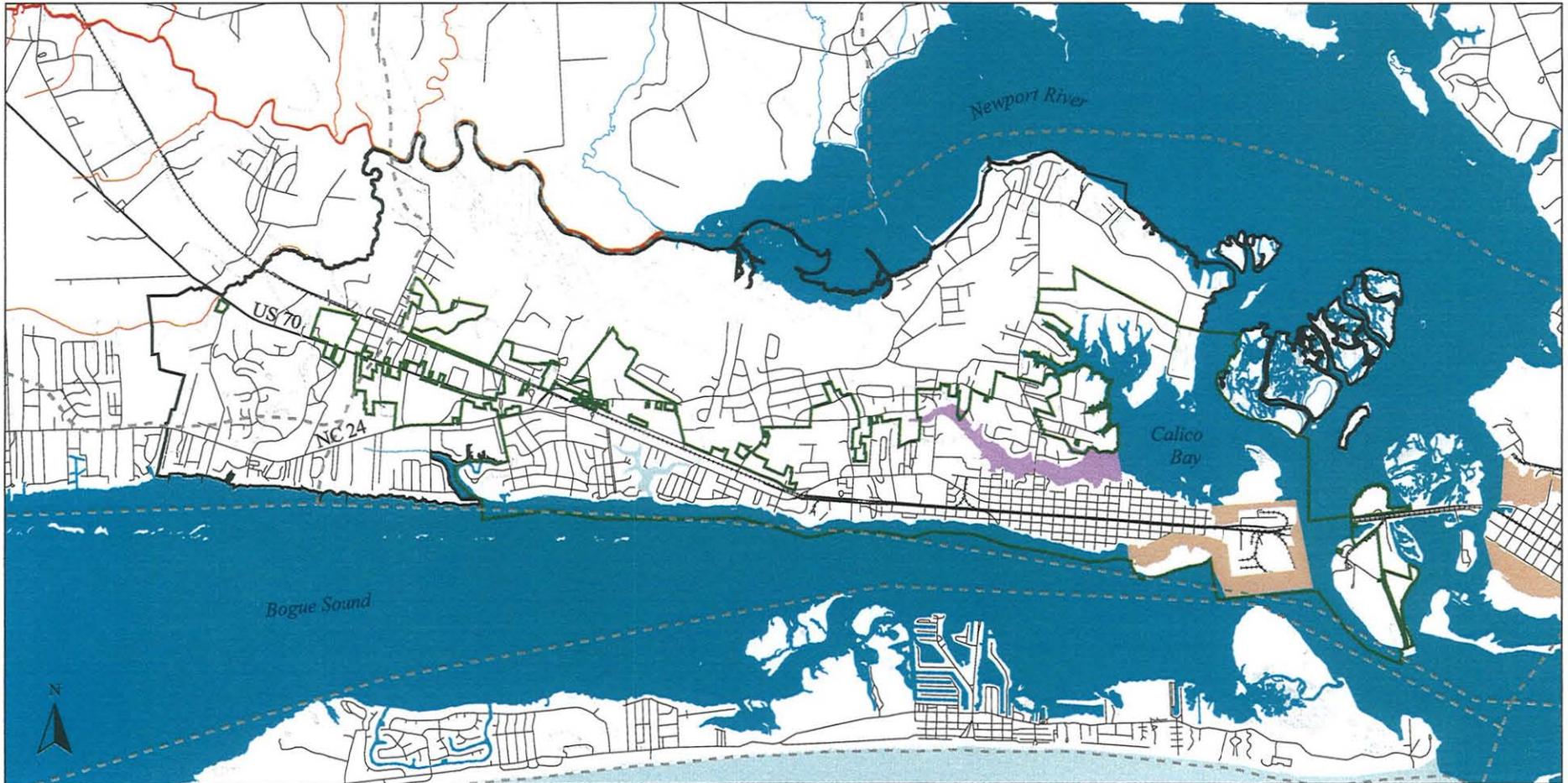
Soil Suitability ratings are for conventional septic systems. Soil suitability for septic systems is not an issue in areas served by sanitary sewer.

No highly erodible soil types were found in the Morehead City planning area.

Figure 7: Soil Suitability for Septic Systems
CAMA Land Use Plan Update
Morehead City, NC



BLUE Land Water Infrastructure



The preparation of this map was financed in part through a grant provided by the North Carolina Coastal Management Program, through the funds provided by the North Carolina Coastal Management Act of 1972, as amended, which is administered by the Office of Ocean and Coastal Resource Management, National Oceanic and Atmospheric Administration.

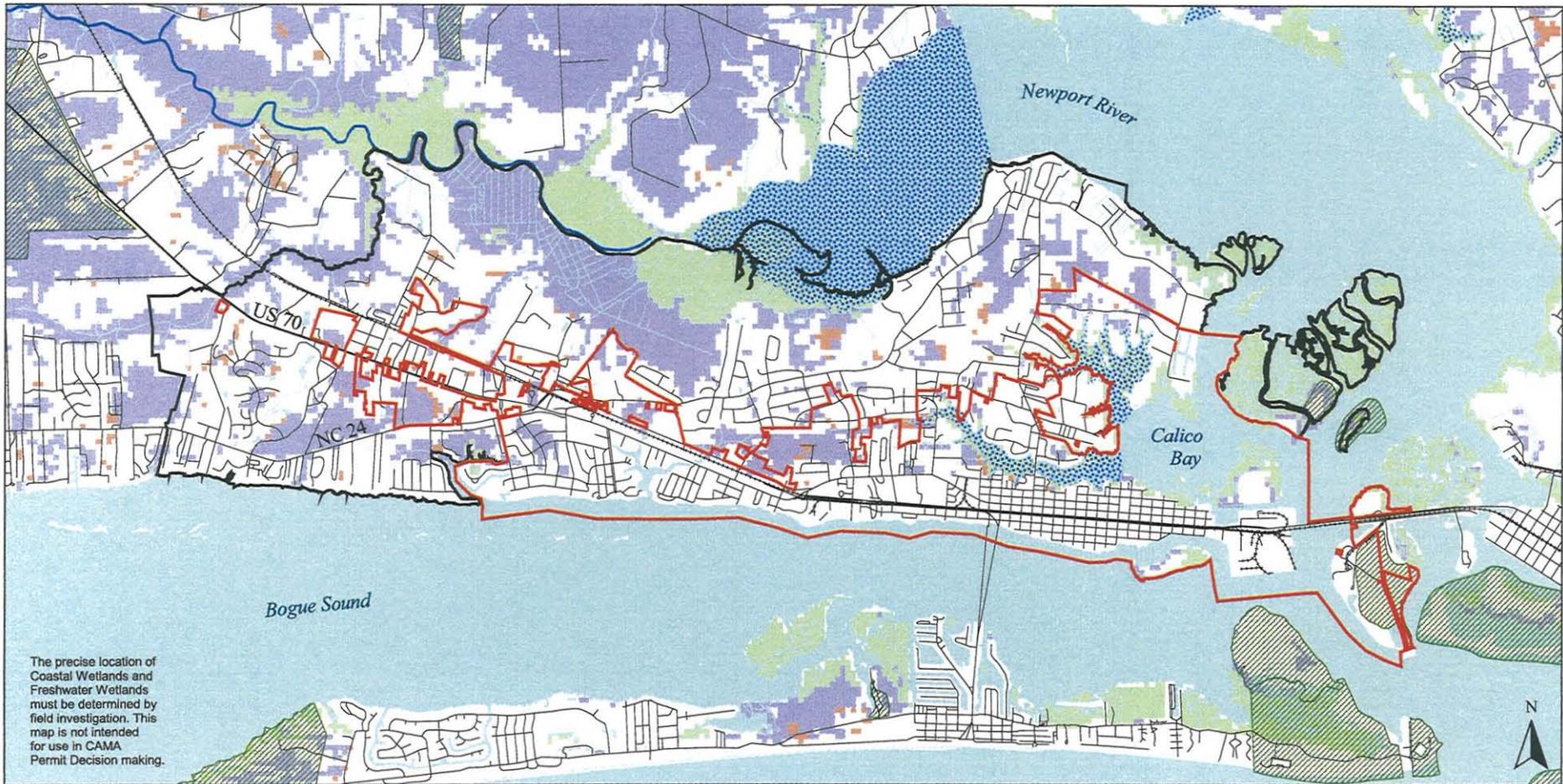
- Watersheds (14-digit Hydrologic Units)
- Water - Division of Water Quality Class
 - SA HQW
 - SB
 - C
 - SC
 - SC HQW
 - Unnamed Tributaries
- City Limits
- ETJ
- Railroads
- Roads

**Figure 8: Water Quality Classes
CAMA Land Use Plan Update
Morehead City, NC**

Scale: 1" = 4000'



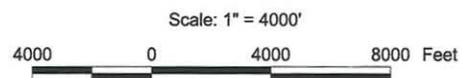
BLUE Land Water Infrastructure



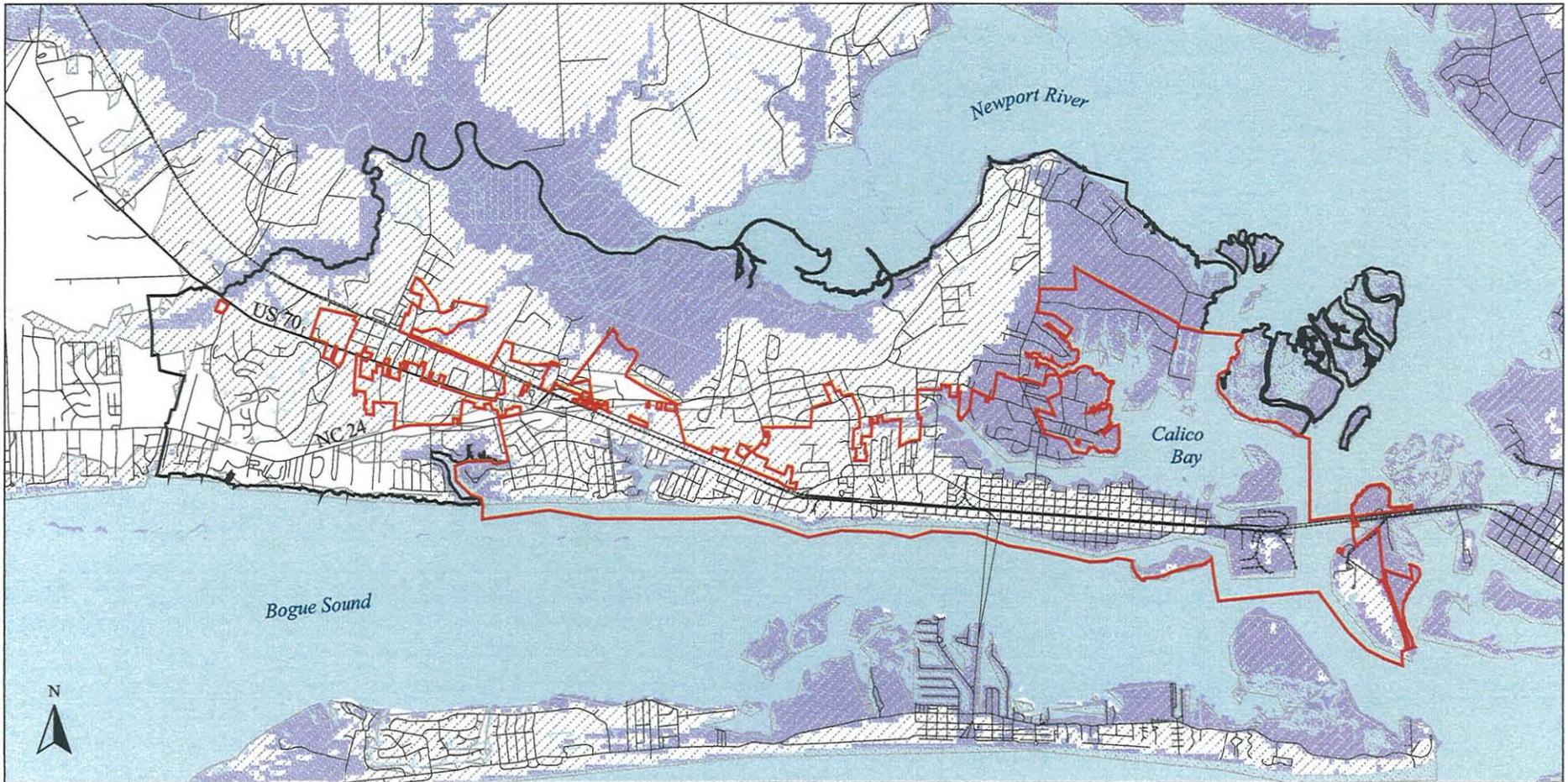
The preparation of this map was financed in part through a grant provided by the North Carolina Coastal Management Program, through the funds provided by the North Carolina Coastal Management Act of 1972, as amended, which is administered by the Office of Ocean and Coastal Resource Management, National Oceanic and Atmospheric Administration.

- | | | | |
|---|------------------------------------|---|-------------|
|  | Anadromous Fish Spawning Area |  | City Limits |
|  | Primary Nursery Areas |  | ETJ |
|  | Significant Natural Heritage Areas |  | Railroads |
|  | Coastal Wetlands (CAMA) |  | Roads |
|  | Noncoastal Wetlands (404) |  | Water |
|  | Exceptional/Significant Wetlands | | |
|  | Beneficial Wetlands | | |

Figure 9: Fragile Areas
CAMA Land Use Plan Update
Morehead City, NC



BLUE Land Water Infrastructure



The preparation of this map was financed in part through a grant provided by the North Carolina Coastal Management Program, through the funds provided by the North Carolina Coastal Management Act of 1972, as amended, which is administered by the Office of Ocean and Coastal Resource Management, National Oceanic and Atmospheric Administration.

-  City Limits
-  Planning Area
-  Railroads
-  Roads
-  Water
-  Storm Surge Area
-  100-year Flood Hazard Area

Storm Surge Areas are for fast-moving storms (forward velocities >15mph)

Figure 10: Flood Hazard Areas
CAMA Land Use Plan Update
Morehead City, NC

Scale: 1" = 4000'



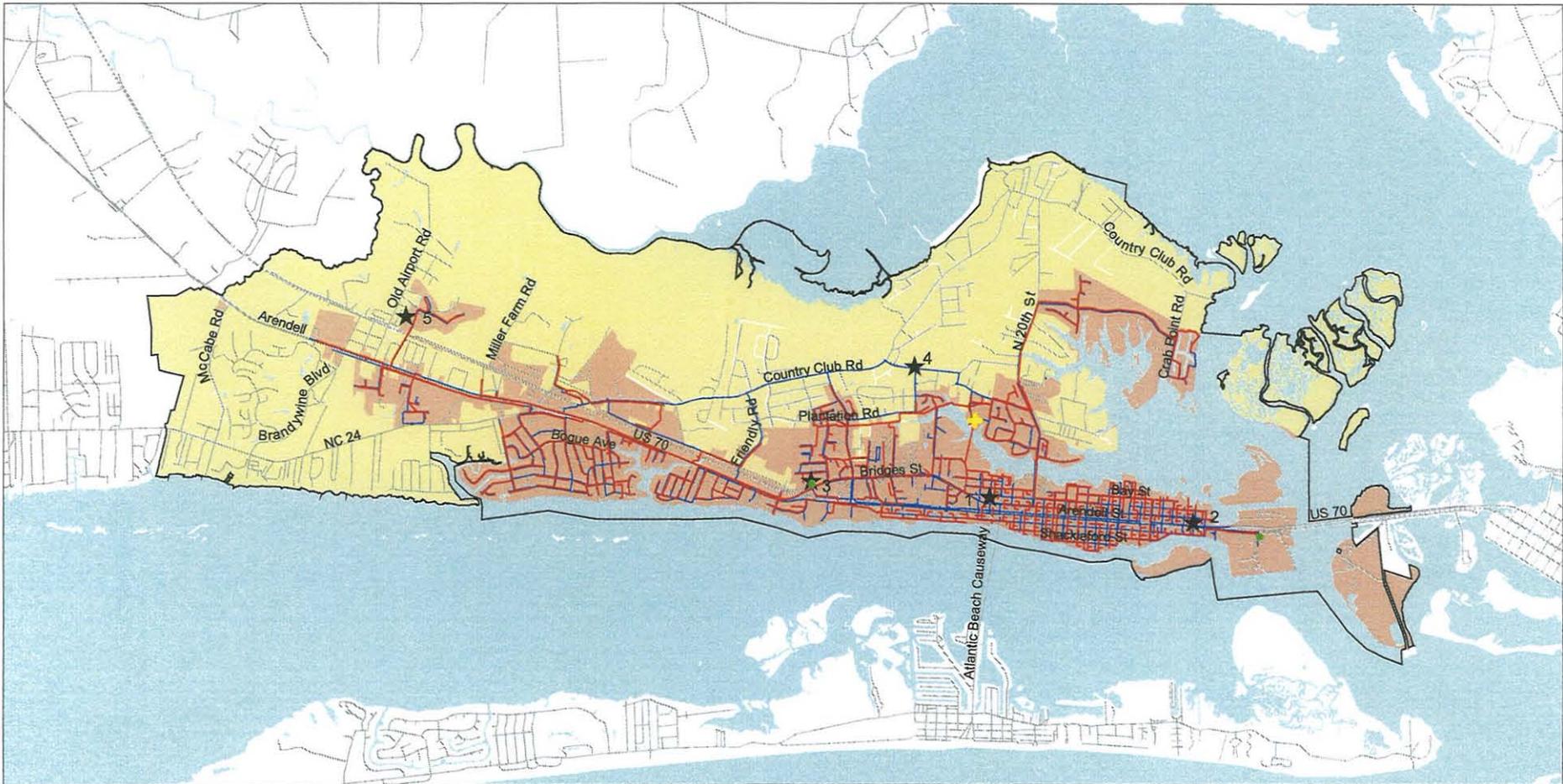
BLUE Land Water Infrastructure

Appendix D

Community Facilities Maps

The following maps are provided in Appendix D:

- Figure 11, Water and Sewer Systems
- Figure 12, Transportation Systems
- Figure 13, Stormwater Drainage



The preparation of this map was financed in part through a grant provided by the North Carolina Coastal Management Program, through the funds provided by the North Carolina Coastal Management Act of 1972, as amended, which is administered by the Office of Ocean and Coastal Resource Management, National Oceanic and Atmospheric Administration.

- | | |
|--|---|
|  Sewer Lines |  Roads |
|  Water Lines |  Railroads |
|  Wastewater Treatment Plant |  City Limits |
|  Tanks |  ETJ |
|  Wells |  Water |

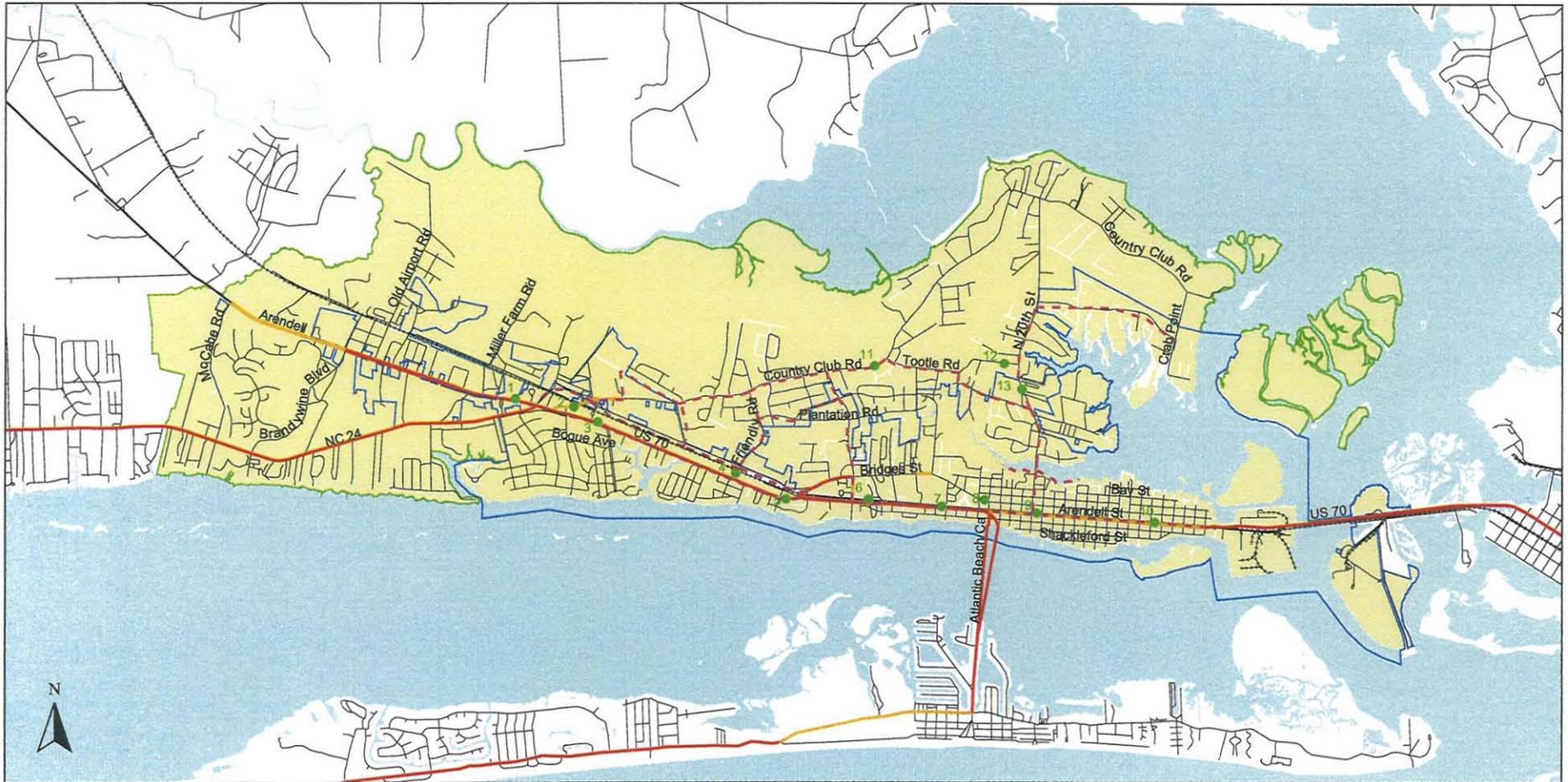
Figure 11: Water and Sewer Systems
CAMA Land Use Plan Update
Morehead City, NC

Scale: 1" = 4000'

4000 0 4000 8000 Feet



BLUE Land and Water Infrastructure



The preparation of this map was financed in part through a grant provided by the North Carolina Coastal Management Program, through the funds provided by the North Carolina Coastal Management Act of 1972, as amended, which is administered by the Office of Ocean and Coastal Resource Management, National Oceanic and Atmospheric Administration.

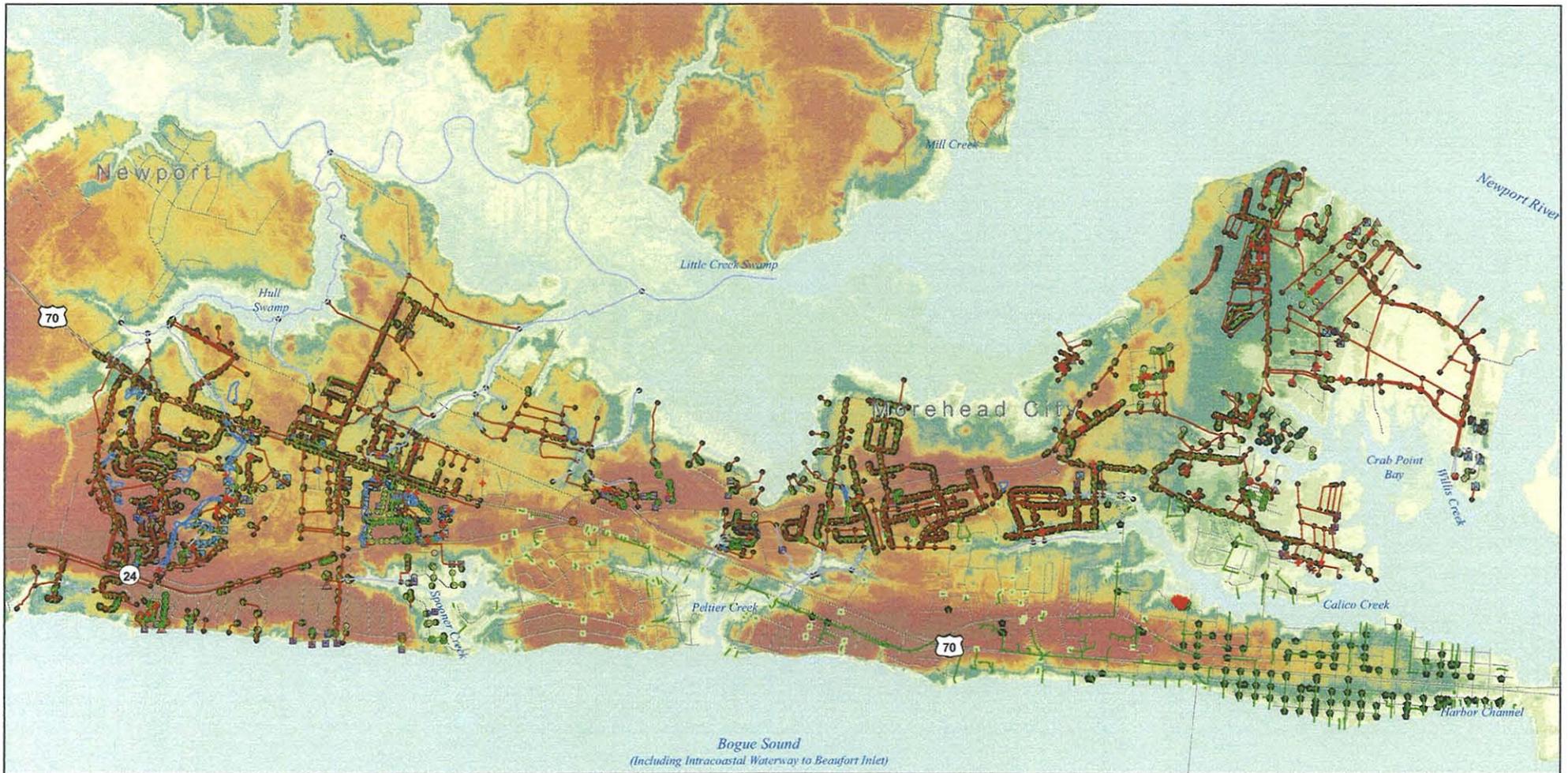
- MATS (Morehead Alternative Transportation System)
- Roads at or over capacity
- Roads near capacity
- Traffic Count Points
- Roads
- Railroads
- City Limits
- ETJ
- Water

Figure 12: Transportation Systems
CAMA Land Use Plan Update
Morehead City, NC

Scale: 1" = 4000'



BLUE Land Water Infrastructure



Bogue Sound
(Including Intracoastal Waterway to Beaufort Inlet)

MOREHEAD CITY, NC

Figure 13: Stormwater Drainage



The preparation of this map was financed in part through a grant provided by the North Carolina Coastal Management Program, through funds provided by the Coastal Zone Management Act of 1972, as amended, which is administered by the Office of Ocean and Coastal Resource Management, National Oceanic and Atmospheric Administration.



Stormwater data developed by **amec**

Finalized Conveyances	--- Hidden drain	Finalized Structures	● Open throat CB	● Conveyance end	Elevation High : 44 Low : -12
— Swale	— Dry pond	▲ Bridge end	■ Curb cut	● Pipe End	
— Storm drain	— Box Culvert	● Other-See Comments	■ Hidden Junction Box	● Open Channels	
— Wet pond	— Bridge	● Manhole/Junction Box	● Curb inlet - grate	● Culverts	
— Creek	— Piping	● Curb inlet-no grate	● Grate	● Non-Stormwater Discharges	
		● Control structure	▲ Headwall	★ BMP	



Appendix E

References

(Carteret County EDC-A) Carteret County Economic Development Council (2003). Business Performance Office. Cherry Point Marine Core Air Station. *Cherry Point Impact 2003*. <http://www.carteretedc.com/demographics/cherrypoint.htm>. (Downloaded 03/23/2004)

(Carteret County EDC-B) Carteret County Economic Development Council (2003). North Carolina Department of Commerce, Division of Tourism. *Tourism Impact 2003*. <http://www.carteretedc.com/demographics/tourism.htm> (Downloaded 03/23/2004)

(Carteret County EDC-C) Carteret County Economic Development Council (2003) N.C. Division of Marine Fisheries. Stanford White Associates. *Seafood Industry 2003*. <http://www.carteretedc.com/demographics/seafood.htm> (Downloaded 03/23/2004)

North Carolina Coastal Federation (NCCF). (02/24/2004) The Pollution Database. Retrieved 3/01/2004 from: <http://www.nccoast.org/CKSewer/Chronic%20Polluters.htm>.

North Carolina State Demographics Unit. (2003). Certified July 1, 2002 County Population Estimates: <http://demog.state.nc.us/>

North Carolina Department of Environment and Natural Resources (NCDENR). 2001. White Oak River Basinwide Water Quality Plan, July 2001. Division of Water Quality / Planning. <http://h2o.enr.state.nc.us/basinwide/whiteoak/2001/whiteoak2001.htm>.

North Carolina Department of Environment and Natural Resources (NCDENR). 2000. Basin Wide Assessment Report: White Oak River Basin, June 2000. Division of Water Quality, Water Quality Section, Environmental Sciences Branch. <http://www.esb.enr.state.nc.us/Basinwide/WOK2000.pdf>.

North Carolina Department of Environment and Natural Resources (NCDENR). (3/02/2004). Division of Water Quality. Environmental Enforcement Data. Available on the internet at: <http://www.enr.state.nc.us/novs/wq0503.pdf>

North Carolina Department of Environment and Natural Resources (NCDENR). (2002). Division of Water Resources. Part 1: Water Supply System Report for Calendar Year 2002; Part 2: Water Supply Planning Report; Part 3: Water conservation and Demand Management. Raleigh, NC.

North Carolina Division of Water Quality (NCDWQ). (3/25/2004). Point Source Compliance and Enforcement: Moratorium. Overview of Sewer Line Moratorium. Available on the Internet at: <http://h2o.enr.state.nc.us/psceu/moratorium.htm>.

(Town of Morehead City-A) Town of Morehead City. (06/05/2003). Water Quality Report. Town of Morehead City PWSID# 04-16-015, June 5, 2003. Town of Morehead City, NC.

(Town of Morehead City-B) Town of Morehead City. 2003 Annual Wastewater Treatment Plant and Collection System Report. (2003). Town of Morehead City, NC.

Town of Morehead City. 2000 Annual Wastewater Treatment Plant and Collection System Report. (2000). Town of Morehead City, NC.

U.S. Census Bureau (2003) <http://eire.census.gov/popest/topics/methodology/coasro.pdf>

U.S Census Bureau. (2001) <http://www.census.gov/prod/2001pubs/mso-01icdp.pdf>

A Guide to North Carolina's Tidal Saltwater Classifications, Cape Fear Council of Governments, 1994.

Appendix F

Summary of CRC Land Use Plan Management Topic Goals and Objectives

Public Access	
Goal	Maximize public access to the beaches and the public trust waters of the coastal region
Objective	Develop comprehensive policies that provide access opportunities for the public along the shoreline within the planning jurisdiction
Land Use Compatibility	
Goal	Ensure the development and use of resources or preservation of land minimizes direct and secondary environmental impacts, avoids risks to public health, safety and welfare, and is consistent with the capability of the land based on considerations of interactions of natural and manmade features
Objective	Adopt and apply local development policies that balance protection of natural resources and fragile areas with economic development
	Policies should provide clear direction to assist local decision making and consistency findings for zoning, divisions of land, and public and private projects
Infrastructure Carrying Capacity	
Goal	Ensure that public infrastructure systems are appropriately sized, located, and managed so that the quality and productivity of AECs and other fragile areas are protected or restored
Objective	Establish level of service policies and criteria for infrastructure consistent with future land needs projections
Natural Hazard Areas	
Goal	Conserve and maintain barrier dunes, beaches, floodplains, and other coastal features for their natural storm protection functions and their natural resources giving recognition to public health, safety, and welfare issues
Objective	Develop policies that minimize threats to life, property, and natural resources resulting from development located in or adjacent to hazard areas such as those subject to erosion, high winds, storm surge, flooding, or sea level rise
Water Quality	
Goal	Maintain, protect and, where possible, enhance water quality in all coastal wetlands, rivers, streams, and estuaries
Objective	Adopt policies for coastal waters within the planning jurisdiction to help ensure that water quality is maintained if not impaired and improved if impaired
Local Areas of Concern	
Goal	Integrate local concerns with the overall goals of CAMA in the context of land use planning
Objective	Identify and address local concerns and issues, such as cultural and historic areas, scenic areas, economic development, downtown revitalization or general health and human service needs

Source: CAMA Land Use Planning Guidelines, Subchapter 7B .0702(d)(3)

Appendix G

Impact of Morehead City Policies on CRC Land Use Plan Management Topics

<i>CRC Land Use Plan Management Topics and Benchmarks</i>						
	Public Water Access	Land Use Compatibility	Infrastructure Carrying Capacity	Natural Hazard Areas	Water Quality	Local Areas of Concern
Land Use and Development Policies (see Table 4.2 for the details of each policy)	<ul style="list-style-type: none"> • <i>Improvements to existing access locations</i> • <i>Development of new access areas</i> 	<ul style="list-style-type: none"> • <i>Reduce the placement of incompatible land uses</i> • <i>Preservation of existing character</i> 	<ul style="list-style-type: none"> • <i>Water, sewer, and other services being available in required locations at adequate capacities to support development</i> 	<ul style="list-style-type: none"> • <i>Land uses and development patterns that reduce the vulnerability to natural hazards</i> • <i>Planning for adequate evacuation infrastructure.</i> 	<ul style="list-style-type: none"> • <i>Land use and development measures that abate impacts that degrade water quality</i> 	<ul style="list-style-type: none"> • <i>Compatible development</i> • <i>Redevelopment</i> • <i>Tourism development</i> • <i>Land use density compatible with services</i>
4.2.1 Public Water Access:						
• Policy 1	Beneficial					
• Policy 2	Beneficial					
• Policy 3	Beneficial					
4.2.2 Land Use Compatibility:						
• Policy 1		Beneficial		Beneficial	Beneficial	Beneficial
• Policy 2		Beneficial				
• Policy 3		Beneficial				Beneficial
4.2.3 Infrastructure Carrying Capacity:						
• Policy 1			Beneficial			
• Policy 2		Beneficial	Beneficial		Beneficial	
• Policy 3		Beneficial	Beneficial			
• Policy 4			Beneficial		Beneficial	
• Policy 5		Beneficial	Beneficial			
• Policy 6		Beneficial	Beneficial			
4.2.4 Natural Hazard Areas:						
• Policy 1		Beneficial		Beneficial		

	Public Water Access	Land Use Compatibility	Infrastructure Carrying Capacity	Natural Hazard Areas	Water Quality	Local Areas of Concern
• Policy 2				Beneficial		
• Policy 3		Beneficial		Beneficial		
• Policy 4				Beneficial		
• Policy 5				Beneficial		
4.2.5 Water Quality:						
• Policy 1		Beneficial			Beneficial	
• Policy 2		Beneficial			Beneficial	
• Policy 3		Beneficial			Beneficial	Beneficial
• Policy 4		Beneficial			Beneficial	
• Policy 5		Beneficial			Beneficial	
• Policy 6		Beneficial			Beneficial	
4.2.6 Areas of Environmental Concern:						
• Policy 1		Beneficial				
• Policy 2		Beneficial				
• Policy 3		Beneficial				
• Policy 4		Beneficial				
• Policy 5		Beneficial				
• Policy 6		Beneficial				
• Policy 7		Beneficial				
• Policy 8		Beneficial			Beneficial	
• Policy 9	Beneficial	Beneficial				
• Policy 10		Beneficial				
• Policy 11		Beneficial				
• Policy 12		Beneficial				
4.2.7 Areas of Local Concern, General:						
• Policy 1		Beneficial				Beneficial
• Policy 2			Beneficial			Beneficial
• Policy 3		Beneficial				Beneficial
• Policy 4		Beneficial				Beneficial
• Policy 5		Beneficial				Beneficial

	Public Water Access	Land Use Compatibility	Infrastructure Carrying Capacity	Natural Hazard Areas	Water Quality	Local Areas of Concern
• Policy 6		Beneficial	Beneficial			Beneficial
• Policy 7		Beneficial				Beneficial
• Policy 8		Beneficial				Beneficial
• Policy 9		Beneficial	Beneficial			Beneficial
• Policy 10			Beneficial			Beneficial
• Policy 11						Beneficial
• Policy 12		Beneficial				Beneficial
• Policy 13			Beneficial			Beneficial
• Policy 14			Beneficial			Beneficial
• Policy 15		Beneficial				Beneficial
• Policy 16		Beneficial				Beneficial
4.2.8 Areas of Local Concern, Neighborhood 1:						
• Policy 1		Beneficial				Beneficial
• Policy 2			Beneficial			Beneficial
• Policy 3						Beneficial
• Policy 4						Beneficial
• Policy 5						Beneficial
• Policy 6						Beneficial
• Policy 7		Beneficial				Beneficial
• Policy 8						Beneficial
4.2.8 Areas of Local Concern, Neighborhood 2:						
• Policy 1		Beneficial				Beneficial
• Policy 2		Beneficial				Beneficial
• Policy 3		Beneficial				Beneficial
• Policy 4	Beneficial					Beneficial
4.2.8 Areas of Local Concern, Neighborhood 3:						
• Policy 1		Beneficial				Beneficial
• Policy 2		Beneficial				Beneficial
• Policy 3			Beneficial			Beneficial
• Policy 4		Beneficial				Beneficial

	Public Water Access	Land Use Compatibility	Infrastructure Carrying Capacity	Natural Hazard Areas	Water Quality	Local Areas of Concern
• Policy 5					Beneficial	Beneficial
4.2.8 Areas of Local Concern, Neighborhood 4:						
• Policy 1		Beneficial				Beneficial
• Policy 2		Beneficial				Beneficial
• Policy 3			Beneficial			Beneficial
• Policy 4			Beneficial			Beneficial
4.2.8 Areas of Local Concern, Neighborhood 5:						
• Policy 1						Beneficial
• Policy 2		Beneficial	Beneficial			Beneficial
• Policy 3		Beneficial	Beneficial			Beneficial
• Policy 4			Beneficial			Beneficial
• Policy 5			Beneficial			Beneficial
• Policy 6			Beneficial			Beneficial
• Policy 7					Beneficial	Beneficial
• Policy 8			Beneficial			Beneficial
4.2.8 Areas of Local Concern, Neighborhood 6:						
• Policy 1		Beneficial				Beneficial
• Policy 2			Beneficial			Beneficial
• Policy 3		Beneficial				Beneficial
• Policy 4			Beneficial			Beneficial
• Policy 5			Beneficial			Beneficial
4.2.8 Areas of Local Concern, Neighborhood 7:						
• Policy 1						Beneficial
• Policy 2			Beneficial			Beneficial
• Policy 3		Beneficial				Beneficial
• Policy 4			Beneficial			Beneficial
• Policy 5			Beneficial			Beneficial
4.2.8 Areas of Local Concern, Neighborhood 8:						
• Policy 1			Beneficial			Beneficial
• Policy 2						Beneficial

	Public Water Access	Land Use Compatibility	Infrastructure Carrying Capacity	Natural Hazard Areas	Water Quality	Local Areas of Concern
• Policy 3			Beneficial			Beneficial
• Policy 4			Beneficial			Beneficial
• Policy 5			Beneficial			Beneficial
• Policy 6			Beneficial			Beneficial
• Policy 7			Beneficial			Beneficial
4.2.8 Areas of Local Concern, Neighborhood 9:						
• Policy 1		Beneficial				Beneficial
• Policy 2		Beneficial	Beneficial			Beneficial
• Policy 3		Beneficial				Beneficial
• Policy 4		Beneficial				Beneficial
• Policy 5			Beneficial			Beneficial
• Policy 6			Beneficial			Beneficial
4.2.8 Areas of Local Concern, Neighborhood 10:						
• Policy 1			Beneficial			Beneficial
• Policy 2			Beneficial			Beneficial
• Policy 3		Beneficial	Beneficial			Beneficial

Appendix H

Maps and Land Use Plan Data Available at the Morehead City Planning Department

Maps

- Natural Features Map
- Composite Environmental Conditions Map
- Floodplains Map
- Storm Surge Map
- Existing Land Use Map
- Water and Wastewater Systems Map
- Stormwater Management System Map
- Septic System Soil Limitations Map
- Land Suitability Map
- Future Land Use Map

Data

- 2005 Morehead City Land Use Plan Update

Appendix I
Population Projections

	US Census 2000	Certified Estimate July 2002	Projections					
			2005	2010	2015	2020	2025	2030
Carteret County	59,383	60,064	62,760	65,939	68,235	70,353	71,894	73,084
Morehead City Corporate Area	7,691	7,726						
Average rate of growth 1970-2000			7,844	7,998	8,157	8,317	8,483	8,649
Town to county ratio			8,112	8,523	8,819	9,093	9,292	9,446
Average of both methodologies			7,978	8,260	8,488	8,705	8,888	9,047
Morehead City Planning Jurisdiction	14,098*	na	14,869	15,622	16,166	16,668	17,033	17,315

Sources: US Census, 1970-2000. 2002 Certified Population Estimates, NC State Data Center, October 2003. County Population Growth 2000-2030, NC State Data Center, June 2006. Block 2000 US Census data for the ETJ area.

*2000 estimate for the Morehead City planning jurisdiction by the Town of Morehead City.

Carteret County projections by the NC State Data Center.

Morehead City corporate and planning jurisdiction projections by The Wooten Company.

Morehead City Planning Jurisdiction population projections based upon the average of two the methodologies delineated above for the Morehead City corporate area.

Assumptions:

1. The average rate of growth (0.4%) annualized rate for the period 1970-2000 will remain constant through 2030.
2. The average ratio (8.4%) of the town's population to the Carteret County population for the period 1970-2000 will remain constant through 2030.
3. The ratio (131.4%) of the estimated 2000 planning jurisdiction population to the 2000 Morehead City corporate population will remain constant through 2030.

Appendix J
Summary of Land Use Issues, Goals, and Objectives
Identified in the 1999 Morehead City Land Use Plan

Summary of 1999 Land Use and Development Issues

The major land use and development issues identified during the preparation of this land use plan update that will affect Morehead City during the next ten year period include the following (not presented here in any priority order):

Resource Protection Issues

- Stormwater runoff impacts.
- Water quality of surface and ground waters.
- Options for the use of Sugarloaf Island.
- The potential economic and environmental impacts of deepening Calico Creek.
- Long-term solutions to wastewater treatment and disposal.
- The demand for and impacts of marinas.
- The conservation of Phillips Island and the Newport Marshes.
- Preservation of wetlands.
- The implications of anticipated sea level rise.
- The designation of a portion of Calico Creek as a primary nursery area.

Resource Production and Management Issues

- The impact of land development activities on marine fisheries.
- Off-road vehicle use in fragile environments.
- Siltation problems on the Newport River.
- The presence of prime agricultural land and commercial forest land in the Morehead City Planning Jurisdiction.
- The designation of a portion of Calico Creek as a primary nursery area.

Economic and Community Development Issues

- Maintaining low residential densities.
- The impacts of high-rise development.
- Redevelopment of the downtown area.
- Managing infill development in established residential areas.
- Commercial land use encroachment in residential areas.
- The economic impact of the NC State Port.
- Managing strip commercial development adjacent to US 70.

- The impact of tourism on Morehead City.
- Improvements to major thoroughfares.
- Promoting voluntary annexations.
- Annexation agreements with the Towns of Newport and Beaufort
- Water and sewer extensions and agreements.
- Coordination of comprehensive stormwater management practices and policies with adjoining local governments.
- Regional solutions to wastewater disposal needs.
- The potential economic impact of future development on Calico Bay.
- Protection of the Norfolk-Southern Railroad corridor.
- Provision of waterfront access.
- Annexation of outlying, developed areas.
- Promoting industrial development, including industrial park development.
- Expansion of municipal ETJ areas.
- Planning and zoning jurisdiction of Radio Island.

Summary of 1999 Goals and Objectives

Resource Protection and Resource Production and Management Goals and Objectives

- Protect and manage the area's natural resources.
- Promote development that does not significantly impact natural resources.
- Promote development that retains and maintains the town's present character.
- Facilitate adequate wastewater disposal so as to prevent the installation of additional septic tanks and to improve environmental conditions, particularly in areas with poor soil conditions for subsurface sewage disposal systems.
- Discourage additional septic system use in areas where municipal sewer service is currently unavailable promote the extension of the town's sewer system to such areas.
- Permit marina construction in primary nursery areas in accordance with the CAMA 7H Use Standards, local zoning, and other land use regulations.
- Promote flexible options for the use of Sugarloaf Island in accordance with CAMA minimum use standards, the town's zoning ordinance, and other applicable town regulations and policies.
- Promote water conservation measures through the development of incentive programs sponsored by the town's public utility department.
- Continue participation in the Carteret County Interlocal Agency and the Regional Wastewater Task Force to develop long-term solutions to wastewater treatment.

- Encourage marina siting and design which promotes proper flushing action.
- Discourage the location of floating structures in primary nursery areas, outstanding resource waters, public trust areas, and estuarine waters. Allow floating structures in marinas where approved sewage hook-ups or self-contained holding tanks are available.
- Allow public mooring fields in accordance with CAMA Use Standards.

Economic and Community Development Goals and Objectives

- Encourage voluntary annexations as a mechanism for promoting orderly city growth and utility extensions.
- Support local intergovernmental cooperation with regard to land use planning issues such as ETJ areas, Radio Island, annexation agreements, industrial park development, and utility extensions and agreements.
- Encourage high-rise residential development only in locations where emergency services can adequately be provided.
- Support dredging efforts to eliminate the adverse impacts of siltation on the productivity of the Newport River.
- Encourage the redevelopment and restoration of the central business district as a retail, business and professional services, office, and commercial marine center of the community.
- Encourage a variety of land uses including living space as well as shopping and services; and promote the adaptive reuse of existing buildings.
- Promote infill development which is compatible in density and scale to the surrounding area.
- Address the parking concerns and issues in the downtown area and consider alternative traffic patterns as a possible solution to parking concerns.
- Work with the US Army Corps of Engineers and the Division of Coastal Management to extend the Morehead City harborline south of its present location in order to promote economic development in the downtown area.
- Promote the enhancement of the North 20th Street corridor as a major thoroughfare to improve access to the residential areas located in the northern section of town.
- Promote traffic improvements on Tootle Road and Mayberry Loop Road through roadway realignment and the installation of sidewalks and roadway improvements.
- Evaluate commercial rezonings that promote neighborhood retail and service uses to monitor their impact on community character and scale.
- Pursue the installation of sidewalks and roadway improvements along Barbour Road and the North 35th Street corridor.
- Limit curb cuts on the Bridges Street Extension.

- Evaluate, upon the completion of the Bridges Street Extension, the feasibility of roadway improvements to Country Club Road and Friendly Road to improve traffic flow and the feasibility of a connector street west of Friendly Road to connect Bridges Street Extension and Country Club Road.
- Discourage nonresidential development adjacent to the Bogue Sound waterfront within existing residential areas.
- Work with the North Carolina Department of Transportation to install landscaping improvements, pedestrian walkways, and bicycle paths from the NCDOT welcome station to the commercial areas located to the west.
- Install water and sewer improvements to newly annexed areas.
- Improve recreational opportunities through the development of a park in the western section of town.
- Encourage public water access to the maximum extent feasible.
- Prepare a waterfront access plan.
- Encourage new development along the US Highway 70 corridor to provide connecting and/or shared parking lots in order to reduce the number of curb cuts along the corridor.
- Encourage, in Neighborhood 8, the annexation of areas adjacent to the corporate limits to promote jobs and economic development.
- Evaluate the need for water system improvements in Neighborhood 8, including the installation of an elevated water storage tank, to promote industrial and economic development.
- Address landscaping and curb cut issues along the US Highway 70 and NC Highway 24 corridors.
- Discourage further manufactured home park development in the Crab Point area.
- Support the construction of interconnecting water mains between Newport and Morehead City to provide a backup water supply for each community.
- Encourage better interconnection between residential developments in Neighborhood 9 to promote local vehicular access and circulation other than from NC Highway 24.

Appendix K Glossary

ADT (Average Daily Traffic). The average number of cars per day that pass over a given point.

Anadromous. Ascending rivers from the sea for breeding. Fish species, such as shad, herring, and striped bass, migrate from their primary habitats in the oceans up freshwater rivers and streams to spawn.

Areas of Environmental Concern (AECs). The Coastal Area Management Act (CAMA) designates four categories of areas of environmental concern (AECs): the estuarine system, the ocean hazard system, public water supplies, and natural and cultural resource areas. These AECs, and the standards for development within them, cover almost all coastal waters and three percent of the land in the twenty coastal counties in North Carolina.

Benthic. Living in or on the bottom of a body of water.

Best Management Practice (BMP). A method, activity, maintenance procedure, or other management practice for reducing the amount of pollution entering a body of water.

CAMA. Coastal Area Management Act of 1974.

Coastal Complex Natural Areas. Lands that support native plant and animal communities and provide habitat qualities which have remained essentially unchanged by human activity.

Coastal Wetlands. Any salt marsh or other 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 nor tropical storm tides. Coastal wetlands contain some, but not necessarily all, of the following marsh plant species:

- Cord Grass
- Bulrush
- Black Needlerush
- Saw Grass
- Glasswort
- Cat-tail
- Salt Grass
- Salt Meadow Grass
- Sea Lavender
- Salt Reed Grass

Also included in this definition is such contiguous land as the Secretary of the NC Department of Environment, Health and Natural Resources reasonably deems necessary to affect by any such order in carrying out the purposes of the CAMA regulations.

CRC. Coastal Resources Commission.

DCM. Division of Coastal Management, North Carolina Department of Environment, Health and Natural Resources.

Estuarine Shorelines. Those non-ocean shorelines which are especially vulnerable to erosion, flooding, or other adverse effects of wind and water and are intimately connected to the estuary. This area extends from the mean high water level or normal water level along the estuaries, sounds, bays and brackish waters for a distance of 75 feet landward. For those estuarine shorelines immediately contiguous to waters classified as Outstanding Resource Waters (ORW), the estuarine shoreline extends 575 feet landward from the mean high water level or normal water level.

Estuarine System. The coast's broad network of brackish sounds, marshes, and the shorelines surrounding them. The following components of the estuarine system have been designated as AECs: estuarine waters, public trust areas, coastal wetlands, and estuarine shorelines

Estuarine Waters. All the waters of the Atlantic Ocean within the boundary of North Carolina and all the waters of the bays, sounds, rivers, and tributaries thereto seaward of the dividing line between coastal fishing waters and inland fishing waters, as set forth in an agreement adopted by the Wildlife Resources Commission and the Department of Environment, Health, and Natural Resources.

Estuary. A semi-enclosed body of water where fresh water draining from the mainland mixes with salt water from the ocean.

Floating Structures. Any structure, not a boat, supported by a means of flotation, designed to be used without a permanent foundation, which is used or intended for human habitation or commerce. A structure is considered a floating structure when it is inhabited or used for commercial purposes for more than thirty days in any one location. A boat may be deemed a floating structure when its means of propulsion has been removed or rendered inoperative and it contains at least 200 square feet of living space area. A boat is defined as a vessel or watercraft of any type or size specifically designed to be self-propelled, whether by engine, sail, oar, or paddle or other means, which is used to travel from place to place by water.

Fecal Coliform. Bacteria from the intestinal tracts of warm-blooded animals. High numbers of fecal coliform bacteria in a water body may indicate a recent release of untreated wastewater and/or the presence of animal feces. Fecal coliform is used as an indicator for managing the closure of shellfish beds to protect the public health.

Freshwater Wetlands. Swamps and inland wetlands that are not covered by the Coastal Area Management Act, unless the Coastal Resource Commission designates them as a natural resource AEC. Freshwater wetlands are protected by the Clean Water Act and a US Army Corps of Engineers permit is required for work in them.

Freestanding Moorings. Any means to attach a ship, boat, vessel, floating structure or other water craft to a stationary underwater device, mooring buoy, buoyed anchor, or piling (as long as the piling is not associated with an existing or proposed pier, dock, or boathouse).

Impaired Waters. Surface waters that are negatively impacted by pollution resulting in decreased water quality.

Marinas. Any publicly- or privately-owned dock, basin, or wet boat storage facility constructed to accommodate more than 10 boats and providing any of the following services: permanent or transient docking spaces, dry storage, fueling facilities, haulout facilities, and repair service.

Excluded from this definition are boat ramp facilities allowing access only, temporary docking, and none of the preceding services.

Migration Rate. Migration rate is the difference between population in-migration and out-migration expressed as a percentage of the base year total population. It is derived by dividing natural increase (or decrease) by the base year total population.

Natural and Cultural Resource Areas. Areas containing environmental, natural or cultural resources of more than local significance in which uncontrolled or incompatible development could result in major or irreversible damage to natural systems or cultural resources; scientific, educational, or associative values; or aesthetic qualities.

Natural Increase. Natural increase is the difference between total births and total deaths.

Net Migration. Net migration is the difference between total population change and natural increase (or decrease).

Normal High Water. The ordinary extent of high tide based upon site conditions such as presence and location of vegetation, which has its distribution influenced by tidal action, and the location of the apparent high tide line.

Normal Water Level. The level of water bodies with less than six inches of lunar tide during periods of little or no wind. It can be determined by the presence of such physical and biological indicators as erosion escarpments, trash lines, water lines, marsh grasses, and barnacles.

Nutrient Sensitive Waters. A supplemental water classification developed by the Division of Water Quality that is intended for waters needing additional nutrient management due to their being subject to excessive growth of microscopic or macroscopic vegetation.

Ocean Beaches. Lands consisting of unconsolidated soil materials that extend from the mean low water line landward to a point where either the growth of vegetation occurs or a distinct change in slope or elevation alters the configuration of the landform, whichever is farther landward.

Ocean Hazard Areas. Beaches, frontal dunes, inlet lands, and other areas along the Atlantic Ocean shoreline in which geologic, vegetative, and soil conditions indicate a substantial possibility of excessive erosion or flood damage. The ocean hazard system of AECs contains the following areas: ocean erodible areas, high hazard flood areas, inlet hazard areas, and unvegetated beach areas.

On-site Wastewater Treatment Systems. Systems, including septic tanks and package treatment plants, which treat wastewater where it is produced. These systems are smaller in scale than municipal central sewage treatment plants.

Outstanding Resource Waters. Estuarine waters and public trust areas classified by the North Carolina Environmental Management Commission as waters of exceptional state or national recreational or ecological significance.

Primary Nursery Areas. Areas in the estuarine system where initial post larval development of finfish and crustaceans takes place. They are usually located in the uppermost sections of an estuarine system where populations are uniformly early juvenile stages.

Public Water Supplies. Public water supply AECs include small surface water supply watersheds and public water supply well fields. Small water supply watersheds are catchment areas situated entirely within the coastal area which contain a water body classified as A-II by the Environmental Management Commission. Public water supply well fields are areas of well-drained sands that extend downward from the surface into the shallow ground water table which supplies the public with potable water.

Public Trust Areas. All waters of the Atlantic Ocean and the lands thereunder from the mean high water mark to the seaward limit of state jurisdiction; all natural bodies of water subject to measurable lunar tides and lands thereunder to the mean high water mark; all navigable natural bodies of water and lands thereunder to the mean high water level or mean water level as the case may be, except privately-owned lakes to which the public has no right of access; all water in artificially created bodies of water containing significant public fishing resources or other public resources which are accessible to the public by navigation from bodies of water in which the public has acquired rights by prescription, custom, usage, dedication, or any other means. Public trust areas overlap with the estuarine waters AEC, but they also cover inland fishing waters that are not in the estuarine waters AEC.

Riparian. Relating to the bank or shoreline of a body of water.

Runoff. Water which is not absorbed by soil and which drains off the land into bodies of water.

Significant Coastal Archaeological Resources. Areas that contain archaeological remains (objects, features, and/or sites) that have more than local significance to history or prehistory.

Significant Coastal Historic Architectural Resources. Districts, structures, buildings, sites or objects that have more than local significance to history or architecture.

Stormwater. Water which is generated by rainfall, causes runoff, and often is routed into drainage systems.

Unique Coastal Geologic Formations. Sites that contain geologic formations that are unique or otherwise significant components of coastal systems, or that are especially notable examples of geologic formations or processes in the coastal area.

Water-dependent Uses. Uses that must be located near or in water to accomplish their intended purpose. Examples include navigation channels, drainage ditches, docks, wharfs, piers, bulkheads, utility easements, revetments, culverts, mooring pilings, boat ramps, groins, bridges, and bridge approaches.

Watershed. The geographic region within which water drains to a particular river, stream, or body of water.

Wetlands. The Division of Coastal Management has developed the following definitions for wetlands:

- **Altered Wetlands.** Areas of human impact that has physically disturbed the wetlands but the area is still wetland.

- **Bottomland Hardwoods.** Seasonally flooded forested or occasionally scrub/shrub areas usually occurring in floodplains. Typical species include hickories, oaks (overcup, water, laurel, swamp chestnut), sweet gum, green ash cottonwoods, willows, river birch, and occasionally pines.
- **Disturbed Wetlands.** Areas of hydric soils where vegetation has been removed. (No longer wetlands)
- **Drained Wetlands.** Any wetland system described herein which is or has been effectively drained.
- **Estuarine Forested.** A forested wetland community subject to occasional flooding by tides, including wind tides (whether or not the tide waters reach the marshland areas through natural or artificial watercourses). Examples include pine dominated communities with *Juncus* spp. understories or fringe swamp communities such as those which occur along the Albemarle and Pamlico sounds.
- **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 watercourses). Typical species include *Myrica* spp. and *Juniperus virginiana*.
- **Freshwater Marsh.** Herbaceous areas which are flooded for extended periods during the growing season. Included in this are marshes within lacustrine systems, managed impoundments, some Carolina Bays, and nontidal other non-tidal marshes (i.e. marshes which do not fall into the Salt/Brackish Marsh category). Typical communities include species of sedges, millets, ashes and grasses not specified in the coastal wetland regulations. Also included is *Arundinaria gigantea*, *Sagittaria* spp., *Pontederia* spp., *Peltandra* spp., *Polygonum* spp., and *Typha* spp.
- **Hardwood Flat.** Poorly drained interstream flats not associated with rivers or estuaries. Seasonally saturated by high water table or poor drainage. Species vary greatly but often include *Liquidambar styraci flua* and *Acer rubrum*.
- **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.
- **Managed Pinelands.** Seasonally saturated, managed pine forests (usually *Pinus taeda*) occurring on hydric soils.
- **Maritime Forest.** A forested community characterized by its stunted growth due to the stresses imposed by its vicinity to salt spray from the ocean. Typical vegetation includes *Quercus virginiana*, *Acer rubrum* and *Nyssa biflora*.
- **Pine Flats.** Palustrine, seasonally saturated pine communities on hydric soils that may become quite dry for part of the year. Generally on flat or nearly flat interfluves. Usually dominated by *Pinus taeda*. This category does not include managed pine systems.

- **Pocosin.** Palustrine scrub/shrub communities (i.e., non-Estuarine Scrub/Shrub) dominated by evergreen shrubs, often mixed with pond or loblolly pines. Typically occur on saturated, acid, nutrient poor, sandy or peaty soils usually removed from large streams and subject to periodic burning.
- **Salt/Brackish Marsh.** Any salt marsh or other 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. Coastal wetland plant species include: *Spartina alterniflora*, *Juncus roemerianus*, *Salicornia* spp., *Distichlis spicata*, *Limonium* spp., *Scirpus* spp., *Cladiumjaillaicense*, *Typha* spp., *Spartina patens* and *Spartina cywosuroides*.
- **Swamp Forest.** Riverine and non-riverine forested or scrub/shrub communities which are semi-permanently flooded, including temporarily flooded depressional systems. Typical species include *Taxodium* spp., *Nyssa* spp., *Fraxinus pennsylvanica*, *Acer rubrum* and *Carya aquatica*.

Appendix L
Hazard Mitigation Plan Matrix

TITLE & ADOPTION DATE	PURPOSE	DESCRIPTION	MITIGATION EFFECTIVENESS	NOTES
CAMA Land Use Plan	<i>Flood Hazard Areas</i>	The Town will continue to enforce the Flood Damage Prevention Ordinance which requires new construction to be elevated at least one foot above the established 100 year flood elevation.	HIGH	The Town will continue to participate in the Federal Emergency Management Agency's Community Rating System Program which results in lower flood insurance rates.
	<i>Estuarine Shoreline</i>	Development shall be designed to adequately provide for stormwater runoff in accordance with State regulations.	MODERATE	
	<i>Potable Water Supply Protection</i>	The Town will coordinate land development activities involving hazardous chemical or petroleum storage and disposal with the appropriate county and state regulatory agencies. The Town also supports management practices which address the incidental use of hazardous materials such as insecticides, herbicides, fertilizers, etc.	MODERATE	
	<i>Stormwater Runoff, Water Quality Problems and Management Measures</i>	<p>Morehead City will promote the use of best available management practices to minimize the degradation of water quality resulting from stormwater runoff.</p> <p>The Town will coordinate its approval of land development projects with (i) the North Carolina Division of Water Quality, Water Quality Section and (ii) the Land Quality Section of the North Carolina Division of Land Resources.</p> <p>The Town will develop a comprehensive stormwater assessment plan.</p> <p>The Town promotes the coordination with adjoining local government jurisdictions of comprehensive stormwater management practices and policies to enhance water quality.</p>	HIGH	<p>Examples include using pervious or semi-pervious materials for driveways and walks, retaining natural vegetation along marsh and waterfront areas and allowing stormwater to percolate into the ground rather than discharging it directly to coastal waters.</p> <p>The permitting requirements and stormwater regulations.</p> <p>The soil erosion and sedimentation control regulations.</p> <p>To evaluate the existing stormwater drainage system and which will be utilized to established guidelines for future land development consistent with state regulations.</p>

TITLE & ADOPTION DATE	PURPOSE	DESCRIPTION	MITIGATION EFFECTIVENESS	NOTES
	<i>General Land Development Policies</i>	<p>The Town will encourage land development in areas that currently have the necessary support infrastructure or where these services can readily be made available.</p> <p>The Town will promote the continued low-density residential development character of areas located on the fringes of the extraterritorial jurisdiction and in locations adjacent to identified fragile areas.</p> <p>The Town will strive to provide a safe, efficient and well-maintained street system consistent with the Town's adopted thoroughfare plan.</p> <p>The Town will encourage voluntary annexations as a mechanism for promoting orderly city growth and utility extensions.</p> <p>The Town will support local intergovernmental cooperation with regard to land use planning issues.</p>	MODERATE	<p>Water, sewer, streets, etc.</p> <p>ETJ areas, Radio Island, annexation agreements, industrial park development and utility extensions/agreements.</p>
	<i>Desired Types of Urban Growth Patterns</i>	<p>The Town will encourage the type of industrial development that is consistent with the community's present manufacturing base and which has limited off-site impacts.</p> <p>Industrial development will be encouraged in those sections of Town with adequate public water and sewer services and vehicular access to a major arterial highway.</p>	MODERATE	

TITLE & ADOPTION DATE	PURPOSE	DESCRIPTION	MITIGATION EFFECTIVENESS	NOTES
	<i>Commitment to State and Federal Programs</i>	The Town will evaluate state and federal programs which impact the Town's development. The Town's policy has generally been to assist and cooperate with state and federal offices in local development programs.	HIGH	Some of the programs include highway, rail, air and water transportation improvements, solid waste disposal, water quality, community development, stormwater management and military facilities.
	<i>Assistance to Channel Maintenance Projects</i>	<p>The Town will cooperate and assist the US Army Corps of Engineers in its effort to maintain channels.</p> <p>The Town recognizes the problem with the siltation of the Newport River and supports dredging efforts to eliminate the adverse impacts of siltation on the productivity of the river.</p>	LOW	
	<i>Neighborhood 9</i>	<p>The Town will encourage better interconnection between residential developments located along the NC Highway 24 corridor.</p> <p>The Town will support the extension of Little Nine Road from its present terminus southward to NC Highway 24.</p>	LOW	<p>This will mean local residential vehicular traffic is not totally dependent upon Highway 24 for access and circulations.</p> <p>This will improve access between Highway 24 and Highway 70.</p>
	<i>Storm Hazard Mitigation, Post-Disaster Recovery/ Evacuation Plans/ Reconstruction Plan</i>	<p>The Town will continue to enforce the State Building Code requirements that relate to wind-resistant construction standards.</p> <p>The Town will participate in the National Flood Insurance Program and to enforce the Flood Damage Prevention Ordinance.</p> <p>The Town will avoid zoning areas susceptible to storm surge for higher density residential uses and intensive nonresidential uses.</p> <p>The Town will continue to support and cooperate with Carteret County and other local units of government in emergency management planning and training.</p> <p>A post disaster plan provides a program that will permit a local government to deal</p>	MODERATE	

TITLE & ADOPTION DATE	PURPOSE	DESCRIPTION	MITIGATION EFFECTIVENESS	NOTES
		<p>with the aftermaths of a storm in an organized and efficient manner. The Plan provides the mechanisms, procedures, and policies that will enable a local community to learn from its storm experiences and to rebuild the community in a wise and practical manner. A post disaster reconstruction plan encompasses three distinct reconstruction periods.</p>		<p>The emergency period is the reconstruction phase immediately after a storm.</p> <p>The restoration period covers the weeks and months following a storm disaster.</p> <p>The replacement reconstruction period is the period during which the community is rebuilt.</p>
<p>Unified Development Ordinance Regulations</p>	<p><i>Relationship to Coastal Area Management Act [CAMA] Land Use Plan</i></p>	<p>It is the intention of the City Council that this Ordinance implement the planning policies adopted by the City Council for the Town and its extraterritorial planning area, as reflected in the CAMA land use plan and other planning documents.</p> <p>Calls for developers to provide drainage easements with adequate width in new subdivisions.</p> <p>Identifies information to be depicted on subdivision plats.</p> <p>Addresses nonconforming structures and uses.</p>	<p>HIGH</p>	<p>While the City Council reaffirms its commitment that this Ordinance and any amendment to it be in conformity with adopted planning policies, the City council hereby expresses its intent that neither this Ordinance nor any amendment to it may be challenged on the basis on any alleged nonconformity with any planning document.</p> <p>It includes a requirement that provides for the future upkeep and maintenance of drainage easements.</p> <p>This includes flood zones, CAMA areas, 404 wetlands, existing streams or water courses, open space, street layouts, permits from state and federal agencies.</p> <p>Provides a framework for considering expansion and continuation of nonconforming situations in certain circumstances.</p>
	<p><i>Provisions for Flood Hazard Reduction - General Standards</i></p>	<p>All new construction and substantial improvements shall be: anchored to prevent flotation, collapse, or lateral movement of the structure; constructed with materials and utility equipment resistant to flood damage; constructed by methods and practices that minimize flood damages; service facilities shall be designed and/or located so as to prevent water from entering or accumulating within the components during conditions of flooding; water supply systems shall be designed to minimize or eliminate infiltration of floodwaters into the system; sanitary sewerage systems shall be designed to minimize or eliminate infiltration of floodwaters into the systems and discharges from the systems into</p>	<p>HIGH</p>	<p>Service utilities include electrical, heating, ventilation, plumbing and air conditioning equipment.</p> <p>Water supply systems include all new and replacement systems.</p> <p>Sanitary sewerage systems include new and replacement systems.</p>

TITLE & ADOPTION DATE	PURPOSE	DESCRIPTION	MITIGATION EFFECTIVENESS	NOTES
		<p>floodwaters; on-site disposal systems shall be located and constructed to avoid impairment to them or contamination from them during flooding; any work performed on a structure, which is in compliance with the provisions of this Ordinance, shall meet the requirements of "new construction" as contained in this Ordinance.</p>		<p>Work on a structure includes any alteration, repair, reconstruction or improvement.</p>
	<p><i>Provisions for Flood Hazard Reduction - Specific Standards</i></p>	<p>Nonconforming buildings or uses may not be enlarged, replaced or rebuilt unless the enlargement or reconstruction is accomplished in conformance with the provisions of this Ordinance.</p> <p>In all areas of special flood hazard where base flood elevation data has been provided as established by identification by the Federal Emergency Management Agency in its Flood Hazard Boundary Map or Flood Insurance Study and Flood Insurance Rate Map(s) for the Town there are specific requirements that must be met.</p>	<p>HIGH</p>	<p><u>Residential construction</u>: new construction or substantial improvement of any residential structure (including manufactured homes) shall have the lowest floor, including basement, elevated no lower than one foot above the base flood elevation. Should solid foundation perimeter walls be used to elevate a structure, openings sufficient to facilitate the unimpeded movements of floodwaters shall be provided.</p> <p><u>Nonresidential construction</u>: new construction or substantial improvement of any commercial, industrial, or nonresidential structure shall have the lowest floor, including basement, elevated no lower than one foot above the level of the base flood elevation. Structures located in A Zones may be flood proofed to the flood protection level in lieu of elevation provided that all areas of the structure below the required elevation are watertight with walls substantially impermeable to passage of water using structural components having the capability of resisting hydrostatic and hydrodynamic loads and the effect of buoyancy. A registered professional engineer or architect shall certify that the standards of this subsection are satisfied.</p>
<p>Disaster Response Plan</p>	<p>Hurricanes</p>	<p>The Town Police Department has adopted this policy to provide for the expeditious response to natural and manmade disasters, and other circumstances of an unusual nature.</p>	<p>LOW</p>	<p>Disasters include manmade (chemical spills, train derailments, aircraft crashes, etc.) and natural.</p>