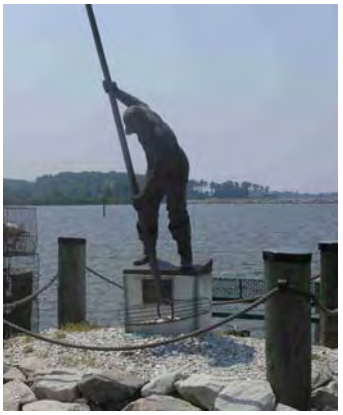
COMPREHENSIVE PLAN

ROCK HALL, MARYLAND



July 2011

RESOLUTION TO ADOPT THE UPDATED COMPREHENSIVE PLAN FOR ROCK HALL, MARYLAND
Number: 2011-02

Whereas the Mayor and Council of Rock Hall deemed it necessary to prepare a revised Comprehensive Plan in order to have a principle document outlining the Towns direction, policy, and actions regarding land use; and

Whereas, the provisions of Section 3.08 of Article 66B of the Annotated Code of Maryland directed that the Comprehensive Plan be updated; and

Whereas, a Comprehensive Plan for Rock Hall, Maryland has been approved by the Rock Hall Planning Commission on June 8, 2011.

Whereas the Mayor and Council wish to extend their thanks and appreciation to all those citizens of Rock Hall who contributed to making the revised Comprehensive Plan possible.

NOW, THEREFORE, BE IT RESOLVED by the Mayor and Council of Rock Hall, Maryland that the Comprehensive Plan for Rock Hall, Maryland, as updated July 2011, be and is hereby adopted as the Comprehensive Plan for Rock Hall, Maryland;

AND BE IT FURTHER RESOLVED that this resolution be affixed to and be made a part of the Comprehensive Plan of Rock Hall, Maryland.

ADOPTED this 14th day of July 2011.

THE MAYOR AND COUNCIL
OF ROCK HALL, MARYLAND

Robert E. Willis, Mayor

Olin B. Price, Councilmember

Susan A. Francis, Councilmember

Brian S. Nesspor, Councilmember

Brian L. Jones, Councilmember

VOTE:

YAYES: 5

NAYES: _____

ABSTAINING: _____

THE ROCK HALL COMPREHENSIVE PLAN
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I. THE VISION FOR ROCK HALL

In Rock Hall, all roads lead to the water and all water eventually flows to one of the world's greatest estuaries, the Chesapeake Bay. From the Town's establishment in 1707, the Chesapeake Bay and its tributaries have shaped the economic and cultural development of the Town. In the early years, the Bay served as a commercial link to other populated areas. Rock Hall served as a shipping point for seafood and agricultural products. Later fishing and seafood processing became the Town's largest industry, providing an economic base for Main Street's commerce and town community life. In recent years, recreational interests have emerged as a strong economic engine with Rock Hall serving as one of the larger charter boat fishing and sailing centers on the Eastern Shore.

Rock Hall will continue to be shaped by the Chesapeake Bay, and the Town's relationship to the water remains of central importance to its residents, its businesses, and its visitors. We will work to maintain these relationships to the Bay and will continue the traditions that have influenced the character and development of the community.

As the Town enters its third century, the importance of charting a clear path for the future is evident. In that vein, Rock Hall establishes the following overarching goals to which proposals will be evaluated:

- ≈ Rock Hall will build a sustainable community that meets the needs of townspeople, visitors, and the environment.

- ≈ Rock Hall will maintain its small town character and its particular sense of place while allowing planned change which will enhance the quality of life for residents and visitors of all income levels and ages.

- ≈ Rock Hall will establish a strong economic base.

To assure the achievement of these goals the following principles will serve as a guide to decision-making in the future:

- ≈ The traditional, small town character of Rock Hall with its active business district, working harbor, and closely connected residential areas will be maintained.

- ≈ The Town is committed to the development of water-based businesses including marinas, marine suppliers and technicians, seafood harvesting, and recreational boating activities.

- ≈ All new development and renovations will meet high quality design standards that are consistent with the eclectic character of Rock Hall in architecture, scale, and spacing and that retain the high quality of the public views of the water.

- ≈ A diverse set of business and industry ventures compatible with the needs of the community and that provide well paying jobs is essential for a healthy and balanced community.

- ≈ New businesses should locate on Main Street in order to maintain the distinctive character of the Town Center.

- ≈ The Town will be made more accessible and unified with the improvement of pedestrian and bicycle paths.

- ≈ The Town is committed to maintaining a working harbor and assuring a place for local watermen in the Town's future.

- ≈ The Town is committed to protecting its natural amenities by maintaining and improving the quality of the natural environment and sensitive areas throughout the town.

The citizens of Rock Hall will determine the Town's future. It is our responsibility as citizens to promote and protect this vision for Rock Hall.

II. PURPOSE OF THE ROCK HALL PLAN

AUTHORITY

The Comprehensive Plan of Rock Hall has been prepared in accordance with the provisions of Section 3.08 of Article 66-B of the Annotated Code of Maryland.

PURPOSE

The Comprehensive Plan is the principle document outlining Town direction, policy, and action regarding land use. It is a policy statement that can be valid in the face of change over many years. Properly used, the Plan is the basis for decision-making at all levels of government and will guide the private sector toward acceptable, beneficial and profitable activities affecting the land and people.

The Comprehensive Plan is the statement of development policy for Rock Hall by the Town Council. The Plan presents a series of goals and strategies to guide the preparation of Town regulations and the application of Town programs. These goals and policies are organized in eleven functional categories dealing with municipal growth, the economy, the environment, water resources, housing, design guidelines, transportation, community facilities and public services, open space and recreation, historic and cultural preservation, and regulatory streamlining. Each section contains a summary of important issues and trends, a statement of goals which should guide the Town's administrative programs, and a list of strategies that the Town will take to reach these goals.

The Plan requires public cooperation and support for its accomplishments. It also requires far-sighted and steadfast leadership by public agencies to support the Vision and goals, to stick with the long range view when it is attacked in the name of expediency or quick profit, and to promote this view in all matters dealing with the Comprehensive Plan.

In addition to serving as a guide to expenditure of public funds in the acquisition of land and the construction of public facilities, the Plan forms the necessary background for the zoning and subdivision regulations. Zoning and subdivision standards are necessary to achieve orderly growth and an acceptable pattern of land use. Growth and change occur with time, and good planning principles must be established to preserve our vision for the future.

RELATIONSHIP TO OTHER PLANS AND LAWS

Rock Hall, as required by State laws, has prepared and continues to prepare a variety of specific plans and ordinances. Among them are the Zoning Ordinance, Subdivision Regulations, Sediment Control Ordinance, Stormwater Management Ordinance, "Stories of the Chesapeake" Heritage Area Management Plan and the Chesapeake Country Scenic Byway Corridor Management Plan. While providing more detailed information and policy, all plans and laws shall be in compliance with, and conform to, the Town Comprehensive Plan. The Comprehensive Plan provides policy direction and guides the development of these other plans.

III. GOALS AND STRATEGIES

This Comprehensive Plan establishes goals and strategies to achieve our Vision for Rock Hall's future. The following goals and strategies address eleven areas:

A. Municipal Growth
B. Economy
C. Environment
D. Water Resources
E. Housing
F. Design Guidelines
G. Transportation
H. Community Facilities and Public Services
I. Parks, Recreation and Open Space
J. Historic and Cultural Preservation
K. Regulatory Streamlining

A. MUNICIPAL GROWTH

In order to develop the goals and strategies contained within this Plan, there must be an understanding of past and future trends. Rock Hall is a diverse community that consists of year- round residents, non-resident property owners, seasonal day visitors, and a growing number of senior citizens. Population, housing, acres in each land use, and zoning districts will be utilized during forecasting in this section.

The Municipal Growth Element begins with population and housing demographics to provide the data necessary for analysis of impacts to facilities in Rock Hall or land areas adjacent to Town precipitated by population growth. It will help to analyze present shortages in housing, the need for higher density in residential districts in future years, and the possibility of annexation of land outside of the Town boundaries.

POPULATION AND HOUSING FORECASTING

This section includes trends that identify expected future population projections, and assesses implications of expected future population trends for purposes related to accommodating community planning in the next twenty years. It places an emphasis on expected housing needs, water and sewer availability, and possible growth of community services.

Population size serves as the benchmark for planning the physical needs of the community. It is one component for estimating overall land and facility needs. Analyzing the characteristics of the population assists the Mayor, Council, and Planning Commission in making informed decisions regarding the needs and service demands of the present population.

Although population projections are less than precise, they provide the basis for estimating housing and infrastructure impact and demand; and, an analysis of population relative to jobs and journey to work forecasting can be helpful to establish the need for businesses in town. The population in Town is important to the types of services and retail establishments that can be supported in Rock Hall and in areas in close proximity. The Municipal Growth Element looks at these factors so as future population growth takes place, the appropriate infrastructure, services, and housing will be available to the Town.

The Maryland Department of Planning provides the County with population projections. The most recent projections, February 2009, estimate a population in 2010 of 20,300 with 8,350 households and 2.23 persons per household. State projections for 2020 are 22,200 with 9,400 households and 2.18 persons per household. The County's annual growth rate is estimated at 0.8 percent. The State projections have been reasonably consistent and forecast moderate growth. ARRO Consulting, Inc., established a growth rate for Rock Hall. This rate takes into account the economic situation in the years 2008 and 2009 and uncertainty in the economy and its recovery.

According to the 2000 Census reports, the average household size in Rock Hall was 2.13 persons per household with an average family size of 2.67 persons. Households represent all persons occupying a housing unit, whether related or not (containing no more than one family); a family includes a householder and those who are related to the householder by birth, marriage, or adoption. Therefore, not all households contain families, since a household may comprise a group of unrelated people or one person living alone. Applying the State's growth rate results in a projected population of 1,832 persons in Rock Hall in 2030, which results in 860 projected housing units.

The number of persons per household that will be used in the Municipal Growth Element analysis will be 2.13, which is based on the 2000 census data. This number is a weighted average between owner-occupied housing units and renter-occupied housing units. The relatively small household size can be attributed to a growing elderly population and seasonal residents.

Table MG-1 shows population projections from 2000 to 2030. Projections in the year 2030 predict a modest rise in population from 2000 of 436 persons and 206 households. These numbers have been used for forecasting community facility and water resources needs. The national economy will affect population growth in the Town since there are not an abundance of jobs here and there is a higher cost to commute long distances to work. Many may be reluctant to invest in remodeling a home, or a developer may want to wait to begin a project until the economy and the housing market improves.

Table MG-1: Population and Household Projections, Rock Hall 2000-2030

Year	Rock Hall Population	Population Change	Households	Household Change
2000	1,396	-	654	-
2005	1,463	67	687	33
2010	1,508	45	708	21
2015	1,598	90	750	42
2020	1,693	95	795	45
2025	1,779	86	835	40
2030	1,832	53	860	25
Total		436		206

Rock Hall data is projected by ARRO Consulting, Inc., based on the Maryland Department of Planning data for Kent County as of February 2009 and US Census Data for 2000.

GROWTH PATTERNS

Rock Hall is framed by water and is the center of the County's maritime industries. The Town was founded in 1707 and it may have absorbed the remnants of New Yarmouth, the seat of government and location of the first courthouse in Kent County. Initially, serving as a shipping point for seafood and agricultural products, fishing and seafood processing became the Town's largest industry and employer and provided the economic base for the community. Rock Hall was also a terminus for ferry travel. Most recently, the Town has

emerged as a tourist attraction and recreational center serving as one of the area's largest charter boat fishing and sailing centers.

Rock Hall has two distinct commercial areas—the waterfront and downtown Main Street—with residential areas concentrated in between. The street network reflects the growth patterns with Rock Hall Road (MD Route 20) and Sharp Street providing direct connections between the waterfront and downtown; and Hawthorne and Main Street providing cross street connections to residential areas.

Buildings have generally been one and two stories and were constructed of brick or wood frame. The predominant period of construction is late nineteenth century to early twentieth century. Houses with low kitchen wings on one side of the house and chimneys at each gable end often flush with the wall were common and remnants of that trend are seen today. Gables frequently had small square windows flanking the chimney. Many homes featured front porches and houses that were set up to the street, often having a vegetative wall or wooden or metal fence. Some houses had telescopic design with three sections; dormers with flat roofs extending from the ridge pool; and pitched roofs on the cellar ways.

The waterfront front is dominated by marinas and fishing-related facilities. Although the Town no longer has any seafood processing facilities, commercial watermen still sell and transfer their catch at several locations on the Harbor. The downtown area is dominated by more traditional storefronts, a grocery store, a drug store, three churches and several galleries. In the 1980s several waterfront townhouse developments were constructed.

In the last 10 years, a number of improvements have been implemented. Main Street has been refurbished with improved paving, sidewalks, antique style streetlights, curbs, crosswalks and landscaping. The Town beach area at Ferry Park, which is heavily used, has been improved with a boardwalk, beach sand and gazebo. More improvements including benches, potable drinking water facilities and other amenities are also planned in the near future. A small town library has been added in the community building, the wastewater treatment plant has been upgraded; park and recreational activities added, and new facilities for the Fire Company have been built.

The Town is fortunate to be located along the beautiful Chesapeake Bay and associated marshland and wetlands. The marshes and wetlands are beneficial for passive outdoor recreation and can not be developed. Future use of this land may be associated with planned passive recreational activities that can add more tourists to the economy of the Town.

Rock Hall has a major part of Town that is located in the Critical Area and a lesser portion of Town that is located in the 100 year FEMA floodplain. Although these natural features make it more difficult to develop the Town, these designations are respected and considered with all development requests.

The existing and future land uses of the Town are shown in the following table (MG-2).

Table MG-2: Existing and Future Land Uses

Zoning/ Land Use Classification	Definition	Allowable Uses	Density
Low Density Residential	Intended to accommodate single family detached housing at low densities with some community services, institutional uses and home occupations	Single family detached dwellings; churches; parks; libraries; assisted living; private recreation	2-4 units/acre
Mixed Residential	Intended to accommodate single-family housing at medium densities including attached units subject to the requirements of the Zoning Ordinance.	Single family, duplex, triplex, townhouse, group home, churches, parks, libraries, private recreation	3-8 units/acre
High Density Residential	Intended to accommodate high-density residential development.	Single family, duplex, triplex, townhouse, group homes, churches	4-9 units/acre
Community Commercial	Intended to accommodate local businesses, institutional and service establishments meeting the needs of areas near low and medium density neighborhoods in structures less than 5,000 SF	Uses permitted in R-1; banks, salons, bakeries, childcare, dry cleaning, flower shops, retail, restaurants, offices, churches	2-4 residential units or small commercial
Highway Commercial	Intended to provide sufficient space for a wide variety of commercial and service activities generating high volumes of vehicular traffic along major roadways but excluding heavy trucking operations, open storage and warehousing	R-1 uses; C-1 uses up to 10,000 SF; hotels; motels; printing; greenhouses; mobile home sales; car wash; car and truck sales; small industry	2-4 dwellings per acre or commercial
Town Center Commercial	Intended to provide for retail services, offices and wide variety of uses providing goods and services but excluding heavy trucking, warehousing, open storage and manufacturing. Allows accessory dwelling units under certain conditions.	Services, commercial, retail; residential	_____

Zoning/ Land Use Classification	Definition	Allowable Uses	Density
Mixed Commercial Industrial	Intended to provide for comprehensively planned multi-use development such as retail, commercial, services, industrial and institutional uses. 60% max – Retail Trade/ Commercial/Service 65% max – Industrial 15% max – Institutional 20% min – Open Space	Uses allowed in C-1, C-2, C-3, shopping centers, restaurants, light manufacturing, amusements, churches, schools, community centers, seafood processing, post office	_____
Maritime Recreational	Intended to provide for and preserve waterfront property for commercial docking, sales and service of boats. In general, allows uses related to less intensive commercial marine activities related to tourism, sports fishing, vacationers	R-1 uses; restaurants, docking, sales and service of boats, churches	2-4 units/acre and commercial
Maritime Commercial	Intended to provide for a mix of residential, community, commercial and maritime related commercial uses.	R-1 and C-1 uses; boat docks, boat sales and service, hotels, laundromats	2-4 units/acre and commercial
Maritime Water Dependent	Intended to provide for and preserve land for more intense maritime activities such as commercial docking, waterfront sales, storage, boat repairs including dry docking; seafood packing and processing.	Boat sales and service, docking; out of water docking; seafood processing and packing	_____

Table has been prepared using the 1990 Comprehensive Plan and the existing Town Zoning Ordinance.

In addition to the land use classifications, the regulations of the Chesapeake and Coastal Bays Critical Area apply. These regulations are intended to protect and enhance water quality and wildlife habitat within the Critical Area. The Critical Area includes areas that are within 1000 feet from mean high tide or tidal wetlands. Land within the Critical Area is categorized by three types of areas: the Intense Development Area (IDA), the Limited Development Area (LDA), and Resource Conservation Area (RCA). Rock Hall does not currently have any areas designated as Resource Conservation Areas. The regulations applicable to the Intense and Limited Development Areas address buffers, forest conservation, water quality improvements and permissible lot coverage. Upon approval by the Mayor and Council, the County Commissioners, and the Chesapeake Bay Critical Area Commission land designated as a Limited Development Area may increase the amount of permitted development intensity or density with a change in designation from a Limited Development Area to an Intense Development Area. The majority of the Town is within the Critical Area.

Table MG-3 provides a total area of the various land uses within the Town. Approximately 60% of the land area is planned for residential uses, 10% for Town land, 12% for commercial uses and 18% for marine uses.

Table MG- 3: Existing and Proposed Land Uses by Percent and Acres of Land (Developed and Undeveloped)

Land Use	Acres	Share of Town %
Community Commercial	13.01	1.64
Highway Commercial	10.74	1.35
Town Center Commercial	18.89	2.38
Mixed Commercial Industrial	51.73	6.51
Maritime Commercial	23.49	2.95
Maritime Recreational	97.45	12.27
Maritime Water Dependent	19.19	2.42
TOTAL COMMERCIAL AND MARINE	234.50	29.52
Low Density Residential	378.27	47.62
Mixed Residential	57.06	7.18
High Density Residential	42.14	5.30
TOTAL RESIDENTIAL	477.47	60.10
Town (Government/Open Space)	82.45	10.38
TOTAL	794.42	100.00

Areas computed by ARRO from existing Town land use map.

DEVELOPMENT CAPACITY AND BUILD OUT ANALYSIS

The development capacity analysis is the basis for determining whether existing developable land will accommodate future population growth or whether redevelopment of parcels with higher density, development on existing vacant land, adaptive reuse of structures, or annexation is required. This analysis is one function of the Municipal Growth Element that is mandated to appear in the Comprehensive Plan by State law. This analysis is important because it helps to determine if there is an adequate balance between land supply, demand, services, and infrastructure.

Rock Hall is located in the southwest corner of Kent County along the shore of the Chesapeake Bay. The Chesapeake Bay borders approximately 50 percent of the Town along the north, south and west boundaries of Town. The primary access to Rock Hall is Maryland Route 20, which bisects the northern and southern portion of Town.

Approximately 60% of the Town is located within the Chesapeake Bay Critical Area. As a result, increasing the residential development density is not envisioned. The Town is particularly interested in preserving the natural beauty and views of the Chesapeake Bay. This goal and the restrictions to development placed on new development in the Critical Area will limit the intensity of any new development in this area.

During preparation of this Comprehensive Plan, the possibility of annexing adjacent land areas was analyzed. Although annexation of County land to the east along Route 20 and north along Main Street is possible, the Town is not desirous of annexing additional land, with the exception of those areas of existing development that are already served by town services. Additionally, the Town has not expressed an interest in modifying the existing zoning designations. Therefore the existing land use plan is identical to the future land use plan. It is possible that failure of private wells and/or septic systems on adjacent lands could lead to annexation in order to provide public water and sewer; otherwise annexation is not anticipated.

It is prudent for the Town to encourage infill development and adaptive reuse of existing buildings that can improve the quality of this older community. Infill and adaptive reuse development is in keeping with Smart Growth and is an efficient method of development because the infrastructure is already present. However, it is important when reviewing projects that infill development should be designed to be attractive and compatible with the existing development in Town.

Incentives may be necessary for infill lot development or adaptive reuse since it is more difficult to realize economies of scale for one building rather than several in an area. Infill development can be beneficial, especially since the Town does not anticipate the need or desire to annex. In addition, this type of development is efficient for emergency and public safety because it makes turn-around times faster; and, it adds to the goal of being a walk-able and bike-able community. Infrastructure is already in place and infill lots are less costly to provide sewer and water.

Table MG-4 lists the vacant lots that exist in Rock Hall, the densities that may be anticipated for dwelling units that could be constructed in the future and the associated water and sewer demand resulting from such development.

Table MG-4: Vacant Lots with Potential for New Construction

Land Use Designation	Acres	Estimated No. of Units	*Water & Sewer Demand
High Density Residential	Harbor Woods (approved development under construction)	40 units remaining to be constructed	10,000 GPD
High Density Residential	4 acres	32 units	8,000 GPD
Mixed Residential	17 acres	45 units	11,250 GPD
Mixed Commercial/ Industrial	50 acres	----	50,000 GPD
Marine	3 acres	6 units	1,500 GPD
Low Density Residential	Infill/resubdivisions	50 units	12,500 GPD
TOTALS		173 units	93,250 GPD

* Water and sewer demand for residential uses are estimated at 250 GPD per dwelling based on MDE guidelines. Water and sewer demand for commercial/industrial uses are estimated at 1,000 gallons per day per acre.

The estimates provided in Table MG-4 indicate a potential increase of 173 households with full buildout. The estimates equate to an increase in population of 368 persons. This estimate is somewhat less than the number of households and population projected in year 2030. The Town will need to monitor population projections during the planning horizon and take action if necessary to increase densities or reconsider annexation. The table estimates the possible number of additional units within the low-density residential land use category. While this is only an estimate, it anticipates that infill development and the resubdivision of parcels greater than ½ acre in size will result over time. At the time the Comprehensive Plan is updated in six years, these estimates should be revisited to determine if any adjustments are needed.

The Development Capacity and Buildout Analysis indicate that there may be insufficient vacant lots within the Town to accommodate future growth to the year 2030. However, it is not expected that annexation will be necessary unless wells and/or septic systems fail in the County and the State mandates that they hook onto Rock Hall's public water or sewer.

Infill development, redevelopment and/or adaptive reuse of existing buildings within Rock Hall's existing municipal boundaries are the best option. It is an option that is in keeping with Smart Growth and meets the intent of House Bill 1141. Infill development and adaptive reuse relieves growth pressure on areas in Kent County and can rejuvenate and improve the quality of life for older communities like Rock Hall. The Town does have vacant, underutilized land within its built up areas where infrastructure already exists. Infill development conserves existing community finances due to the presence of infrastructure and services that can be enhanced and improved rather than starting from new construction. It is important that infill development be designed to be attractive and compatible with the existing development in Town both spatially and architecturally, which is consistent with the Town's vision.

FUTURE INFRASTRUCTURE AND COMMUNITY FACILITIES/SERVICES ANALYSIS

WATER AND SEWER SERVICE

Detailed data on the Town's water and wastewater systems can be found in the Water Resources section. The Rock Hall water system can currently meet the average daily demand, but not the calculated maximum demand. When the water tower in Edesville is taken into consideration, water storage is acceptable. However, the bottom line is that Rock Hall does not have additional water capacity due to the limitation of the well supply and the criterion of achieving maximum daily demand.

The greatest variable in determining remaining wastewater treatment plant capacity, is the quantity of inflow and infiltration to reserve so the Town has some reasonable assurance they will not over allocate taps beyond the limits of the plant's ability to process and still meet permit limits. The wastewater plant is currently meeting permit limits. However, in order to meet the future demand, the Town must increase the plant capacity, which may place the Town within the parameters of having to meet ENR technology.

COMMUNITY SERVICES

Schools

Although public schools are controlled by the State and County, and the Town does not have the responsibility of providing schools, the Comprehensive Plan needs to examine the impact on schools resulting from the projected growth to year 2030. It has been determined that the population will grow to 1,832 in 2030 with the addition of 156 new homes from the current population.

In 2008, Rock Hall Elementary School, located on Catholic Avenue was serving 208 students and Rock Hall Middle School, located on Sharp Street was serving 138 students. Capacities of the elementary school and middle school are 260 and 340 students, respectively. The elementary school was thereby operating at 80% capacity and the middle school at 39% capacity. In 2008 the attendance ratios in Kent County Schools were as follows:

Pre-Kindergarten:	5.2%
Kindergarten:	6.7%
Elementary School:	34.6%
Middle School:	20.4%
High School:	33.1%

Based on the 2000 Census, there are approximately 0.375 children in Kent County Public Schools pre household. Using this data we can estimate that the number of new elementary school children generated by each new household will be 0.17 students, 0.08 middle school students, and 0.12 high school students.

Based on 156 new households over the 20-year planning period projected, the number of new elementary school students generated would be 26, the number of new middle school students 12, and high school, 19 students. Comparing these numbers to the capacity of the schools, the school's capacity will be less than 100%. Currently all middle school students attend Kent County Middle School in Chestertown and all high school students attend Kent County High School in Worton. It is interesting to note that the school attendance in all age groups schools has steadily decreased since 2000. With the trend toward a more aging population and an increase in seasonal homes, this trend is understandable and expected to continue.

Library Services

Kent County currently has three libraries located in Chestertown, Rock Hall, and the North County Branch in Galena. The Kent County Library System, established in 1962 and expanded in 1978, provides library services to residents in Kent, Northern Queen Anne's and Southern Cecil Counties. The library presently has 52,400 volumes and an annual circulation of 157,000 volumes.

The Rock Hall Branch, located in a portion of the Community Building on Main Street has three computer stations in a 600 square foot facility. The American Library Association suggests 1,000 square feet of library space per 10,000 persons. Baltimore County uses a standard of one full time staff person per 2,000 people. With a population of 1,832 persons forecasted in year 2030, the library will be adequate in size and staffing to provide services to Rock Hall and the surrounding communities.

Police and Emergency Services

Police services in Rock Hall are provided by the Town's own police force. There are five full-time police officers and two part-time officers. The Maryland State Police are also available on an as-needed basis to assist. Using a national standard from the International Association of Chiefs of Police of 2.6 sworn officers per 1,000 people, the Town should have five police officers by year 2030, given the projected population of 1,832. With five police officers available, the Town has adequate police presence for the 20-year planning period.

The Town's fire, emergency, and rescue services are provided by the Rock Hall Volunteer Fire and Rescue Company, a totally volunteer company, located in a recently constructed facility on Route 20. The Fire Department serves the Town of Rock Hall and an area out to Fairlee and Bayshore Road. The company's equipment consists of three engines, 2 ambulances, a tanker, a ladder truck and brush truck. The Insurance Services Office standard formula for calculating the number of engines needed = 0.85 + [0.12 x (population in 1,000s)]. Based on a projected 2030 population of 1,832, two engines would be needed. The existing equipment available is thereby adequate for the 20-year planning period.

Parks and Recreation

The Town's current parks and recreation facilities consist of a public beach known as Ferry Park located along the Bay, the Rock Hall Civic Center Park which consists of a community center, tot lots and ball fields, the Rock Hall Ball Park on North Main Street, the Blue Heron wetlands observation park on the west end of the Town, Bayside Public Landing, and a small passive ¼ acre area on Judefind Avenue and Route 20. Other recreational areas are located at the elementary school and middle school sites owned by the Kent County Public Schools.

The National Recreation and Park Association suggests that for a park system, the minimum average should be 6.25 to 10.5 acres of developed open space per 1,000 population. Considering only the two active parks at Civic Center Park and Rock Hall Ball Park consisting of about 25 acres, the Town currently exceeds and will continue to exceed the standard for developed open space through 2030.

Government Facilities

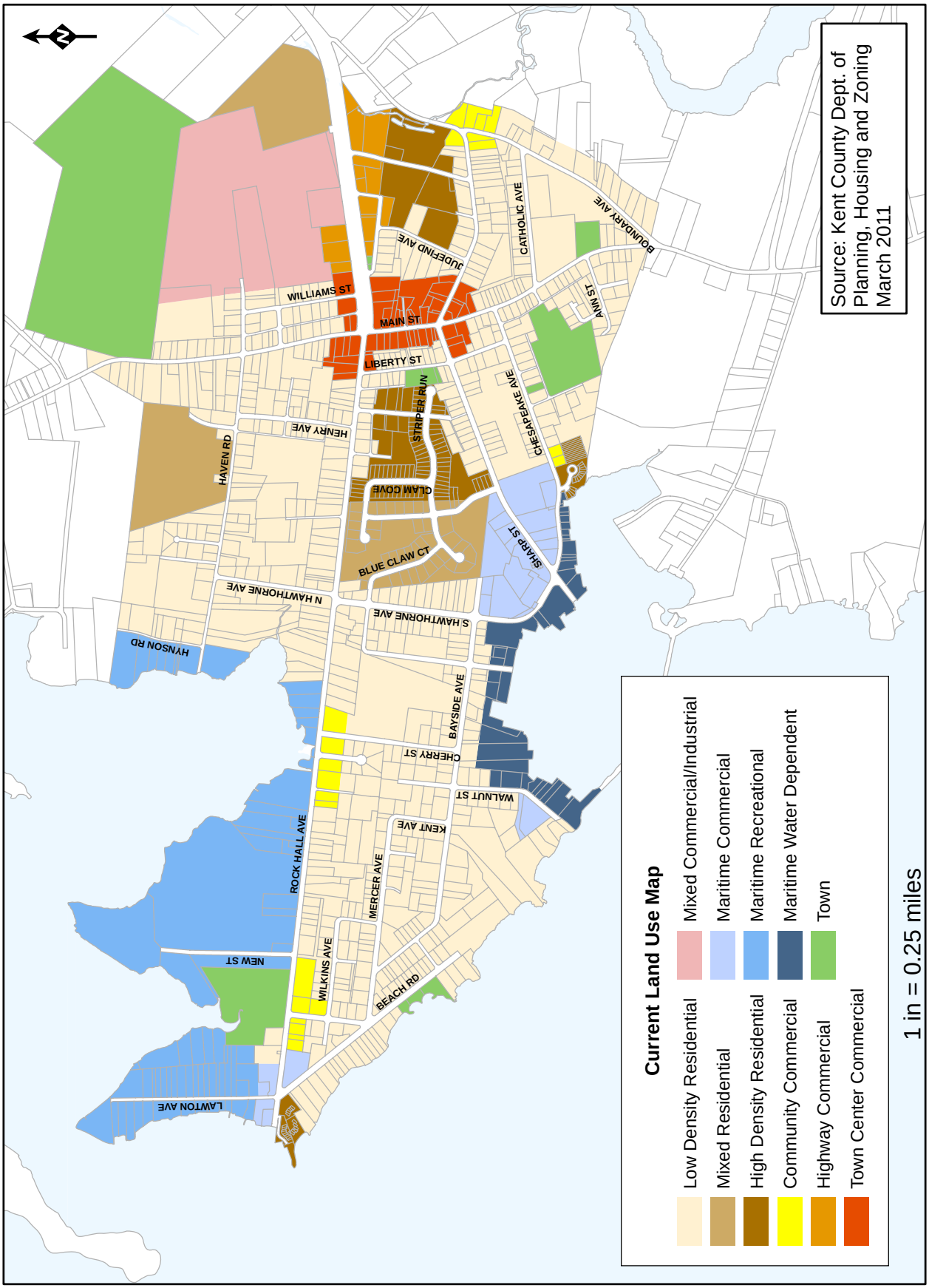
Town Hall is located in the community building on South Main Street along with the museum, library and police department. The Department of Public Works, located on Liberty Street, employs five full-time employees responsible for water and sewer maintenance and maintenance of the park system. One additional employee is being sought to assure adequate coverage.

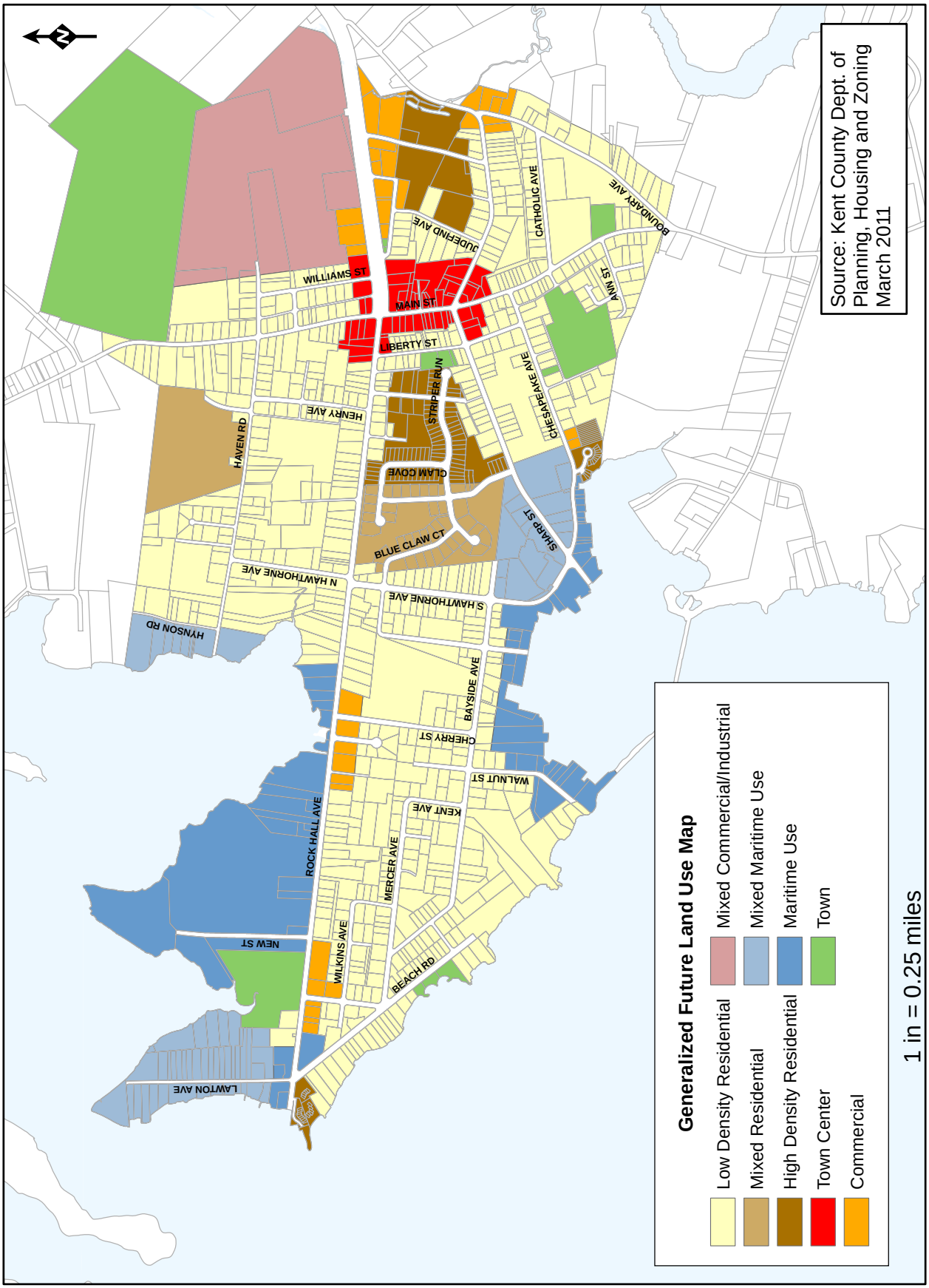
Refuse Collection

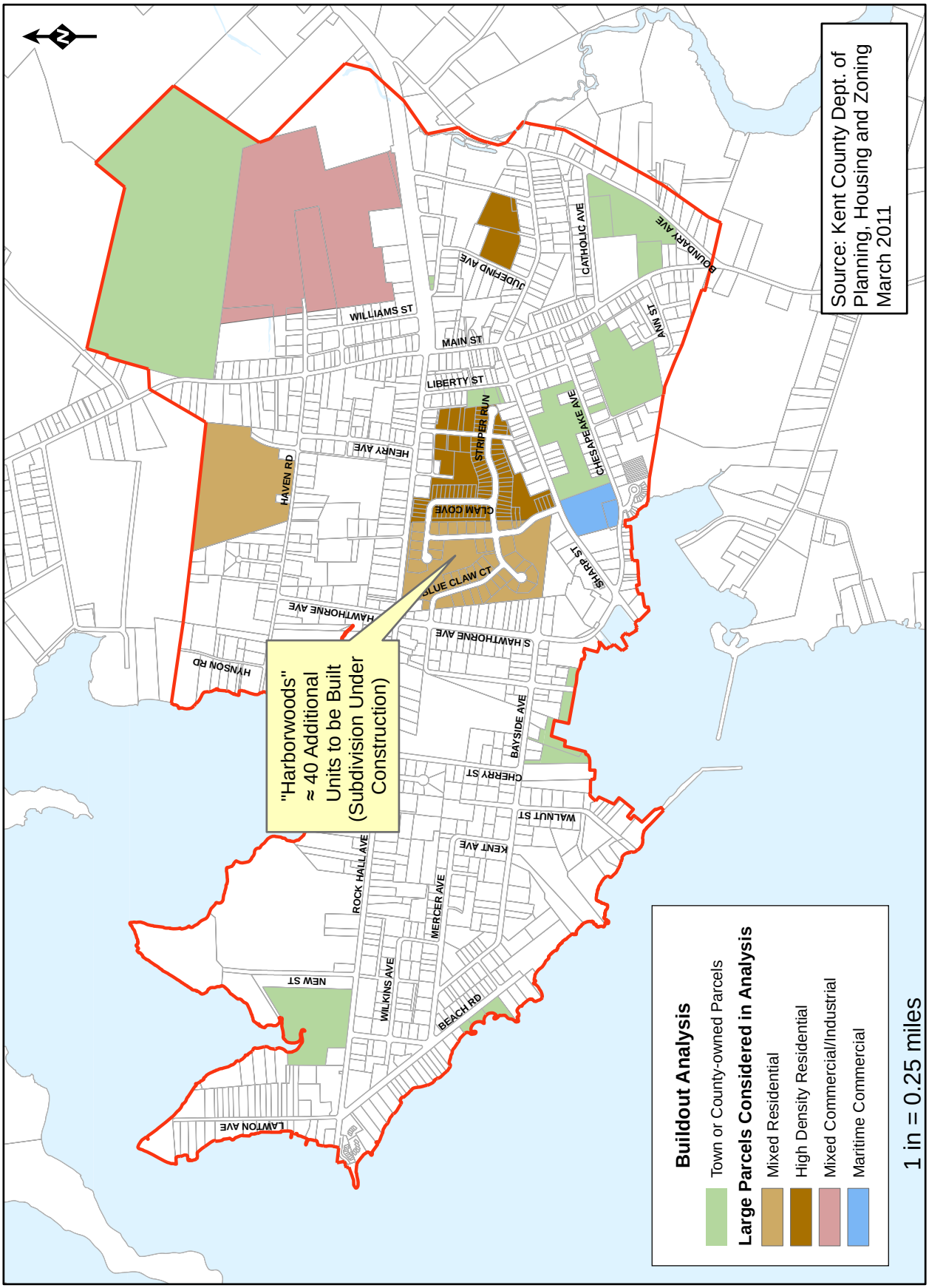
Refuse collection is currently provided to the Town citizens by an outside company, contracted by the Town, which can add or reduce its personnel and equipment as needed to adjust to future needs. Following the County's decision to end curbside recycling in June 2010, the Town decided to purchase one of the County's recycling trucks and offer curbside recycling to town residents.

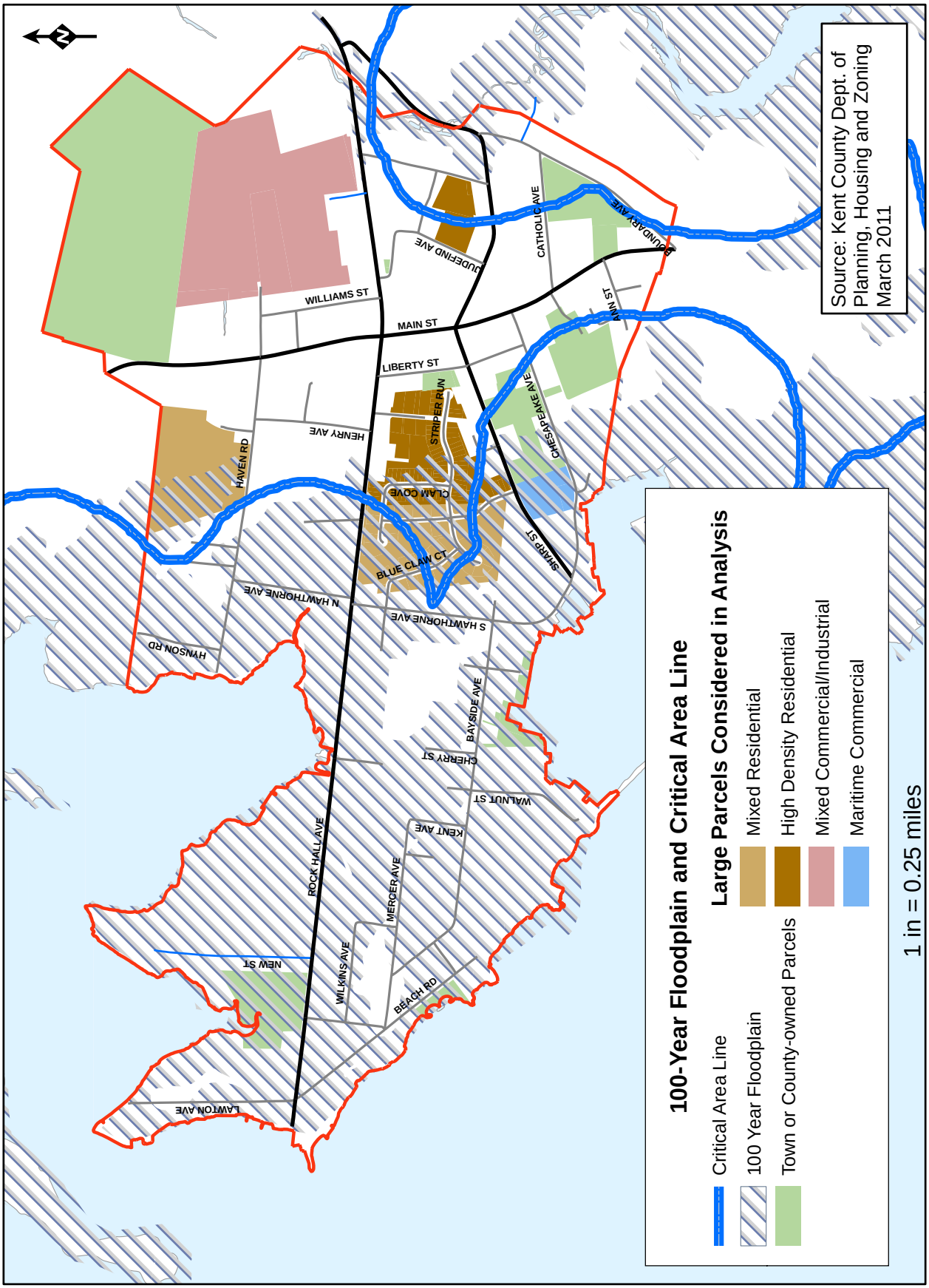
FINANCING MECHANISMS

Development projects should be able to identify and address fiscal impacts to the Town. The town will investigate means to insure that development pays its share of the cost of providing public facilities and services. Revenues from new growth should be sufficient to pay for all public service and facility expansions required by the new growth plus the wear and tear that the development imposes on existing infrastructure. The Town may investigate the use of Developer's Rights and Responsibility Agreements, impact fees, excise taxes or other appropriate mechanisms.


Source: Kent County Dept. of Planning, Housing and Zoning March 2011
Current Land Use Map
Low Density Residential
Mixed Residential
High Density Residential
Community Commercial
Highway Commercial
Town Center Commercial
Mixed Commercial/Industrial
Maritime Commercial
Maritime Recreational
Maritime Water Dependent
Town
1 in = 0.25 miles
WILLIAMS ST
MAIN ST
LIBERTY ST
JUDEFIND AVE
CATHOLIC AVE
BOUNDARY AVE
ANN ST
HENRY AVE
HAVEN RD
STRIPER RUN
CLAM COVE
BLUE CLAW CT
CHESAPEAKE AVE
SHARP ST
N HAWTHORNE AVE
S HAWTHORNE AVE
HYNSON RD
BAYSIDE AVE
CHERRY ST
WALNUT ST
KENT AVE
ROCK HALL AVE
MERCER AVE
NEW ST
WILKINS AVE
BEACH RD
LAWTON AVE


Generalized Future Land Use Map
Low Density Residential
Mixed Residential
High Density Residential
Town Center
Commercial
Mixed Commercial/Industrial
Mixed Maritime Use
Maritime Use
Town
1 in = 0.25 miles
Source: Kent County Dept. of Planning, Housing and Zoning March 2011
WILLIAMS ST
MAIN ST
LIBERTY ST
DUDEFIND AVE
CATHOLIC AVE
BOUNDARY AVE
ANN ST
CHESAPEAKE AVE
STRIPER RUN
CLAM COVE
BLUE CLAW CT
SHARP ST
HENRY AVE
HAVEN RD
N HAWTHORNE AVE
S HAWTHORNE AVE
HYNSON RD
BAYSIDE AVE
CHERRY ST
WALNUT ST
KENT AVE
ROCK HALL AVE
MERCER AVE
MILKINS AVE
NEW ST
BEACH RD
LAWTON AVE


Source: Kent County Dept. of Planning, Housing and Zoning March 2011
"Harborwoods" ≈ 40 Additional Units to be Built (Subdivision Under Construction)
Buildout Analysis
Town or County-owned Parcels
Large Parcels Considered in Analysis
Mixed Residential
High Density Residential
Mixed Commercial/Industrial
Maritime Commercial
1 in = 0.25 miles
WILLIAMS ST
MAIN ST
LIBERTY ST
HENRY AVE
HAVEN RD
JUDEFIND AVE
CATHOLIC AVE
BOUNDARY AVE
ANN ST
CHESAPEAKE AVE
STRIPER RUN
CLAM COVE
BLUE CLAW CT
SHARP ST
HAWTHORNE AVE
S HAWTHORNE AVE
HYNSON RD
BAYSIDE AVE
CHERRY ST
WALNUT ST
KENT AVE
ROCK HALL AVE
MERCER AVE
WILKINS AVE
NEW ST
BEACH RD
LAWTON AVE


100-Year Floodplain and Critical Area Line
Critical Area Line
100 Year Floodplain
Town or County-owned Parcels
Large Parcels Considered in Analysis
Mixed Residential
High Density Residential
Mixed Commercial/Industrial
Maritime Commercial
1 in = 0.25 miles
Source: Kent County Dept. of Planning, Housing and Zoning March 2011
WILLIAMS ST
MAIN ST
LIBERTY ST
HENRY AVE
HAVEN RD
STRIPER RUN
CLAM COVE
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CHERRY ST
WALNUT ST
KENT AVE
ROCK HALL AVE
MERCER AVE
WILKINS AVE
BEACH RD
NEW ST
LAWTON AVE

B. ECONOMY

Economic development does not take place in isolation. It is closely linked with virtually all aspects of community life and is an essential element of a sustainable community. Over the long term, our economy needs to be balanced and diverse enough to absorb inevitable market changes and business fluctuations. A diverse economy also provides a wider variety of job opportunities suited to all skill levels in the work force. Ideally, economic development in Rock Hall should balance economic vitality with stability, environmental protection, and preservation of our small town atmosphere.

Over the past few years, the Town of Rock Hall has undergone economic changes led by residential construction and the recreational boating industry. Water-dependent growth is naturally limited, and the opportunities for future expansion are narrow. With these constraints acknowledged, Rock Hall must seek new opportunities for more balance and diversity among the Town's businesses.

The Town has four areas of focused business activity – the "gateway" along Route 20, the Town Center along Main Street, the waterfront businesses on Swan Creek and the Haven, and the waterfront businesses on the Harbor. All are striving to continuously draw business activity and people to the area. A 70 acre, well-located parcel is available for industrial uses; however, much of the land remains vacant. Rock Hall must take advantage of its assets such as its quality of life, proximity to the Bay, and picturesque setting to attract new businesses.

The seafood and marine industries have historically been the foundation of Rock Hall's economy and will continue to have an important role in the economic base. The Town of Rock Hall has been supported by its watermen and their harvest of fin and shellfish from the Chesapeake Bay. Despite setbacks in the restoration of the commercial fisheries, the contribution by local watermen is of major importance to the economy of the Town. Both commercial watermen and charter fishing guides contribute to the overall economy of the town. The softshell clam beds, oysters, blue crab, rock fish and such specialties as catfish and eels, provide many families in Rock Hall with a comfortable living. The impact of their earnings on both the Town and the County is substantial.

Another major source of income for the Town and the 5th District is the marine industry. There are many marine-oriented businesses employing several hundred people on a full or part-time basis. There are 14 marinas with more than 1,450 slips in the 5th District, including 8 marinas within the town limits. There are 20 marine-related service businesses, 6 sailing charter/rental businesses, and 5 yacht sales operations. In addition, there are at least two kayak or rowing shell sales and rental businesses. Many of these businesses are situated on the Harbor and depend on the town maintaining a working waterfront.

Tourism has emerged as an important contributor to Rock Hall's economic base. Rock Hall has become an arts center for the county with many galleries and activities centered at the Mainstay. Marinas, bed and breakfast establishments, museums, and sheltered anchorages

attract thousands of visitors to the Town or its vicinity each year. These boating visitors along with charter fishermen, hunters, Eastern Neck Island and Chesapeake Farms visitors, Sunday drivers, house-hunters, and house guests form a large market of potential visitors for Rock Hall. Once a mainstay of Rock Hall's economy, the hunting and fishing industries are possible sources of expanded tourism and income for Rock Hall.

BUSINESS AND INDUSTRY

GOAL: FOSTER A BALANCED, DIVERSIFIED AND SUSTAINABLE LOCAL ECONOMY THAT CONTRIBUTES TO ROCK HALL'S HIGH QUALITY OF LIFE, THROUGH THE PROTECTION AND ENHANCEMENT OF THE COMMUNITY; NATURAL, HISTORICAL, AND CULTURAL AMENITIES; AND THE IMPROVEMENT OF THE FINANCIAL WELL-BEING OF ITS RESIDENTS.

Strategy: Support current commercial and manufacturing enterprises.

Retention and expansion of local firms is key to the economic success of the Town. The Town will work with these businesses and assist with their expansion where it is consistent with the goals and policies of this Plan.

Strategy: Encourage the formation of small businesses and the relocation to Rock Hall of small, locally managed businesses.

The town will encourage business development when it will:

- ≈ Provide employment with salaries higher than the average for the County
- ≈ Create additional business opportunities in the Town
- ≈ Orient to national and regional markets that will help stabilize local economic trends
- ≈ Provide employment that corresponds to or develops the skills of Town residents
- ≈ Be compatible with the environmental objectives of this Plan

Strategy: Maintain and encourage businesses that support the people of the Town**.**

Businesses that serve the people who live in the Town, such as grocery stores, drug stores, and clothing stores, are an important aspect of the Town's economy. These types of stores are needed not only for the convenience of the Town's people, but also for the development of a stronger economic base.

Strategy: Investigate the viability of the Town creation of a publicly-owned business park within the Town Center.

The Town will collaborate with the County to investigate the creation of publicly-owned land within the Town Center to attract new businesses. The Town will investigate incentive programs for businesses to relocate to the Town Center by providing rental space and will act as liaison with the Rock Hall Business Association.

Strategy: Encourage entrepreneurship by allowing a broad mix of home occupation businesses and supporting cottage industries, mentoring, and other programs of small business promotion.

A home occupation is an activity undertaken for gain and carried on in a dwelling or a building accessory to a dwelling by members of the family residing in the dwelling and unrelated employees. In support of economic development, the Town will be committed to maintaining an attractive residential environment and a high standard of public facilities and services so home occupations should be regulated by performance standards.

Strategy: The Town shall make its development review process clear and accessible

In updating development regulations, the town will assure that all development standards are clearly written, consistent with this plan and widely available. The Town will develop a series of handouts to guide citizens through the development review process.

Strategy: Actively participate in County and State economic development efforts.

The Town will work closely with the Kent County Economic Development Office and County Commissioners, the Kent County Chamber of Commerce and other private sector groups in developing an integrated and coordinated economic development strategy. Joint efforts could include assembling packets of information for prospective employers and developing recruitment packages for businesses that are consistent with the goals and policies of this plan.

Strategy: Support existing and the development of new cultural arts activities

Artists and craftsmen are a vital part of the Town's economy. Arts and entertainment activates stimulate business development and improve the quality of life for the entire community. A number of programs exist to help attract new artists or assist existing artists. Some programs require the creation of Arts and Entertainment Districts. The town recognizes the contributions of craftsmen and artists and will support efforts to encourage expansion or new growth in the arts-related field.

NATURAL RESOURCE BASED BUSINESSES

GOAL: SUPPORT AND ENCOURAGE EXPANSION OF THE SEAFOOD INDUSTRY.

Strategy: Ensure that watermen have access to the waterfront and well located boat slips**.**

The County Bulkhead and Bayside Public Landing, which now provides commercial dockage, should remain to serve the watermen and the seafood industry. Maintaining a working harbor is essential to ability of the seafood industry to expand and evolve to meet the industries future needs. The Town will undertake a survey to determine the current and future needs of watermen and the seafood industry as it evolves to meet the challenges of the future. The Town will monitor the number of slips and type of dockage available; and if necessary, due to the increasing size of boats and/or the types of activities undertaken by watermen, work to assure that the needs of the commercial fishing industry can be met within its boundaries.

Strategy: The Spring Cove public landing should be investigated by both the Town and the County as a potential site for commercial slip expansion.

Spring Cove Public Landing is located just outside of the Town's boundary. Crabbers and other watermen have used this landing when working in the Swan Creek and Haven areas.

Strategy: Preserve the watermen's way of life through education and careful conservation of the ecosystems that provide essential fish and invertebrates**.**

Commercial fisheries are dependent upon a clean Chesapeake Bay and restoration of the three traditional main fisheries – crabs, oysters, and rockfish. The Town will maintain its status as a Chesapeake Bay Partner Community**.**

Strategy: Allow small businesses and processing facilities related to the seafood industry in commercial districts throughout the Town**.**

If regulated on the basis of performance standards to protect adjacent properties from noise, traffic, odors, and other nuisances, small businesses and processing facilities related to the seafood industry should not interfere with other commercial businesses and may even enhance commercial districts throughout the Town.

Strategy: Adopt a Right–to–Fish Ordinance

Fishing not only serves as the foundation of Rock Hall's economy but also of its culture. However, as the Town grows and its population diversifies, the noise and odor sometimes associated with commercial fisheries may be viewed as a nuisance. To avoid potential nuisance complaints and to emphasize the importance of fishing, the Town will adopt Right–to–Fish regulations. In addition to limiting nuisance complaints, this Ordinance will address zoning flexibility, equipment storage, and other accessory needs of commercial fishing.

GOAL: MAINTAIN ROCK HALL AS A PRE-EMINENT LOCATION FOR THE RECREATIONAL BOATING INDUSTRY AND EXPAND THE OPPORTUNITIES FOR ADDING MARINE INDUSTRY ENTERPRISES TO THE ECONOMIC BASE OF THE COMMUNITY.

Strategy: Encourage marinas to offer a full range of marine services.

Since natural constraints limit slip expansion, allowing marinas to offer a full range of services strengthens the economic vitality of the industry and supports economic diversification. These services would include boat sales, charters, fuel, storage, instruction, recreational amenities, out-of-water repair, marine retail, restaurants, and lodging.

Strategy: Maintain the dredged channel in the Harbor so that access by all users is guaranteed.

The Town will work cooperatively to maintain the dredged channel in the Harbor and will study the impact of expanding the dredged area. The Town will continue to look at innovative ways to manage dredged materials and to use approved spoil sites within close proximity to the Town.

Strategy: Ensure that the Town carefully controls the placement of mooring buoys by private and public parties.

Protecting navigation channels and waterways from obstructions is essential for watermen to work and recreational boaters to enjoy the water. The Town will carefully monitor the placement of mooring buoys.

Strategy: Minimize the nuisance affects of current and future out-of-water boat storage on adjacent properties.

Nuisances of out-of-water boat storage sites should be limited by adding visual buffering, setback, and noise reduction requirements to the zoning regulations. Additional multi-level, dry rack storage of boats and trailers should continue to be prohibited.

Strategy: Encourage businesses that support and/or expand the recreational and commercial boating industry

Boating-related businesses and industries not only include marinas but sail makers, yacht sales, charters, yacht design and building. Rock Hall will promote the use of its many assets to assure that a full range of boating-related industries and businesses continue to be developed.

Strategy: Establish an incubator facility to nurture new businesses in the marine field

The Town will investigate the establishment of an "incubator" facility that is operated and supported by the marine and seafood industries to nurture new business start-ups in the marine field. Such new businesses could include boat cleaning, refrigeration, air conditioning, bottom painting, equipment fabrication, woodwork maintenance, rigging, retail/wholesale sales, oil and filter changes, and specialty boat building.

TOURISM

GOAL: PROMOTE ROCK HALL AS A REGIONAL TOURIST DESTINATION.

Strategy: Collaborate with the County's Director of Tourism Development and the Greater Rock Hall Business Association to promote the Town to tourists.

Rock Hall will work cooperatively with local and regional organizations to attract new visitors, extend the stay of visitors and welcome repeat visitors. This effort should encourage year round tourism activities that promote the natural and cultural qualities of the Town.

Strategy: Promote local historic and cultural sites as a tourism resources

The Town will strive to make the local historic structures better known to tourists and more available during the year. Included among these sites are Chesapeake Farms, St. Paul's Episcopal Church and grounds, the Eastern Neck Island National Wildlife Refuge and other private properties open during historic house tours.

Strategy: Expand and maintain specific tourist-oriented events.

Rock Hall currently has an extensive list of activities including the fishing tournament, Fourth of July, Docking Contest, Fall Fest, and New Year's Eve. Additional activities, such as a Fifth District Historic House Tour, an art show featuring local artists, waterfront tours, boat shows, a "Weekend in Rock Hall

Celebration", a Watermen's Day, or an annual sailing rendezvous, all have the potential to attract visitors to the Town.

Strategy: Promote and expand facilities, services and interpretive sites that support the Town's history and culture

The Rock Hall Museum, .currently located in the Municipal Building has an excellent display and collection of the region's history and culture. The town will look to find a location near the town center to promote this display. The Town will also investigate placing a working display of the waterman's craft near the Harbor and develop demonstration trips of crabbing, clamming, and oystering for tourists and education groups. To assure that the town has the infrastructure needed to address the needs of increased tourism; it will investigate the need for additional pedestrian facilities such as fountains, benches, toilets, information kiosks, public phones, and trash receptacles**.**

Strategy: Promote the Stories of the Chesapeake Heritage Area

The Town supports the Stories of the Chesapeake Heritage Area's environmental, recreational, and cultural values, as well as its role in identifying significant historic sites and districts on the National Resister of Historic Places. The Stories of the Chesapeake Heritage Area Management Plan enhances these resources, improves linkages, advances economic development strategies, and provides for stewardship and preservation.

Strategy: Promote the Chesapeake Country National Scenic Byway

The Chesapeake Country National Scenic Byway is one of 126 roads designated as one of America's Byways©. It includes Routes 20 and 445, passing through the center of town, and celebrates life on the Eastern Shore. Rock Hall is rich in natural, cultural, and human resources. The Chesapeake Bay with its tidal tributaries, wetlands, and marshes create an environment rivaled by few other areas. These natural features enrich our economy and the lives of our citizens. Rock Hall is also steeped in historic tradition. The town has a strong sense of identity, retains its original design as a framework for its continuous and steady development. From these singular resources and features emerged our local culture, character, and economy.

C. ENVIRONMENT

Rock Hall has been shaped by the environment, and the Town's future depends upon its relationship with the natural cycles of the Chesapeake Bay. Natural resources and sensitive areas perform vital functions that can affect the Town's quality of life. Disturbance of these areas degrades or eliminates natural processes that provide clean water and air, wildlife habitat, flood control, and stormwater management.

The natural and scenic resources of Rock Hall demand protection not only for their intrinsic value, but for their ability to enhance the value of other investments. They are the foundation of the Town's economy, generate tourist and recreational activity in the form of visitors seeking access to the Bay and boat owners wanting an overnight anchorage or a permanent port. These resources also strengthen the overall image and attractiveness of the Town as a place to live: they attract second-home buyers, retirees, and new residents and in doing so, enhance the overall business environment of the Town.

GOAL: MAINTAIN AND ENHANCE THE QUALITY OF THE LOCAL ECOSYSTEM THROUGH PLANNING.

Strategy: Encourage the Town of Rock Hall to sign the U.S. Mayor's Climate Protection Agreement.

Climate disruption is an urgent threat to the environmental and economic health of our communities. On February 16, 2005 the Kyoto Protocol, the international agreement to address climate disruption, became law for the 141 countries that have ratified it to date. On that day, Seattle Mayor Greg Nickels launched this initiative to advance the goals of the Kyoto Protocol through leadership and action by at least 141 American cities. Since that day, 532 mayors from 50 states representing a total population of over 66 million citizens, are supporting the following goals of Agreement. Rock Hall could lead the state in becoming the tenth Maryland city to participate in the Agreement. Under the Agreement, participating cities commit to take following three actions:

- ≈ Strive to meet or beat the Kyoto Protocol targets in their own communities, through actions ranging from anti-sprawl land-use policies to urban forest restoration projects to public information campaigns;
- ≈ Urge their state governments, and the federal government, to enact policies and programs to meet or beat the greenhouse gas emission reduction target suggested for the United States in the Kyoto Protocol -- 7% reduction from 1990 levels by 2012; and
- ≈ Urge the U.S. Congress to pass the bipartisan greenhouse gas reduction legislation, which would establish a national emission trading system

Strategy: Encourage inter-jurisdictional watershed planning

The Town will promote multi-jurisdictional watershed planning and watershed management within and adjacent to the Town. Community involvement is a crucial aspect for the success of the program and will be incorporated throughout the process. This process will incorporate:

- ≈ Identification of the basic need and direction of the watershed management program, including the collection of preliminary data and the identification and assembly of all interested parties;
- ≈ Detailed data collection and analysis;
- ≈ Identification of specific goals and objectives for the watershed management program;
- ≈ Development of detailed implementation strategies and procedures to obtain the goals and objectives; and
- ≈ Implementation, monitoring and evaluation of the watershed management program.

Strategy: Initiate and work cooperatively with the County to develop and implement a watershed restoration plan for the Lower Chester River Watershed

Developed with citizens, businesses, the agricultural community, and non-profit groups, a watershed restoration plan will serve as a blue print for restoring and maintaining a watershed's key environmental resources including water quality, and aquatic and terrestrial resources. In 2002, the County completed a Plan for the Middle Chester River Watershed. In 2006, similar plan was completed for the Upper Chester River Watershed. The Town will work cooperatively with adjacent jurisdictions to develop and implement watershed restoration plan The Lower Chester River Watershed.

Strategy: Promote the use of "BayScapes"

Rock Hall will encourage homeowners and businesses to use native plants in their landscaping. Native plants tend to require less maintenance and flourish under normal weather conditions. The Town will also implement BayScapes design on its public properties.

Strategy: Encourage the design and operation of buildings to achieve the effective utilization of energy and water and to use alternative sources of energy

Rock Hall will encourage the design and operation of buildings for adequate thermal resistance and low air leakage and the design and selection of mechanical, electrical, service water heating, and illumination systems and equipment which enable the effective use of energy in new building construction. The Town will also encourage the use of alternative energy sources such as solar, wind, and biomass and investigate federal and state

incentives such as tax credits for the use of alternative energy sources. The Town will provide information to area residents on available programs.

Strategy: Encourage private developments and capital improvement projects to be designed and constructed in a manner that completely avoids harmful environmental effects.

Strategy: Evaluate development projects for their impact on the natural resources.

Strategy: Prohibit development activities that can not mitigate its associated impacts to the environment.

The Town will actively seek appropriate mitigation sites within town limits.

Strategy: Promote greater sensitivity to environmental factors through increased coordination and review within the development process.

FLOODPLAIN

Floodplains, the products of natural floods, moderate and store floodwaters, absorb wave energies, and reduce erosion and sedimentation. They are characterized by relatively flat topography and soil types that were laid down during past inundations by flood waters. Wetlands found within floodplains help maintain water quality, recharge groundwater, protect fisheries, and provide habitat and natural corridors for wildlife. Stream buffers found within floodplains also help to maintain water quality.

In addition, floodplains perform other vital natural functions such as temporary storage of flood waters, moderation of peak flood flows, erosion prevention, recreational opportunities, and aesthetic quality. These functions are best served if floodplains are kept in their natural state. Safeguarding the many natural functions performed by floodplains benefits adjoining and downstream communities by minimizing the risks (and cost) associated with the loss of life and property; by contributing to the maintenance of water quality and quantity which may directly affect drinking water supplies and recreational opportunities; and in many cases, by helping to restore the health of the Chesapeake Bay - a goal which will benefit the entire public.

GOAL: LIMIT DEVELOPMENT IN AREAS WITH CONSTRAINTS IN ORDER TO MINIMIZE THE LOSS OF LIFE AND STRUCTURES AND IMPACTS TO THE ENVIRONMENT.

Strategy: Maintain, enforce and if necessary, strengthen existing regulations for floodplains and buffers

Rock Hall's existing regulations address building, filling and other disturbances within stream buffers and floodplains. In general, buildings and accessory structures should be located entirely out of the floodplain, out of

the flood protection setback, or on land that is least susceptible to flooding. All structures permitted in the floodplain must be oriented so as to offer the least resistance to the flow of floodwaters. Materials which are buoyant, flammable, explosive, hazardous to health, or which at times of flooding may be injurious to human, animal, or plant life, shall not be stored below the Flood Protection Elevation (one foot above the elevation of the 100-year flood).

Strategy: Investigate the impacts of sea level rise and subsidence on floodplains and other low lying areas in the Town

Tide gauges for the Chesapeake Bay and the Mid-Atlantic coast show rates of sea-level rise or subsidence twice that of the worldwide average. Scientists disagree on the cause of the recent increase in the rate of rise. There is little awareness, however, that the rapidly rising relative sea level within the bay is also having dramatic and wide-ranging effects. Islands once populated in colonial time and during the past century have disappeared due to submergence and related shore erosion.

Strategy: Investigate increasing the Flood Protection Elevation to 2 feet above the base flood elevation

Flood Insure Rate Maps have established floodplain elevations in the Town of Rock Hall been based on National Geodetic Vertical Datum of 1929. In consideration of the potential impacts of sea level rise and subsidence on floodplains, the Town will encourage the elevation of an additional foot above the required Flood Protection Elevation to protect future development from a potential increase in current floodplain elevations. Further, the Maryland Emergency Management Agency encourages an increasing the Flood Protection Elevation to 2 feet above the base flood elevation to reduce insurance cost.

Strategy: Participate in the Community Rating System Program

The Federal Insurance Administration will grant flood insurance premium credits to property owners whose community participates in the Community Rating System (CRS). In order to qualify for the CRS program, a community must have floodplain programs which address four broad categories:

- ≈ Public information
- ≈ Mapping and regulation
- ≈ Flood damage reduction
- ≈ Flood preparedness

Strategy: Work cooperatively with federal, state, and nonprofit organizations to acquire new digital elevation models to more accurately determine the locations of floodplains

Strategy: Continue to monitor development planned in the floodplain to ensure that the severity of natural disaster is not increased.

WATERSHEDS AND GROUNDWATER

Rock Hall's topography is quite flat, as elevations range from four feet to twenty four feet above sea level. The business district is located on the highest point and from here the land falls away very gradually, draining east toward the headwaters of Gray's Inn Creek and to the west toward Rock Hall Harbor and the Haven. A few areas are at such a low elevation that they are inundated when high tide and periods of heavy rainfall coincide. Both the Harbor and the Haven are partly surrounded by tidal marsh and both are naturally shallow, with depths ranging from one to seven feet at low water. The Harbor has a dredged nine foot channel along its shoreline and tidal flats located in the center. The Haven is an estuary of Swan Creek and its channel ranges in depth from five to seven feet. There is also a cove off Swan Creek to the west of the Haven and east of Lawton Avenue with an important tidal marsh at its southern end.

Kent County is underlain by deposits of sand, clay, sandy clay and silt, green-sand, and marls resting on crystalline rocks. These rocks slope to the south and southeast at the rate of 60-150 feet per mile. The depth of the Coastal Plain sediments ranges from 900 feet in the northeastern portion of the County to 2,200 feet in the southeastern portion.

The major source of groundwater for the Town is the Magothy Aquifer which underlies the entire Eastern Shore as well as several counties on the Western Shore. The Magothy holds more water than most other formations underlying Maryland's coastal plain. The groundwater potential is substantial. With the exception of iron in excessive amounts, urban and industrial growth can rely on water of good quality.

GOAL: ENCOURAGE STEWARDSHIP OF THE CHESAPEAKE BAY, ITS TRIBUTARIES, AND THEIR WATERSHEDS.

Strategy: Lead the way in water quality improvements by assuring that all upgrades to the wastewater treatment facility remove nutrients utilizing Enhanced Nutrient Removal technology

Nutrients, particularly nitrogen and phosphorus, are a major cause of the ecological decline of the Chesapeake Bay. The Rock Hall wastewater treatment plant provides secondary treatment of wastewater and then discharges to Gray's Inn Creek. Secondary treated wastewater still contains relatively high nutrient concentrations. Since much of the Town's history, culture, and economy is related to the Bay, the Town will encourage assure that all upgrades to its wastewater treatment facility remove nutrients in the most economically feasible way.

Strategy: Achieve the Gold Standard for Chesapeake Bay Partner Community Program

Launched in 1997, the Bay Partner Community program recognizes local governments in the Chesapeake Bay watershed for their commitment to protecting and restoring the Bay and its rivers. Communities are evaluated based on their completion of a set of benchmarks that aim to protect and restore their part of the Bay watershed. These benchmarks address the following: improving water quality, promoting sound land use, protecting and restoring living resources and habitat, and engaging their community.

In 2004, the Town of Rock Hall was awarded Silver Bay Partner Community status. The Town will strive to meet the Gold Standard.

Strategy: Promote the development of an environmental stewardship ethic among all citizens.

Strategy: Encourage shore erosion control and promote living shorelines as the preferred method of shoreline stabilization

The Town will encourage stabilization of eroding shoreline. Rock Hall will encourage waterfront property owners to consider living shorelines as the preferred treatment to restore eroding shorelines. In many areas, living shorelines have proven effective at stabilizing shorelines while maintaining more of the vital fish and wildlife habitat at the water's edge. Where living shorelines are not appropriate, rip rap and stone revetments protect shorelines by the dispersal of wave energy. Technical assistance is available from the State and Federal government.

Strategy: Encourage the protection of important aquatic resources

Submerged aquatic vegetation (SAV) serves as important food, nursery and habitat for many species of fish and fowl. Over the past decade, SAV in the Chesapeake Bay's tributaries have followed a pattern of abundant beds in some years followed by declines to almost nothing and then full recovery in a few years. Shellfish beds are both an economic resource and a natural resource. The bottom (benthic) community provides food for bottom feeders such as yellow perch and spot. Activities such as pier construction and sewage outfalls must be limited and those permitted must minimize impacts on these resources.

Strategy: Promote beneficial uses of dredged materials

The Town recognizes the need to maintain navigable depths in the Bay, harbors, and tributaries. Dredging needs to be executed in a manner that minimizes the effect on SAV, shellfish beds and the benthic community. Many islands in the Chesapeake Bay have washed away or been submerged.

The Town will coordinate with appropriate Federal and State agencies in investigating these islands as possible sites for the disposal of clean dredged material in those areas where the placement of clean dredged material is a benefit to the environment.

Strategy: Implement boating best management practices

Rock Hall will seek funds to install pump-out stations and oil recycling at marinas. The Town should require all marinas to install pump-outs stations, recycle oil, and other toxic materials generated by that marine business. Wake limits must be established where necessary in the Harbor, the Haven, and the Bay to prevent erosion of the shoreline. Community docks will be encouraged instead of individual piers in new development. The Town will promote the distribution of boating courtesy pamphlets to residents and visitors. Further, waters within the town will be declared no discharge zones.

Strategy: Cooperate with the County and the State to achieve a level of water quality in the Bay and its tributaries which sustains and improves its recreational and food-producing value

Strategy: Encourage all marinas within the town limits to strive toward Clean Marina Status.

The Maryland Department of Natural Resources developed the Maryland Clean Marina Initiative to assist marina, boatyards and yacht club operators to protect the resources that provide their livelihood: clean water and fresh air. The Maryland Clean Marina Guidebook provides an overview of actions that marine industry professionals can take to protect water and air quality. Those marinas, boatyards and yacht clubs that adopt a significant proportion of the best management practices suggested within the Guidebook will be recognized as Maryland Clean Marinas. They will receive a certificate acknowledging their environmentally responsible actions.

STREAMS AND THEIR BUFFERS

The Chesapeake Bay and Grays Inn Creek are fed by perennial and intermittent streams. These streams are an important component of the Town's undeveloped areas and have several important functions. These streams intercept stormwater runoff and contribute to the quality of the Town's water resources. They also contribute to the Town's overall environmental health and ecological balance by serving as pathways for transporting sediments and nutrients. These streams also promote biological diversity by interconnecting ecological systems and functioning as components in hydrological and nutrient cycles.

Development in the Town has had an impact on streams and their buffers. As areas of open land were built upon, new impervious surfaces, forest clearing and intensified human activity increased pollution, storm water quantities, and sedimentation in streams while decreasing the streams' natural protection. Maintaining the health of a stream is dependent on many factors occurring throughout the watershed; however, buffers are a critical component of the stream ecosystem. Stream buffers filter nutrients and pollutants from runoff, absorb flood waters, shade and cool the water, and provide habitat for wildlife.

GOAL: PRESERVE AND ENHANCE THE NATURAL ECOSYSTEMS AND FUNCTIONS OF STREAMS, STREAM BUFFERS AND RIPARIAN FORESTS.

Strategy: Identify and map all perennial and intermittent streams in the Town limits and on any future annexed lands and establish a minimum 100 foot buffer from each bank on streams located both inside and outside of the Critical Area

Strategy: Retain and expand riparian forest and large forest areas

Riparian forests provide valuable habitat and remove nutrients from runoff. Large forest areas provide the unique habitat required by forest interior dwelling birds. Rock Hall recognizes that forests are protective land uses and should be managed to maximize values for timber, recreation, wildlife, and water quality.

Strategy: Investigate re-establishing natural buffer zones along sensitive portions of the Town's waterfront.

The Town will focus mitigation efforts within its Critical Area Buffers and non-tidal wetland buffers to reestablish natural habitat and improve water quality. Mitigation will take the form of Maryland Native vegetation and will reestablish a natural environment rather than a park-like setting.

GOAL: EFFECTIVELY MANAGE STORMWATER TO PREVENT THE DEGRADATION OF STREAMS.

Strategy: Encourage comprehensive stormwater management

Although stormwater management needs to be addressed for each project, managing stormwater on a single site basis is costly in terms of land as well as money. Multiple project stormwater management will be investigated for each site. Comprehensive management should be investigated for each site and implemented where possible. In addition to the promotion of low impact development stormwater management practices identified in the Community Facilities Section of this Plan, the Town will work to develop a watershed-based stormwater management plan for the Town.

Strategy: Promote low impact design stormwater management practices on residential and commercial projects

Given potential increases in impervious surfaces, it is important to identify and implement measures to reduce the amount of impervious surfaces. The Town will promote innovative storm water management practices such as Low Impact Design (LID) and/or community-wide installation of rain barrels.

Strategy: Develop a stormwater management plan and program for the Town that uses retrofitting measures to address existing stormwater management problems.

Strategy: Provide incentives for developers constructing new stormwater management structures to address areas that currently do not have stormwater management.

WETLANDS AND SUBMERGED AQUATIC VEGETATION

The quality of tidal wetlands and their buffers directly impacts the Chesapeake Bay. Wetlands filter out excess nutrients, sediments, and pollutants from developed lands in the Town. 0ver nutrification and excess turbidity adversely impact water quality and the health of bay grasses. Many fish and shellfish that are important to the economy and quality of life of our residents are in turn significantly impacted.

Nontidal wetlands include important environmental conditions that support plant and animal habitats important to our rural landscape. These wetland areas also support important groundwater recharge functions. Combinations of forested and emergent nontidal wetlands are present throughout the floodplains west and east of Town center.

Rock Hall contains several acres of coastal wetlands that support submerged aquatic plants. The value of submerged aquatic vegetation lies in their established, perennial root systems that minimize coastal erosion and may help somewhat in the abatement of water pollution. They are directly significant as a food source for waterfowl; as nurseries for newly hatched fish; and as cover for crabs, other invertebrates, and fish.

GOAL: PROTECT AND ENHANCE WETLANDS AND SUBMERGED AQUATIC VEGETATION.

Strategy: Maintain, enforce, and strengthen, if necessary, existing ordinances to prevent the large-scale clearing, grading, or filling of land and wetlands.

Strategy: Pursue ways to reduce the impact of surrounding development on tidal and non-tidal wetlands, and submerged aquatic vegetation.

Strategy: Cooperate with Federal and State agencies to enhance and preserve remaining tidal and non-tidal wetlands, and submerged aquatic vegetation.

Rock Hall will tap into its existing resources by collecting an Oral History of historic submerged aquatic vegetation and focus restoration efforts in theses areas. The Town will seek grant funding to promote restoration of its submerged aquatic vegetation.

Strategy: Work cooperatively with federal, state, and non-profit organizations to achieve an increase in the amount and quality of non-tidal wetlands

Between 1950 and the late 1970's, the Bay experienced substantial losses of wetlands. The Town recognizes the need to maintain and increase non-tidal wetlands as these wetlands play a vital role in the health of the Chesapeake Bay, its tributaries and provide critical habitat for birds, plants, and amphibians. Non-tidal wetlands play an important role in maintaining and improving water quality, provide plant and wildlife habitat, and in flood and stormwater control.

Strategy: Promote wetland enhancements and restoration on town properties

After acquiring Blue Heron Park in 1998, the Town has improved the site with an observation pier, educational descriptive signage, and osprey nesting poles. It is the Town's goal to not only allow the public the view this marsh habitat, but also to promote the site as a living laboratory to be used by area schools, colleges, and civic groups. To that end, the Town will complete a marsh restoration project onsite. Further, the Town will investigate other wetland and restoration projects on its properties.

PLANT AND WILDLIFE RESOURCES

Around and within the Town of Rock Hall, wildlife is abundant. Various species of open land wildlife such as quail, dove, and rabbits thrive. There is no lack of woodland wildlife, such as nesting birds, squirrels, fox, raccoon, and deer. Wetland wildlife and numerous kinds of waterfowl are also plentiful. Canada and snow geese, swan, and many species of duck winter in the area.

Surrounded by the Harbor, the Haven and Chesapeake Bay, there are soft-shell clams, oysters, blue crabs, eels, and catfish. Among the fish which spawn locally are rockfish, herring, catfish, and white and yellow perch. These local spawning species are especially vulnerable to changes in water temperature and nutrient loadings. Other fish which frequent the waters are bluefish, spot, weakfish, and the Atlantic silverside.

GOAL: PROTECT AND ENHANCE WILDLIFE AND ITS HABITAT.

Strategy: Maintain, enforce, and strengthen, if necessary, existing regulations for the protection of wildlife.

Strategy: Work cooperatively with federal, state, and non-profit organizations to develop management plans to control phragmites and other invasive species deemed problematic to the restoration and integrity of the Bay's ecosystem

Also known as "common reed," phragmites is an invasive wetland plant species that spreads rapidly by rhizomes and seed in both tidal and non-tidal wetlands. Phragmites out-competes valuable wetland plants that provide both winter food and cover for a variety of wetland-dependent wildlife species. The Chesapeake Bay Program's Invasive Species Work Group has developed a list of priority invasive species in the Chesapeake Bay watershed and listed six as in need of regional management plans: mute swans, nutria, Phragmites australis, purple loosestrife, water chestnut and zebra mussels.

The Town will continue its efforts to eradicate the phragmites population on its property known as Blue Heron Park and to reestablish healthy marsh plantings onsite.

Strategy: Work cooperatively with federal, state, and non-profit organizations to achieve an increase in the native oyster population

A restored oyster population in the Chesapeake Bay and its tributary plays an invaluable role in the restoration of the Bay ecosystem. Oysters help improve water quality by reducing nutrients, turbidity, and chlorophyll. An increase in oyster reefs provides habitat for fish and other organisms. The Town will look for opportunities on Town-owned lands and encourage waterfront property owners to participate in oyster grow out programs.

Strategy: Assure that water quality is maintained in Rock Hall's waterways to support its productive shellfish beds.

The Town will monitor Maryland Department of the Environment's Shellfish Harvesting and Closure Area Maps for any expansion of areas that are closed for harvesting. Theses maps depict the classification of shellfish growing waters of the State as restricted, conditionally approved, or approved.

Strategy: Work cooperatively with federal, state, and non-profit organizations to provide fish passage to important anadromous species

In Maryland, the target fish species for restoration are: American shad, hickory shad, alewife herring, blueback herring, yellow perch, and white

perch. Anadromous fish spend most of their life cycle in marine waters and return to their natal streams to spawn in the spring of each year. Shad and herring are historic migratory species that spawned in most of the Bay's tributaries until hundreds of miles of spawning habitat were closed to them by the construction of various structures and by overfishing in the Bay and in the Atlantic Ocean. Unlike West Coast salmon, shad and herring do not die after spawning, and will keep returning to spawn as long as they live. Semi-anadromous fish spend their life cycle in brackish water, such as the Bay and the lower reaches of its tributaries and return to streams to spawn. Striped bass are large anadromous fish that usually spawn in the freshwater tidal zone, and may move upstream to feed after spawning.

Strategy: Maintain and enforce existing Town regulations for the protection of wildlife

The current county zoning ordinance requires the protection of forest interior dwelling birds and threatened species, endangered species and species in need of conservation in the portion of the town that is within the Chesapeake Bay Critical Area. The Town will encourage the implementation of nesting bird restrictions which apply within the Critical Areas to properties outside of designated Critical Areas.

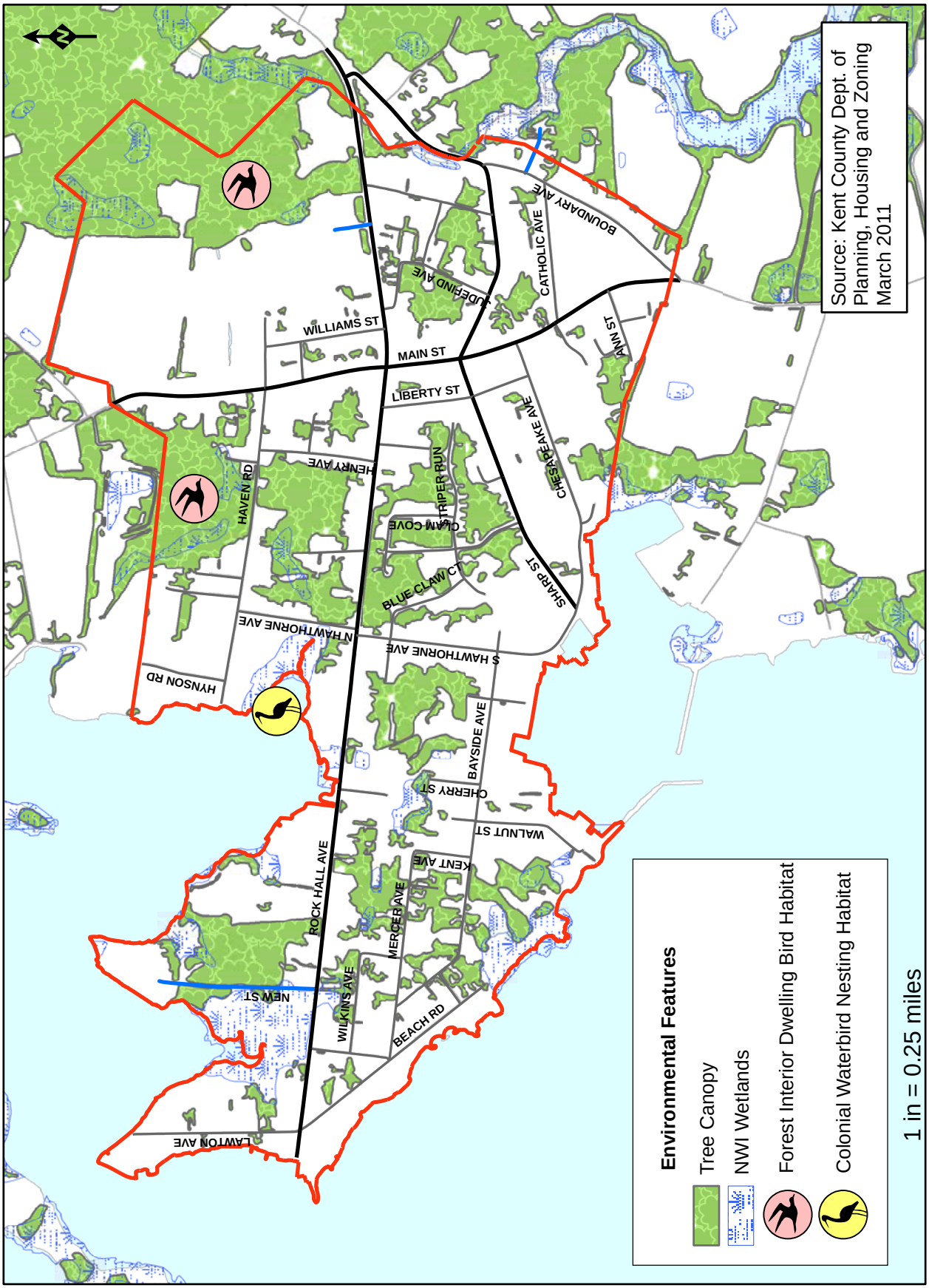
Strategy: Identify the Town's green infrastructure and strive to fill gaps

Rock Hall will identify those lands important to the Town's ecological health. These lands, referred to as Rock Hall's green infrastructure, provide the natural foundation needed to support diverse plant and wildlife populations and enable valuable natural processes such as filtering water and cleaning the air to take place. The Town will consider its existing green infrastructure while reviewing all development projects and will strive to connect existing greenways with new areas of afforestation.

Strategy: Rock Hall will strive for a No Net Loss Policy on its forested areas

Strategy: Sustain a healthy, safe and appealing public street and park tree population and increase the tree cover from the existing 29% to 40-45%

The town will work to develop an urban and community forest management plan to better manage existing trees and to encourage planting additional trees. According to recommendations made by the American Forests Association for the Chesapeake Bay watershed, the town needs to plant an additional 247 to 397 trees in order to reach a tree cover of 40-45%.


Source: Kent County Dept. of Planning, Housing and Zoning March 2011
WILLIAMS ST
MAIN ST
LIBERTY ST
HENRY AVE
HAVEN RD
TRIPER RUN
CLAM COVE
BLUE CLAW CT
SHARP ST
CHESAPEAKE AVE
CATHOLIC AVE
BOUNDARY AVE
JUDEFIND AVE
MAIN ST
N HAWTHORNE AVE
S HAWTHORNE AVE
HYNSON RD
BAYSIDE AVE
CHERRY ST
WALNUT ST
KENT AVE
ROCK HALL AVE
MERCER AVE
WILKINS AVE
NEW ST
BEACH RD
LAWTON AVE
Environmental Features
Tree Canopy
NWI Wetlands
Forest Interior Dwelling Bird Habitat
Colonial Waterbird Nesting Habitat
1 in = 0.25 miles

D. WATER RESOURCES

The purpose of the Water Resources Element (WRE), as defined in Maryland House Bill 1141, is to establish a clear relationship between existing and proposed future development; it further establishes the relationship between drinking water sources and wastewater facilities that will be necessary to serve that development and measures to limit or control the stormwater and nonpoint source water pollution that will be generated by new development.

Specifically, the statutory requirements are:

- ≈ Identify drinking water and other water resources that will be adequate for the needs of existing and future development proposed in the land use element of the plan, considering available data provided by the Maryland Department of the Environment (MDE).
- ≈ Identify suitable receiving waters and land areas to meet the stormwater management and wastewater treatment and disposal needs of existing and future development proposed in the land use element of the plan, considering available data provided by MDE.
- ≈ Adopt a WRE in the comprehensive plan on or before October 1, 2009, unless extensions are granted by Maryland Department of Planning (MDP) pursuant to law. Zoning classifications of a property may not be changed after October 1, 2009 if a jurisdiction has not adopted a WRE in its comprehensive plan.

This section assesses the Town's drinking water sources and wastewater treatment facility and their ability to support existing and future development. It also identifies suitable receiving waters for existing and future wastewater and stormwater discharges. The Town of Rock Hall has prepared a Water Resources Element that will focus growth to areas best suited to use the existing and planned water and wastewater infrastructure that will protect and preserve the natural environs, promote economic growth, and support diversity of living environments in the Town.

The Water Resources goals for the Town are to maintain a safe and adequate water supply and adequate amounts of wastewater treatment capacity to serve projected growth; to take steps to protect and restore water quality; and to meet water quality regulatory requirements in the Chester River and its tributaries.

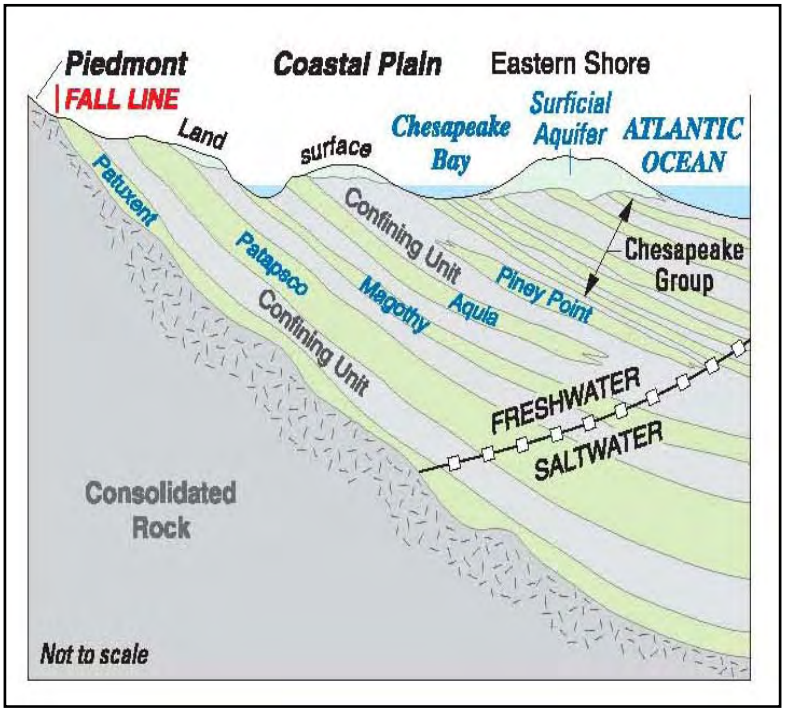
Objectives to support these goals are:

- ≈ Assure that existing and planned public water systems meet projected demand.
- ≈ Assure that existing and planned public wastewater collection and treatment systems meet projected demand without exceeding their permitted capacity.
- ≈ Assure that the Town's stormwater management policies reflect the most recent state requirements.
- ≈ Maintain land use patterns that limit adverse impacts on water quality.

DRINKING WATER SUPPLY AND ASSESSMENT

Ground water is the sole source for domestic water supplies in Kent County comprising 94% of its overall water supply. Surface water is used for irrigation and livestock watering only. The layers of sediments underlying the county contain an abundance of water for wells; however, a groundwater study is necessary in order to confirm this data. These layers dip to the southeast and thus are generally deeper in the eastern part of the County and shallower in the northwestern portion. There are four aquifers that supply nearly all groundwater in Kent: Aquia, Monmouth, Magothy, and Raritan Patapsco Formations.

The present consumption of ground water is about 4.81 million gallons per day. The estimated ground water recharge is 0.4 to 0.6 million gallons per square mile per day. The quantity of ground water appears to be substantial; however, the Delmarva Water Study will supply Kent County with more up to date information regarding its water supply and quality. The quality of the ground water is generally good although water from several aquifers contains iron in sufficient quantity to cause some problems to domestic users necessitating iron removal systems for satisfactory domestic use.



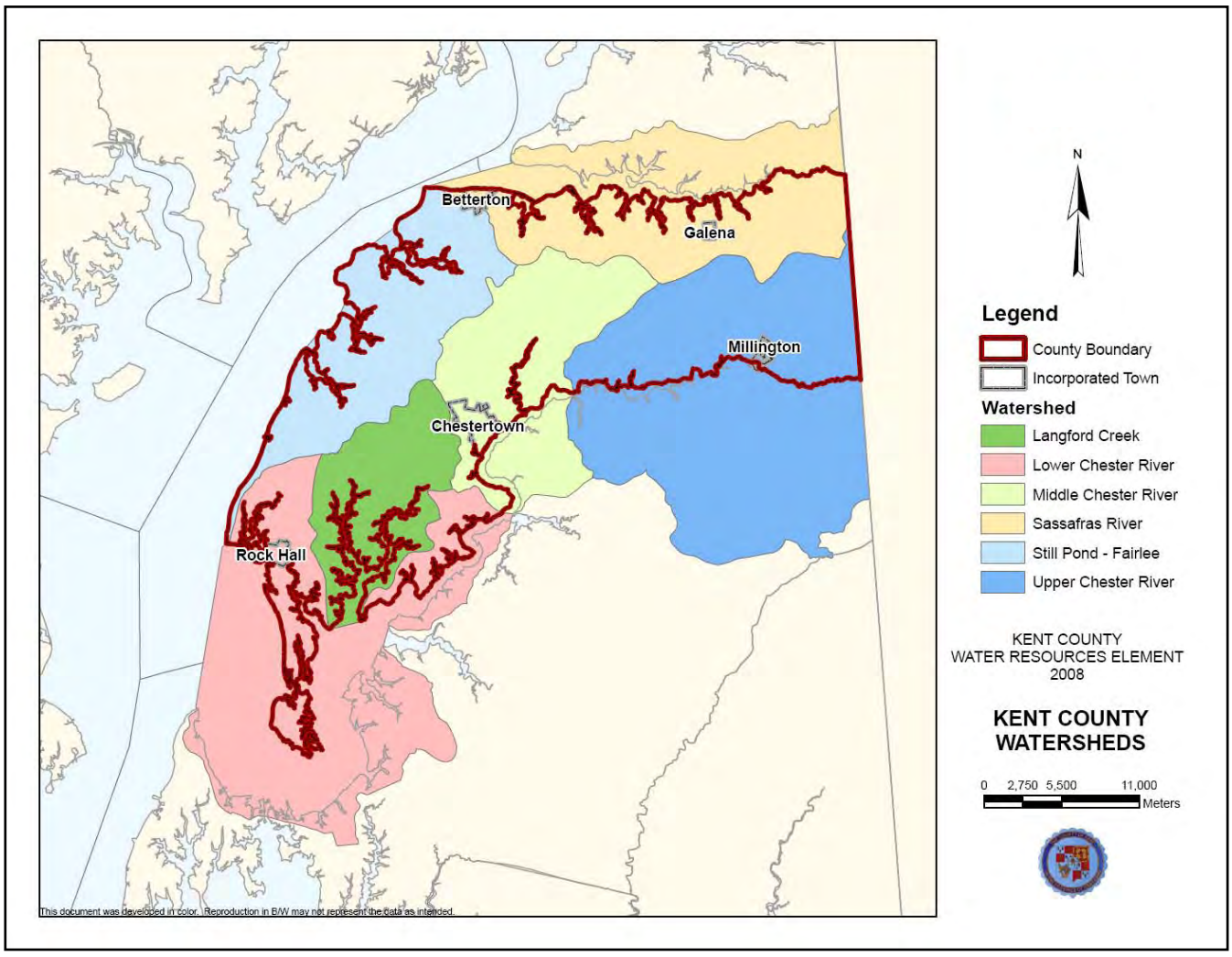
In some wells the water is hard and in others there are problems with contamination from nearby septic systems. There are homes with old, shallow, hand-dug or –driven wells. Most new wells are drilled to depths ranging from 60 feet to over 200 feet.

Various state and federal agencies are currently developing a Science Plan for a Comprehensive Regional Assessment of the Atlantic Coastal Plain Aquifer System in Maryland (Aquifer Assessment Plan). The Aquifer Assessment Plan addresses the Coastal Plain area which includes most of Southern Maryland, nearly all of the Eastern Shore (including all of Kent County), all of Delaware south of Wilmington, and the northeast corner of Virginia. The Aquifer Assessment Plan will address significant declines in water levels and water-quality problems in parts of the aquifer system that may be exacerbated by increased withdrawals. When the assessment is completed, the Town of Rock Hall will incorporate applicable parts of the assessment into its Plan.

LOWER CHESTER RIVER WATERSHED

The Lower Chester River is a bifurcated watershed with the Langford Creek Watershed nestling itself within the Lower Chester. The Lower Chester contains the Town of Rock Hall, the village of Edesville, and several small communities such as Gray's Inn Creek, Herrington Creek, Cliff City, and Johnsontown. Eastern Neck Island is also located in this watershed. The Lower Chester is characterized by a vast array of sensitive tributaries as it is framed by the Chesapeake Bay and intersected by Langford Creek; therefore, much of this watershed is located within the Critical Area. Like its neighbors, the Lower Chester River Watershed has been placed on the 303d list for biological impairments.

As projected by MDP in their Land Use Change Analysis for Kent County, the results of a generalized summary of preliminary future land use changes are presented in the table below. The MDP table attempts to predict how much land is estimated to be developed by 2030 under current programs (i.e. zoning and sewer service areas). Conversely, it also shows how much agricultural and forest lands could be preserved or lost.



Under MDP's current programs analysis (see table below), the Lower Chester River Watershed could expect to see an increase in development by approximately 40 acres and a potential conversion of the same amount of forest and agricultural lands to development.

Table WRE-1: Summary of Land Use Change for the Lower Chester Watershed (in acres)*

Land Use Category	2002	2030	Difference
Low Density Residential	686	671	-15
Medium Density Residential	410	436	25
High Density Residential	0	5	5
Commercial	174.65	201	26
Industrial	0	0	0
Institutional	71	70	-1
Extractive	0	0	0
Open Urban Land	0	0	0
Cropland	11,161	11,137	-24
Pasture	135	135	0
Orchards & Vineyards	0	0	0
Row & Garden Crops	0	0	0
Deciduous Forest	2,656	2,644	-11
Evergreen Forest	586.37	586	0
Mixed Forest	2,682	2,677	-5
Brush	0	0	0
Water	36,510.61	36,511	0
Wetlands	21,26.24	2,126	0
Beaches**	0	0	0
Bare Exposed Rock	0	0	0
Bare Ground	0	0	0
Very Low Density Residential	700.28	700	0
Feeding Operations	0	0	0
Agricultural Buildings	25.11	25	0

** Source: MDP Land Use Change Analysis*

**There is a town beach/park located within the Town of Rock Hall.

WATER TREATMENT

The Town water system consists of three Magothy Aquifer groundwater wells, two 125,000-gallon elevated storage tanks, one 100,000-gallon elevated storage tank constructed in 2008 and located in Edesville, and water mains ranging in size from 2 inches to 12 inches in diameter. Treatment at the plant consists of aeration, chlorination, lime, and alum addition in conjunction with sand filtration. There are no individual residential or commercial wells located or in use within the town limits.

In addition to town residents, the Rock Hall water treatment plant serves the Wesley Chapel Corridor, which is counted with the existing town service, and the Edesville area,

which is counted as a county service area. The water system is permitted for an average daily withdrawal of 230,000 gpd and a max month withdrawal is 300,000 gpd. Daily operating reports reveal an average daily draw down of 220,000 gpd. The plant serves 2,958 people with 1,183 connections. Any large subdivision would require additional water supply. Service area map is located at the end of the section.

Edesville

The Kent County Department of Water and Wastewater operates the water supply systems for the village of Edesville serving approximately 250 people with 98 connections. A new 100,000 gallon elevated storage tank has been constructed in Edesville and is connected to the Town of Rock Hall water system. Limited infill is expected in this village. The pre-existing water system was abandoned and has been connected to the Town of Rock Hall water system. See above.

PROJECTED WATER DEMAND

The highest average daily water demand over the last 5 years is 183,000 GPD. The highest recorded maximum daily demand over the past 5 years is 355,000 GPD or a factor of approximately 2.0. When establishing capacity of the water supply, it is recommended by MDE that the Town consider its largest well out of service. It is further recommended that water demand be increased by 10% and the water supply be decreased by dividing by 1.3 to account for drought conditions. Moreover, the well field should be able to supply maximum daily demand.

The percentage of water used by the various categories of users is as follows:

Residential	70.1%
Commercial	28.3%
Schools	1.2%
Churches	0.4%

Based on Town billing records for 2008 the average daily demand metered was 135,266 GPD. When compared with the average daily flow produced of 171,775 GPD, the unaccounted for water loss is 21%. Using 5-year averages in lieu of 2008 flows produces a similar result.

To better manage unaccounted for water, the Town will establish a detailed tracking program to closely monitor each category of unaccounted for water. Using the list of sources identified, the Town will estimate the amount of water lost by each source on a monthly basis. In some cases, more than one method of estimating water loss has been identified.

Once the amount of unaccounted for water has been estimated for each month, each category should then be evaluated to determine methods of reducing or eliminating unmetered uses. If the volume of unaccounted for water continues to exceed 10%, a more detailed study of the Town's unaccounted for water would be warranted. A detailed

unaccounted for water study would include a leak detection study of the distribution system. The Town has already begun this effort.

When considering these factors, it is apparent that the wells (when operating 12 hours per day and only 1 well at a time due to limitations on aquifer recharge) need to be supplemented with additional sources to meet recommended maximum daily demand for existing development; although, an excess of 25,400 GPD or 102 taps currently exists when only considering average daily demand. The well supply is, therefore, a limiting factor to the Town for future growth, as noted in table below.

Table WRE-2: Combined Well Capacity*

Well #	With all wells operating 24 hrs	With all wells operating 12 hrs	With largest well out of service & one (1) Well (#5) operating 12 hrs
Well 3	216,000 GPD	158,000 GPD	Out of service
Well 4	648,000 GPD	324,000 GPD	Out of service
Well 5	648,000 GPD	324,000 GPD	324,000 GPD
TOTALS	1,512,000 GPD	756,000 GPD	324,000 GPD
Total well field capacity reduced by 30% for drought	1,163,100 GPD	581,500 GPD	226,800 GPD

**Source: ARRO Consulting, Inc.*
**12 hours per day is considered the highest use per day because of recharge concerns in the aquifer.*
Only one well can operate at a time because of overstressing the aquifer.

The largest average daily demand over the past 5 years occurred in 2004 of 183,000 GPD. Adding 10% for drought conditions, as suggested by MDE, the demand is 201,400 GPD. If this demand of 201,400 GPD is compared to the existing well field capacity of 226,800 GPD during drought conditions as shown in the following table, it can be seen that 25,400 GPD of capacity exists currently.

Under the present average day restrictions in the groundwater appropriation permit, only 230,000 GPD is allowed on average, which closely approximates the well field capacity during drought conditions.

Moreover the wells should be able to produce the maximum daily demand or 2 times the average daily demand. Based on the current 5 year daily demand of 183,000 GPD, the wells should be able to produce 366,000 GPD, which requires the well to be in service for 14 hours, or 19 hours when factoring in drought conditions. Since only one (1) well can operate at a time currently, maximum daily demand can only be achieved by operating 14 hours per day. The aquifer may or may not sustain flow for this long under severe drought conditions. A new well in an aquifer sufficiently distant from the current well field to negate any impacts may be necessary to meet future demands.

Therefore, the existing well supply can therefore meet current average daily demand with a remaining capacity of 25,400 GPD but cannot meet current maximum daily demand assuming the well operated only 12 hours per day.

The existing treatment plant capacity is 600 GPM or 432,000 GPD if operated for 12 hours. If operated for 24 hours, 864,000 GPD would be available. To summarize existing demand versus supply and treatment capability, refer to the table below.

Table WRE-3: Existing Demand vs. Supply and Treatment Capability*

	Maximum Daily Capacity	Average Daily Capacity
Current Well Capacity with largest well on line 12 hours max operating per day and reduced for drought conditions by dividing by 1.3 as recommended by MDE (see Table 4-1)	226,800 GPD	226,800 GPD
Treatment capacity for 12 hours	432,000 GPD	432,000 GPD
Current demand increased for drought conditions	402,800 GPD	201,400 GPD
Current appropriation permit limits	300,000 GPD (month of maximum use)	230,000 GPD
Net excess (+) or deficit (-)	-176,000 GPD	+25,400 GPD

**Source: ARRO Consulting, Inc.*

Once additional well sources are brought on line to equal or exceed the treatment plant capacity, an additional allocation of 29,200 GPD would be available. To achieve a greater additional capacity, the treatment plant would need to be expanded assuming the additional well supply was adequate.

Based on this analysis, there is currently no additional capacity due to the limitation of the well supply and the criterion of achieving maximum daily demand. If an additional well(s) were placed on line, an additional capacity of 29,200 GPD (432,000 GPD – 402,800 GPD) would be available without increasing water treatment plant capacity or operating more than 12 hours per day.

In summary, an excess of 25,400 GPD or 102 taps exist currently based on average daily demand but based on maximum daily demand, a deficit of 176,000 GPD exists.

Water storage is currently acceptable if the Town considers the additional 100,000-gallon volume available in Edesville. However, an additional storage volume of at least 100,000 gallons is recommended to provide for future growth. In order to meet current and future maximum daily demand the well must operate more than 12 hours per day which may or may not be sustainable in severe drought conditions.

In order to accommodate the projected additional demand over the 20-year planning period, additional well(s) are recommended to meet average and maximum daily demand, and the appropriation permit will have to be increased by 20,000 GPD for average daily demand. The treatment plant may also require refurbishment due to its age and marginal ability to meet maximum daily demand.

The Town should impose demands on future developers to participate in providing additional well supply and treatment needs. Options will be investigated by the Town and will include excise taxes, impact fees, and special taxing districts. The Town should be cautious about providing water to citizens outside of the Town limits unless mandated by the State.

The Town's existing water storage consists of 250,000 gallons of elevated storage tank capacity plus 100,000 gallons in Edesville. Analyzing the sufficiency of the existing storage requires a judgment involving the quantity and duration of fire flow. Give the nature of development in town of residential, relatively small-scale multi-family and commercial, a value of 1,500 GPM for two (2) hours was used. An analysis of the existing storage volume given the existing and 2030 projected population is provided below.

Table WRE-4: Water Storage Analysis*

YEAR	POP	1 EDU's	2 Average Daily Demand (GPD)	3 Equalizing Storage (GAL)	4 Fire Flow (GAL)	5 Emergency Reserve (GAL)	6 Required Storage (GAL)	7 Existing Storage (GAL)	8 Storage (GAL) Surplus(+) or Deficit(-)
2009	1,584	1,071	171,775	68,710	180,000	82,900	331,610	350,000	+18,390
2030	1,832	1,625	260,000	104,000	180,000	94,000	378,000	350,000	-28,000

**Source: ARRO Consulting, Inc.*
Column 2 – EDU's x 160 GPD/EDU
Column 3 – Equalizing storage is 20% of maximum daily demand – Maximum daily demand is 2.0 x average daily demand.
Column 4 – Fire Flow at 2 hours duration at 1,500 GPM (townhouses, and medium density residential existing).
Column 5 – Emergency Reserve is 25% of total storage.
Column 6 – Required Storage is Column 3 + 4 + 5.

Although a slight deficiency in storage is computed close to year 2030, the criteria of 1,500 GPM in fire flow is somewhat conservative.

Of particular note is the Assessment of the Coastal Plain Aquifer System in Maryland and its companion data information system. This study, anticipated to be completed by 2014, could provide new data that potentially impacts projections made for the planning period in this Plan. While current information from MDE, DNR, and federal studies indicate no immediate shortage of the water from the Town's supply source (the Patapsco Aquifer), the Town will review the final assessment of the Coastal Plain Aquifer System when it is made

available and, if necessary, reassess its strategies for insuring that Rock Hall has an adequate supply of water to meet current and future needs.

The critical component of Town's development pattern is its people. Not to be underestimated in comparing current services to growth projections is the large town population comprised of second home residents. This population is not tracked by MDP, as this population is counted in its primary places of residency whether those residences are Maryland, Delaware, Pennsylvania, Virginia, West Virginia, or Florida. However, many of these people are utilizing both pubic water and sewer services causing spikes in the systems in summer months, weekends, and holidays. These inhabitants, along with a substantive population of recreational boaters, account for a discrepancy between people served by town water and sewer and MDP population statistics and growth projections.

Rock Hall expects a 30% increase to their town population by 2030; this increase in town population does not reflect the accurate percent in the increase to users of the water system as the Town provides services beyond its boundaries. This fact accounts for the difference in percentage noted above and that number cited in the Kent County Water Resources Element.

Table WRE-5: Water Demand Projections for 2030*

	Population		Households		Population Change	Household Change	Water Demand	
	2000	2030	2000	2030			Current	Future
Rock Hall**	1,396	1,832	654	860	436	206	0.171 MGD	0.250 MGD

**Source: ARRO Consulting, Inc.*

***Projections based on County and State planning data. Future water demand based on 250 gpd per equivalent dwelling unit. Water demand for future commercial and industrial uses is included in the projections.*

The projected population in 2030 is anticipated to increase to 1,832 persons with the number of households increasing to 860. Based on the current (2009) number of households of 704, an increase of 156 households (80% of build out capacity) or 79,000 GPD of additional average day water demand is expected. It should be noted the Town currently provides 18,000 GPD of water to the Village of Edesville in the County.

Table WRE-6: Methods for Estimating Unaccounted Water Usage*

Source	Methods
Hydrant Flushing	1. Record the amount of time each hydrant is open and use pilot tube to estimate flow rate. The total volume of water used during the hydrant flushing is the product of the flow rate and the flushing time. 2. Estimate volume used during hydrant flushing by reading the system meter prior to and after flushing procedure. This method is less accurate than No. 1 above and should only be used during low demand periods.

Source	Methods
Unmetered Filling of Swimming Pools	1.Place a meter on the line used to fill the pool. 2.Calculate the volume of water the pool can hold. The pool owner should contact the Town each time the pool is filled as well as when additional water is used to "top-off" the pool.
Water Main Breaks	Determine the amount of water lost by reading the amount of increased flow at the system meter during the period of break.
Sewer Main Cleaning	Determine volume of water stored in the sewer cleaning truck and keep track of the number of times the truck is filled.
Broken or Uncalibrated Meters	Replace or repair all broken meters. Begin a meter calibrating program and calibrate a certain percentage of meters each year.
Fire Protection	Have the fire department notify the Town after each period of water usage. The fire department should be able to inform the Town of the length of time during which water was used. The total volume of water can be estimated by reading the amount of increased flow at the system meter during the period of water usage.
Testing of Newly-constructed Water Mains	Calculate the volume of water the new water main can hold. Require the contractor/developer to notify the Town each time they fill a water main.
Cleaning of Wastewater Pumping Station	Estimate the flow rate of the cleaning device and keep track of the amount of time it is in use.
Unmetered Connections	1.Place meters on these services. 2.Estimate usage based upon the number of people within each household.

**Source: ARRO Consulting, Inc.*

WASTEWATER TREATMENT

MINOR AND MAJOR WASTEWATER TREATMENT PLANTS

A major wastewater treatment plant is characterized by a design capacity of 500,000 gpd or more. Rock Hall's treatment facility is identified as a minor plant. Minor plants are those which are designed to handle less than 500,000 gpd. Major facilities must meet nutrient caps which are based on MDE 2020 flow projections. Nutrient caps are legally enforceable aggregate mass load limits contained in a major plant's discharge permit. Nitrogen and phosphorus must be treated and must meet the caps. Minor plants must report nutrient loadings in a Daily Monitoring Report (DMR) which is submitted to MDE monthly. Minor plants are not required to treat nutrients or meet the caps set by the 2020 flow projections. Minor plants that propose any upgrades to their existing plant will be required to meet the projected caps set by MDE.

All plants have nutrient caps which are set based on 2020 flow projections; however, only major plants are required to treat these nutrients and to upgrade their facilities to meet Enhanced Nutrient Removal (ENR) standards. ENR is a wastewater treatment technology that is capable of reducing the nitrogen and phosphorus concentrations in wastewater effluent to achieve permit limits equivalent to concentrations of no more than 4 milligrams per liter total nitrogen and 0.3 milligrams per liter total phosphorus, as calculated on an annually averaged basis. Bay Restoration Funding (the Flush Fee) is meant to assist with the costs of upgrading major plants ENR capability.

TOWN OF ROCK HALL WASTEWATER TREATMENT PLANT

Service Area

The Town of Rock Hall owns and operates a minor wastewater treatment facility that serves the Town and two marinas located in the county. The Town further serves two areas outside of town limits through an agreement with the Kent County Department of Water and Wastewater to correct failing septic systems: Green Lane and Spring Cove. Also, a 1996 upgrade to the Town system by the County Department of WWS provides sewerage services to correct failing septic systems to the areas of Piney Neck, Skinner's Neck, and Wesley Chapel. The lines servicing these areas located outside of the Town limits are owned and maintained by the county. The lines which serve the two marinas located in the county are owned and maintained by the Town.

The Agreement provided the County with an average daily load allocation of 153,200 gpd for 615 edus. The average daily flow in 2008 for these areas in the County was 52,150 GPD. An additional 108 unused connections remain in the County. The Agreement also stipulates the formula for determining the compensation the County would provide to the Town for providing treatment for County development.

The system serves a total of 4,291 people and 1,716 connections (2,713 people with 1,085 connections within the Town limits and 1,578 people with 631 connections in the county). The plant's design capacity is 505,000 gpd with an average daily flow of 230,000 gpd. The various treatment plant components are designed for 460,000 gpd. Biological Nutrient Removal (BNR) will be required at such time that average daily flows equal or exceed 500,000 gpd. The average daily flows for the past 3 years have been 228,000 gpd. Service area map is located at the end of the section.

Table WRE-7: Capacity Analysis*

Design capacity of plant	460,000 gpd
Inflow & Infiltration –less difference in 2002 & 2003 flows	-113,000 gpd
Less last 3 year average	-228,000 gpd
Less remaining allocation granted to County (153,200 gpd – 52,150 gpd)	-101,050 gpd
Remaining capacity for Town property and annexations	19,950 gpd or 72 taps @ 250 gpd /tap

**Source: ARRO Consulting, Inc.*

The greatest variable in determining remaining capacity, is the quantity of inflow and infiltration to reserve so the Town has some reasonable assurance they will not over allocate taps beyond the limits of the plant's ability to process and still meet permit limits. This is a judgment decision and the 113,000 GPD reservation mentioned above is a very conservative approach but one that is suggested by MDE. Once the plant reaches 80% of its design capacity, a wastewater management capacity plan will be required by MDE, which will include the reservation of inflow and infiltration as indicated above.

In order to meet the future additional demand of 79,000 GPD over the planning period, the Town must increase the plant capacity, or reduce inflow and infiltration and/or renegotiate its agreement with the County to reduce the Town's commitment to the County. In order to reduce inflow and infiltration, the Town should consider initiating an inflow and infiltration reduction program. Once the inflow and infiltration reduction program is implemented, the amount of reservation for inflow and infiltration would be reduced commensurate with the actual reduction realized.

The Wastewater Treatment Plant

The Town's wastewater treatment plant consists of an influent pump station, mechanically cleaned bar screens, aerated grit chamber, a circular biological treatment unit followed by clarifiers, sand filtration, ultraviolet disinfection, post aeration and effluent pumps. Treated effluent is pumped to the discharge at Gray' Inn Creek. Sludge is conveyed to an aerobic digester followed by dewatering, onsite sludge storage with ultimate disposal to farmland or the landfill. An alum feed system for phosphorus precipitation is available immediately after the orbal biological treatment unit. The various treatment plant components are designed for 480,000 GPD. The NPDES permit (MD0020303) provides maximum loadings based on 505,000 GPD. Biological Nutrient Removal (BNR) will be required at such time that average daily flows equal or exceed 500,000 GPD. The average daily flows for the past three (3) years are 228,000 GPD. The Town's sewer collection system includes eight (8) pumping stations, typically wet well mounted suction lift stations with emergency generators. The gravity collection system consists of 8-inch mains.

Table WRE-8: The existing NPDES permit provides the following maximum monthly loading rates:

BOD5	130 lbs/day	30 mg/l
TSS	130 lbs/day	30 mg/l
TP	4.2 lbs/day	1.0 mg/l
Fecal Coliform		14 MPN/100 ml
DO		5.0 mg/l
pH		8.5-6.5

The existing treatment plant also contains a shellfish holding pond designed for six (6) days of storage in the event of a hydraulic overload.

The plant is currently meeting permit limits with effluent phosphorus levels less than 1.0 mg/l and total nitrogen (not currently a permit limit) of 8.0 mg/l or less. The plant does, however, have a history of fecal coliform violations due commonly to malfunctioning of the UV system.

According to MDE figures, the Town of Rock Hall currently exceeds and is projected to exceed nutrient loading rates. The current MDE analysis reveals the Town exceeds its nutrient load capacity and the 2030 projection also reveals an overage. The limiting factor is nitrogen. While currently not regulated by MDE, the Town reports these rates to the state on a monthly basis. The Town will undertake a feasibility study to explore operational or mechanical solutions to come into compliance with the annual loading rate.

Potential upgrades and/or expansion of this system may place the Town within the parameters of meeting ENR technology. MDE projects that the plant's design capacity may place the Town in a position to upgrade and meet ENR technology. The Town and County are currently in dialogue with MDE to explore plant options.

Edesville

The Kent County Commissioners own and the Department of Water and Wastewater operates the wastewater treatment facility in the village of Edesville serving approximately 250 people with 98 connections. The former Edesville system has been abandoned and has been connected to the Town of Rock Hall.

Green Lane and Spring Cove/Allen's Lane

There are approximately 340 people and 133 connections in the service area which feed into the Rock Hall facility. The Green Lane and Spring Cove lines were installed in 1996 to correct failing septic systems identified by the Kent County Department of Environmental Health. The Allen's Lane line was added in 2007 to correct failing septic systems.

Piney Neck/Skinner's Neck/Wesley Chapel

In 1996, this service area's collection system was installed to correct a large number of failing septic systems. The system consists of 61,000 feet of low pressure force main, 16,000 feet of force main, three pump stations, and over 400 connections serving over 1,000 people. The system is maintained and operated by the Kent County Department of Water and Wastewater. The wastewater is treated by the Rock Hall facility.

UNMET FUTURE DEMAND ON PUBLIC SYSTEMS

To serve projected growth, the Town will need to upgrade existing wastewater treatment facilities and complete a feasibility study to determine best operational or maintenance practices to meet both resident needs and nutrient caps. Extrapolating MDP growth projections for the year 2030 give a population of 1832 people and 860 households.

These numbers are based on nutrient cap limits and MDP growth projections noted in Table WRE-9 below. The critical component of Town's development pattern is its people. Again, not to be underestimated in comparing current services to growth projections is the large Town population comprised of second home residents. This population is not tracked by MDP, as this population is counted in its primary places of residency whether those residences are Maryland, Delaware, Pennsylvania, Virginia, West Virginia, or Florida. However, many of these people are utilizing both pubic water and sewer services causing spikes in the systems in summer months, weekends, and holidays. These inhabitants, along with a substantive population of recreational boaters, account for a discrepancy between people served by Town water and sewer and MDP population statistics and growth projections.

Table WRE-9: Projected Wastewater Service Demand for 2030

	Population		Households		Change		Wastewater Demand (MGD)	
	2000	2030	2000	2030	Population	Household	Current	Future
Rock Hall	1,396	1,832	654	860	436	206	0.228	0.307

**Source: ARRO Consulting, Inc. based on the MDP data. Water demand for future commercial and industrial uses is included in the projections.*

This projection reveals a potential deficiency in service. Also to be considered when assessing demands on public wastewater service is the Town's second home population. Projections should attempt to anticipate a transition in use from seasonal to full time as second homes become retirement homes. This transition will surely have an impact on flow and nutrient readings.

Table WRE-10: Estimated Households on Sewer and Septic Systems*

Watershed	Households on Sewer	Households on Septic	Nonresidential Acres on Septic
Lower Chester, 2002	1,575	510	13
Lower Chester, 2030	1,869	526	34

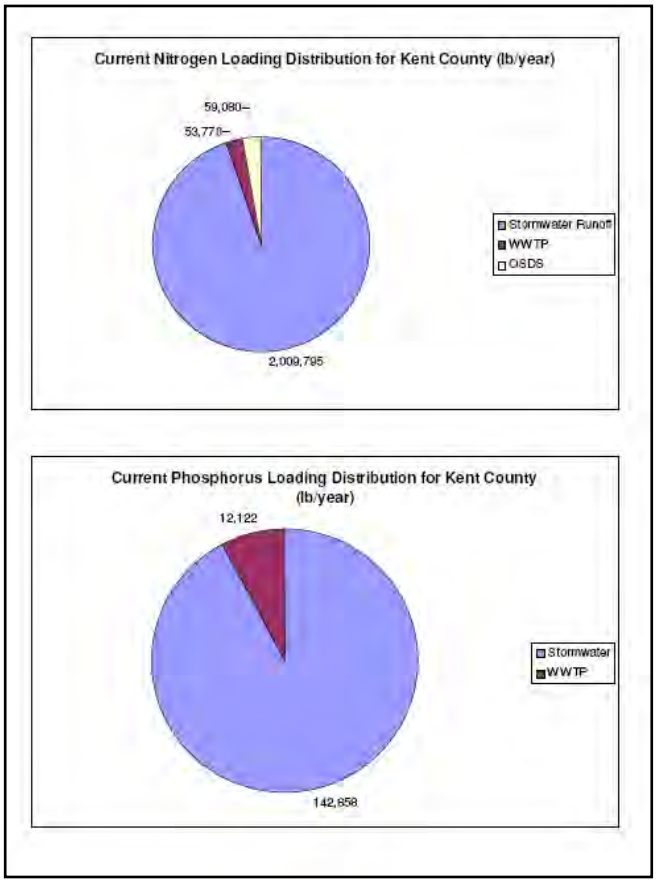
** Source: MDP Land Use Change Analysis*

NONPOINT SOURCE ASSESSMENT

The population of the Chesapeake Bay area is increasing and expanding through the process of low density development. For example, between 1990 and 2000, Bay population climbed by 8%, but impervious cover climbed by 41% and turf cover has climbed by nearly 80% (Stormwater Consortium, 2007). As land is transformed from forests to general development and agricultural land, the volume of stormwater runoff will increase. This can result in erosion and flooding of adjacent land. The transformation has contributed additional nutrient and sediment loading to the local water bodies degrading the health of the water system and resulting in pollution and eutrophication of the Chesapeake Bay. Stormwater regulations have been developed to protect the water resources of Maryland, including the Chesapeake Bay, from the effect of development.

STORMWATER POLICIES

The Town of Rock Hall is not required by MDE to submit NPDES stormwater permits. The Town has implemented its Stormwater Management Ordinance. The Town ordinance encourages responsible growth and protects the health of the Chesapeake Bay. The Town promotes the use of non-structural stormwater BMPs over structural BMPs. The Town also encourages and regulates residential and commercial landowners to utilize technology to reduce the volume and improve the quality of runoff from their property.



The Maryland Stormwater Management Act of 2007 was signed into law in Senate Bill 784. This Bill gives the Maryland Department of the Environment the authority to regulate stormwater throughout the State of Maryland. The Town of Rock Hall, along with Kent County, will be exempt from the NPDES Phase I and II permits but will comply with general regulations. The updated regulations of the Stormwater Management Act will be finalized and communicated to the Town in early 2009. Future updates of this Plan will incorporate these regulations where appropriate.

The Stormwater Management Act of 2007 is based upon Environmental Site Design (ESD) Principles, which attempt to mimic natural hydrology on developed sites. The Stormwater Management Act of 2007 is based upon 13 core principles, which are listed below:

1. Increase onsite runoff reduction volumes
2. Require a unified early ESD map
3. Establish nutrient–based stormwater loading criteria
4. Apply ESD technique to redevelopment
5. Integrate ESD and stormwater together at construction sites
6. Provide adequate financing to implement the Act and reward early adopters
7. Develop an ESD ordinance that changes local codes and culture
8. Strengthen design standards for ESD and stormwater practices
9. Ensure all ESD practices can be adequately maintained
10. Devise an enforceable design process for ESD
11. Establish turbidity standards for construction sites
12. Craft special criteria for sensitive and impaired waters of the state
13. Implement ESD training, certification and enforcement

GROWTH SIMULATION ANALYSIS AND NONPOINT SOURCE LOADING ANALYSIS

The Maryland Department of Planning has developed a nonpoint source nutrient loading analysis to determine how growth trends and land use planning decisions will impact future (2030) nutrient loading. The 2030 land use is determined by a growth simulation model, which uses 2002 land use and current growth trends as the input. Nitrogen and Phosphorus loading rates (lb/acre/year) based on current practices are applied to the 2002 and 2030 land use to establish a baseline. These baseline results can be compared to alternative future planning scenarios.

Table WRE-11: Vacant Lots with Potential for New Construction*

Land Use Designation	Acres	Estimated No. of Units	*Water & Sewer Demand
High Density Residential	Harbor Woods (approved development under construction)	40 units remaining to be constructed	10,000 GPD
High Density Residential	4 acres	32 units	8,000 GPD
Mixed Residential	17 acres	45 units	11,250 GPD
Mixed Commercial/ Industrial	50 acres	----	50,000 GPD
Marine	3 acres	6 units	1,500 GPD
Low Density Residential	Infill/resubdivisions	50 units	12,500 GPD
TOTALS		173 units	93,250 GPD

* Water and sewer demand for residential uses are estimated at 250 GPD per dwelling based on MDE guidelines. Water and sewer demand for commercial/industrial uses are estimated at 1,000 gallons per day per acre.

Table WRE-12: Vacant Lots with Potential for New Construction*

Land Use Designation	Acres	Estimated No. of Units	*Water & Sewer Demand
High Density Residential	Harbor Woods (approved development under construction)**	40 units remaining to be constructed	10,000 GPD
High Density Residential	2.4 acres	19 units	4,750 GPD
Mixed Residential	10 acres	26 units	6,500 GPD
Mixed Commercial/ Industrial	30 acres	----	30,000 GPD
Marine	2 acres	4 units	1,000 GPD
Low Density Residential	Infill/resubdivisions	30 units	7,500 GPD
TOTALS		119 units	59,750 GPD

*This table takes into account existing lots/dwelling unit totals based on total allowable by zoning and contemplates 40% of that gross acreage is not suitable for development due to sensitive areas and/or other constraints.
**This number remains unaltered as it is an approved subdivision under construction.

The estimates provided in Table WRE-11 indicate a potential increase of 173 households with full buildout. The estimates equate to an increase in population of 368 persons. This estimate is somewhat less than the number of households and population projected in year 2030. The Town will need to monitor population projections during the planning horizon and take action if necessary to increase densities or reconsider annexation. The table estimates the possible number of additional units within the low-density residential land use category. While this is only an estimate, it anticipates that infill development and the resubdivision of parcels greater than ½ acre in size will result over time. At the time the Comprehensive Plan is updated in six years, these estimates should be revisited to determine if any adjustments are needed.

Comparing the two tables, 173 to 119 dwelling units are possible on existing available land. It is important to mention that consideration for land used for roads, stormwater facilities, open space, and other potential site constraints determine the net acreage actually available for building lots. Table WRE-12 summarizes the capacity for growth based on this scenario.

These scenarios are intended to show a range of possible outcomes for Rock Hall if certain conditions occur. Realistically, growth will probably not occur exactly like either of these scenarios, but more likely somewhere in between.

The tributary strategy loading rates assume that there has been 100% implementation of the tributary strategy nonpoint source BMP's for the Upper Eastern Shore. Details can be seen in the Maryland Tributary Strategy Upper Eastern Shore Basin Report for 1985-2005 Data.

The Town of Rock Hall, through its Zoning, Comprehensive Plan, and representation on the Kent County Total Maximum Daily Load Committee, promotes growth that will minimize future deterioration its tributaries and will further encourage improvements to the Chester River and the Chesapeake Bay.

TOTAL MAXIMUM DAILY LOAD (TMDL)

The health of the Chesapeake Bay is dependent upon a variety of factors. These factors include point sources of pollutants (wastewater treatment plants) and nonpoint source pollutants (stormwater runoff and onsite disposal systems). Water quality regulations have traditionally focused on point source pollutants because they are easier to define, monitor, and control. However, in many areas and watersheds, they only constitute a minor portion of the total nutrient loading in a Total Maximum Daily Load document. Such is the case in the Lower Chester River Watershed as demonstrated in the following table.

Table WRE-13: Lower Chester River Watershed TMDL

Watershed	Area (acres)	WWTP	TMDL	Date	303D Impaired List/Category 5 (reason why it is on the list)
Lower Chester River	82,241	Rock Hall	Fecal Coliform for the Restricted Shellfish Harvesting	2004	Biological

TMDLs are designed on two levels, the macro level of the Chesapeake Bay and the micro level of individual watersheds. Healthy streams are listed as category 1; the numerical listing increases as the pollution level increases until category 5 (impaired streams) is reached. The category 5 streams are listed on the 303d impaired waters list.

Harvesting shellfish has historically been a vital part of the economy on the Eastern Shore of Maryland. Due to degrading water quality, the Maryland Department of the Environment has restricted shell fishing in certain water bodies due to water quality impairment. Grey's Inn Creek, portions of the Chester River, Fairlee Creek and Worton Creek, Stillpond Creek, and the Sassafras River are MDE restricted shellfish waters.

Under the terms of the Federal Clean Water Act (33 U.S.C. §§ 1251-1387) the U.S. Environmental Protection Agency (EPA) delegated authority to Maryland to implement a systematic technical and administrative framework for managing water quality. Delegated responsibilities include setting water quality standards, assessing water quality, identifying waters that do not meet standards, establishing limits on impairing substances, and issuing permits to ensure consistency with those pollutant limits.

The State must conduct scientific studies for waters that do not meet water quality standards due to an excessive pollutant load and determine the maximum amount of the pollutant that can be introduced to a water body and still meet standards. That maximum amount of pollutant is called a TMDL, and the studies are called TMDL Analyses or simply TMDLs. TMDLs are a regulatory mechanism to identify and implement additional controls on both point (i.e., wastewater treatment plants, urban stormwater) and nonpoint source (i.e., stormwater runoff, erosion) discharges in water bodies that are impaired from one or more pollutants and are not expected to be restored through normal point source controls.

TMDLs establish limits or caps on the amount of pollutants permitted from point (P) and nonpoint sources (NPS) through an allocation system, and TMDL analysis defines a quantified framework for TMDL implementation. TMDLs are expressed as allowable loads of a specified pollutant by point and nonpoint sources. Point sources include wastewater treatment plants with direct discharge permits into waterways (National Pollutant

Discharge Elimination System Permits—NPDES) and urban storm sewer systems. The Lower Chester River Watershed has one minor municipal point source: Rock Hall WWTP.

Kent County TMDL Committee

Maryland has addressed the nonpoint source pollution sources through the Tributary Strategy Implementation Plan. All six watersheds in Kent County are contained within the Upper Eastern Shore Tributary Strategy Area.

Through the Council of Governments (COG), the Town of Rock Hall is represented on the Kent County TMDL Committee which has been meeting since November 2006 to draft the Local Tributary Strategy Basin Implementation Plan. The draft was completed in March 2008 and represents a snapshot in time. The Committee is awaiting State data both from MDE and Maryland Department of Agriculture. This plan will be absorbed into the Local Watershed Implementation Plan currently in Phase II development.

The Draft Basin Plan includes the following initiatives:

- ≈ Point Source Implementation Plan
- ≈ Urban and Suburban Nonpoint Source Implementation Plan
- ≈ Planning and Preservation Programs to Reduce Impacts of Future Growth on Water Quality
- ≈ Regulations, Zoning, Ordinances and other Implementation Programs to Protect Water Quality
- ≈ Watershed Restoration and Education Programs
- ≈ New Initiatives to Address Barriers

CURRENT NONPOINT SOURCE PROGRAMS

Impervious Surfaces/Lot Coverage

Generally, impervious cover includes rooftops and roads that prevent stormwater from infiltrating in the ground. Significant water quality and habitat impacts are observed in streams in watersheds with average impervious cover of about 10% or greater. Impervious surfaces are calculated based on a number of project reviews including Stormwater Management and Critical Area. Recently, the Critical Area Program has changed its impervious surfaces requirements to lot coverage requirements. Of the approximately 850 acres within the Town of Rock Hall, approximately 492 of those acres are located within the Chesapeake and Atlantic Coastal Bays Critical Area (58%).

Regardless of the manner in which lot coverage is calculated, the Town supports a manageable increase in stormwater runoff through the enforcement of its Critical Area Program and its Stormwater Management Ordinance. In addition to traditional stormwater management practices, the Town promotes bio-retention as a means of treating stormwater runoff when practicable. Bio-retention, such as a rain garden, provides stormwater treatment that enhances the quality of downstream water bodies by using soil and both woody and herbaceous plants to remove pollutants from stormwater runoff. More often due to the high water table in the Town, rain barrels offer more effect stormwater management improvements.

The Town favors conservation subdivision techniques for new subdivisions which require environmental site design to the maximum extent practicable. Conservation subdivision planning rearranges the development on a parcel so that one- half or more of the parcel remains in open space. This design technique not only uses low impact development measures but also contributes significantly to the creation of natural corridors and buffers. In the long term, conservation subdivision design can protect blocks and corridors of open space, reduce the amount of impervious surfaces, and reduce the impact of future growth on watersheds.

In urban subwatersheds American Forests recommend an overall twenty-five percent tree canopy and fifteen percent in commercial areas. Tree canopies intercept and absorb rainfall, filter pollutants, and reduce temperatures at the ground that is important especially where heat islands are created due to asphalt and roofs absorption of the sun's rays. Encouraging planting of trees within the Town can have a beneficial effect and assist reducing rainwater, providing a cooler environment, and reduce storm water. Rock Hall has completed a tree canopy survey which reflects an existing tree canopy of 29% with a town goal of 40%.

Rock Hall is currently less than 25% impervious (this percentage does not reflect lot coverage totals). Maintaining impervious surfaces at less than 25 percent can achieve goals such as having swimmable, fishable waters, and reducing nutrient loads to a point that precludes algal blooms.

Stormwater runoff from the Town of Rock Hall drains to the Chesapeake Bay directly and via Rock Hall Harbor and Swan Creek. While the Lower Chester River Watershed has a TMDL for Fecal Coliform for the Restricted Shellfish Harvesting, there is no current TMDL waste load allocation for nitrogen and phosphorous for the portion of the Chesapeake Bay or its tributaries where runoff from the Town drains; however the Town recognizes the importance of minimizing nitrogen and phosphorous runoff to the waters of the Chesapeake Bay. However, due to the absence of a nutrient TMDL, a determination of the suitability of receiving waters cannot yet be made.

A summary of impervious and pervious urban land cover by drainage area is presented below. The percent impervious values for the zoning categories below are based on the *2006 TMDL Implementation Guidance for Local Governments*. The typical single-family lot in the R-1 category is at least 1/4-acre and often 1/3-acre or larger; 1/3 acre was used as a conservative value, as pervious urban area contributes larger quantities of nitrogen and phosphorous runoff (see analysis in the following paragraphs). The typical single-family lot in the R-2 category is approximately ¼-acre, and some duplex housing is present. As with the R-1 category, a conservative assumption of ¼-acre residential lot size was made in order to present a worst case of potential nitrogen and phosphorous runoff quantities.

Table WRE-14: Current Land Cover*

Land Use	Usage Estimated Land Cover	Total Area (acres)	Pervious Area (acres)	Impervious Area (acres)
Community Commercial	Commercial/ 85% Impervious	13.01	1.95	11.06
Highway Commercial	Commercial/ 85% Impervious	10.74	1.61	9.13
Town Center Commercial	Commercial/ 85% Impervious	18.89	2.83	16.06
Maritime Commercial	Commercial/ 85% Impervious	23.49	3.52	19.97
Mixed Commercial / Industrial	Mixed Open/ Pervious*	51.73	51.73	-
Maritime Recreational	Commercial/ 85% Impervious	97.45	14.62	82.83
Maritime Water Dependent	Commercial/ 85% Impervious	19.19	2.88	16.31
Low / Moderate Density Residential	1/3 acre-Residential/ 30% Impervious	378.27	264.79	113.48
Mixed Residential	¼ acre-Residential/ 38% Impervious	57.06	35.37	21.69

Land Use	Usage Estimated Land Cover	Total Area (acres)	Pervious Area (acres)	Impervious Area (acres)
High Density Residential	1/8 acre-Residential/ 65% Impervious	42.14	14.75	27.39
Town	Mixed Open/ Pervious	82.45	82.45	-
TOTAL AREA		794.42	476.50**	317.92

Source: ARRO Consulting, Inc. (area was derived from current Town land use map). The percent impervious values for the zoning categories are based on the 2006 TMDL Implementation Guidance for Local Governments *and represent potential impervious over.*
** Actual current land use is predominantly open space*
***342.32 acres Pervious Urban*

No point source nitrogen and phosphorous loading values based on land cover were determined based on the most recent (2007) Eastern Shore, MD watershed data in the *Watershed Model Output Data* available from the Chesapeake Bay Program. The total nitrogen and phosphorous loading for each land use in the watershed were divided by the total acreage for each use, with the resultant values being the nitrogen and phosphorous loading in pounds per acre per year for each type of land use. Based on the Watershed Model Output Data classifications, land use within the Town of Rock Hall is primarily pervious urban or impervious urban, with proportions equivalent to the pervious and impervious percentages as shown in the preceding table. Approximately 17% of the Town area is currently comprised of parkland and open space.

The table below summarizes current nitrogen and phosphorous loading by drainage area based on the previously determined loading values and land cover.

Table WRE-15: Current Nonpoint Source Loading

Cover	Area (acres)	Average Nitrogen Loading (lbs/acre year)	Average Phosphorous Loading (lbs/acre year)	Nitrogen Loading (lbs/year)	Phosphorous Loading (lbs/year)
Pervious Urban	342.32	8.84	0.85	3,026.11	290.97
Impervious Urban	317.92	7.64	0.41	2,428.91	130.35
Mixed Open	134.18	5.06	0.74	678.95	99.29
Total Loading				6,133.97	520.61

The total current non point source loading to the Chesapeake Bay from the Town is 6,133.97 lb/year of nitrogen and 520.61 lb/year of phosphorous. The projected population growth will occur as infill within the residential-zoned areas of the Town. The infill and associated new infrastructure will result in a net increase in impervious cover, which based on the historical trends in the Watershed Model, should increase nitrogen and phosphorous loadings. Furthermore, the eventual development of the MCI-zoned area from essentially open space to commercial uses could contribute approximately 44 additional acres of impervious area. Thus, the values calculated above represent maximum nitrogen and phosphorous loading for the projected growth period; future development trends along with implementation of best management practices in stormwater design such as environmental site design to the maximum extent practicable should help reduce the ultimate loadings to the Chesapeake Bay from the current and future areas of the Town.

The Town WWTP is currently permitted to discharge phosphorous at 1 mg/L. There is no current permit limit for nitrogen; however, based on historical sampling results, it is estimated that the WWTP discharge has a nitrogen concentration of approximately 8 mg/L. Current and projected point source discharge quantities, based on these discharge concentrations, are tabulated below.

It should be noted that phosphorous loading is a conservative estimate based on the permit limit of 1 mg/L; historical sampling results indicate lower concentrations of phosphorous.

Table WRE-16: Point Source Loading

Condition	WWTP Discharge (GPD)	Nitrogen (lbs/year)	Phosphorous (lbs/year)
EXISTING	228,000	5,548	694
2030	307,000	7,470	934

The non-point source loading from the Town, the point source loading from the WWTP, and the total loading to the Chesapeake Bay under current and projected conditions are presented in the following table:

Table WRE-17: Non-Point and Point Source Loading to the Chesapeake Bay

Condition	Loading	Non-Point Loading (lbs/year)	Point Loading (lbs/year)	Total (lbs/year)
EXISTING	Nitrogen	6,134	5,548	11,682
	Phosphorous	521	694	1,215
2030	Nitrogen	6,134	7,470	13,604
	Phosphorous	521	934	1,455

The non-point loadings shown for the future condition are based on a conservative estimate in which impervious urban area does not increase relative to pervious urban area; as discussed above, infill and further development are likely to decrease nitrogen and phosphorous loading from the Town to the Chesapeake Bay.

Bay Restoration Fund Enhanced Nutrient Reduction (ENR)

The Bay Restoration Fund ENR program provides up to 100 percent state grant funds to local governments to retrofit or upgrade major wastewater treatment plants (WWTP) to remove a greater portion of nutrients from discharges. Rock Hall's wastewater treatment plant is a minor plant, and, therefore, ineligible for BRFENR funding. ENR technologies allow sewage treatment plants to provide a highly advanced level of nutrient removal. The ENR strategy builds on the success of the biochemical nutrient removal (BNR) program already in place. Upon completion of the upgrade, the NPDES permits will require the permittee to make a best effort to meet the load goals providing reasonable assurance of implementation. The NPDES permits should also be consistent with the assumptions made in the TMDL (e.g., flow, effluent nutrients concentrations, CBOD, DO, etc.).

The Maryland Water Quality Improvement Act

The Maryland Water Quality Improvement Act requires that comprehensive and enforceable nutrient management plans be developed, approved and implemented for all agricultural lands throughout Maryland. This act specifically requires that nutrient management plans for nitrogen be developed and implemented by 2002, and plans for phosphorus to be done by 2005.

Maryland's Clean Water Action Plan

Maryland's Clean Water Action Plan was developed in a coordinated manner with the State's 303(d) process. In 2004, the Lower Chester River Watershed was added to the Maryland List of Impaired Waters (303d) for biological impairments.

Chesapeake Bay Agreement

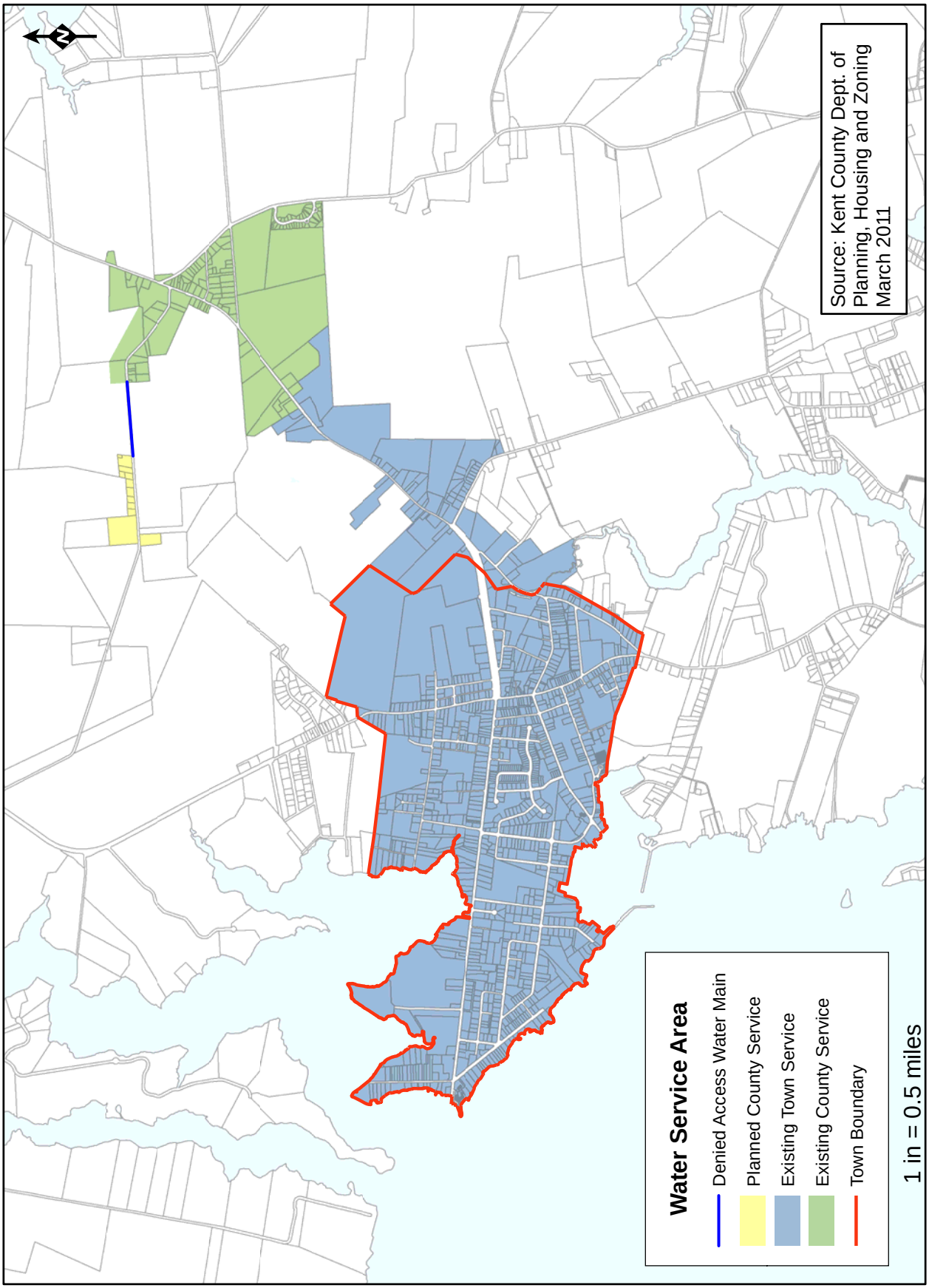
In the 1987 Chesapeake Bay Agreement, Maryland made a commitment to reduce nutrient loads to the Chesapeake Bay. In 1992, the Bay Agreement was amended to include the development and implementation of plans to achieve these nutrient reduction goals. Maryland's resultant Tributary Strategies for Nutrient Reduction provides a framework supporting the implementation of NPS controls in the Upper Eastern Shore Tributary Strategy Basin, which includes the Lower Chester River Watershed.

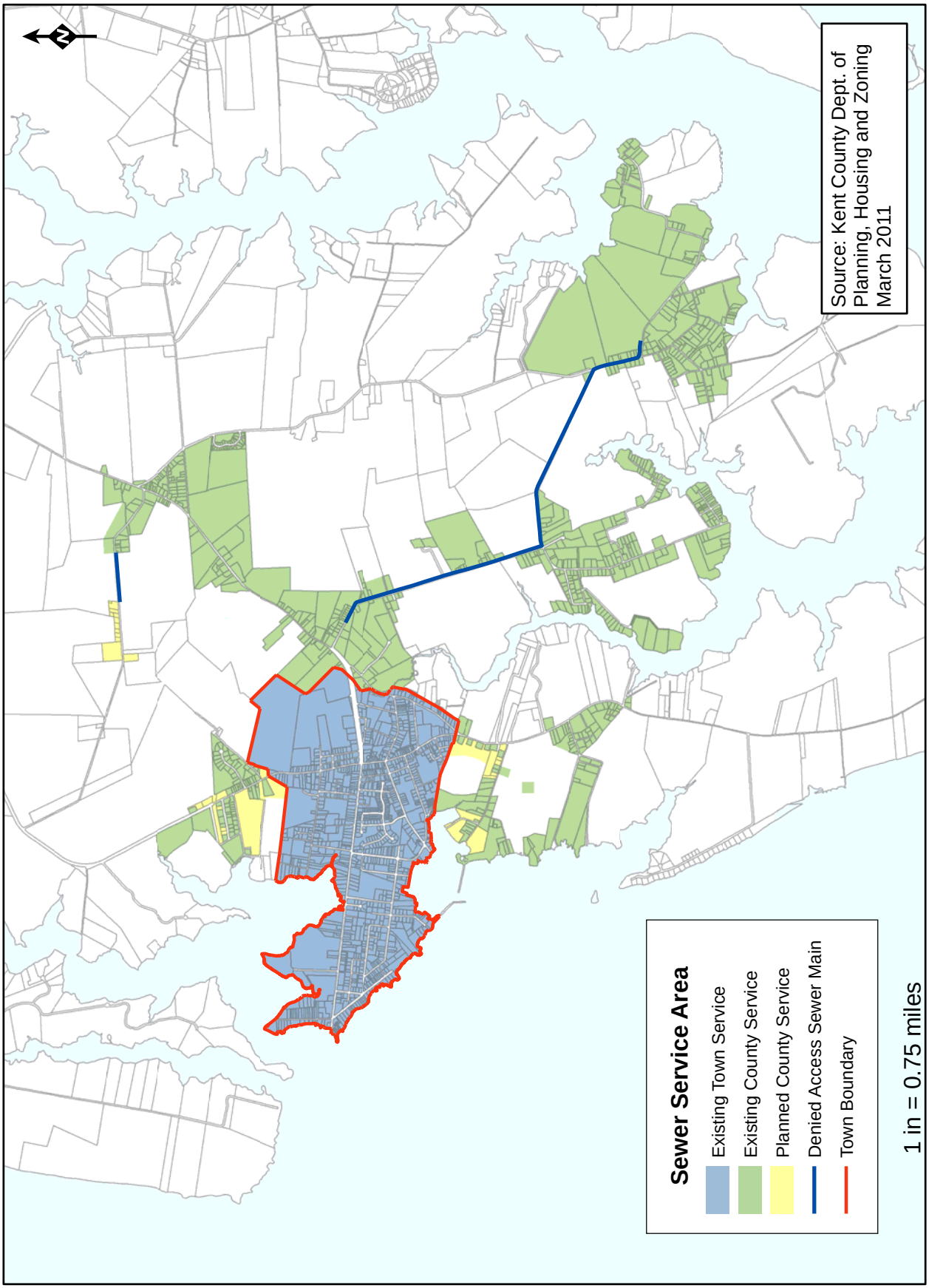
Five-Year Watershed Cycling Strategy

Maryland uses a five-year watershed cycling strategy to manage its waters. Pursuant to this strategy, the State is divided into five regions, and management activities will cycle through those regions over a five-year period. The cycle begins with intensive monitoring, followed by computer modeling, TMDL development, implementation activities, and follow-up evaluation. The choice of a five-year cycle is motivated by the five-year federal NPDES permit cycle. This continuing cycle ensures that every five years intensive follow-up monitoring will be performed. Thus, the watershed cycling strategy establishes a TMDL evaluation process that assures accountability.

POLICIES AND ACTIONS

- ≈ Investigate the use of municipal wastewater for agricultural irrigation.
- ≈ Complete the feasibility study on the wastewater treatment facilities.
- ≈ Consider a water capacity plan.
- ≈ Identify groundwater recharge areas and investigate protection strategies accordingly.
- ≈ Consider the development of a wellhead protection plan.
- ≈ Continue to coordinate with Kent County regarding proposed green belts.
- ≈ Consider the implementation of a 15% lot coverage limit on all new development.
- ≈ Encourage water quality improvements for new development through stormwater management techniques such as rain barrels, rain gardens, and native planting plans.
- ≈ Review initiatives found in the Local Basin Implementation Plan.


Source: Kent County Dept. of Planning, Housing and Zoning March 2011
Water Service Area
Denied Access Water Main
Planned County Service
Existing Town Service
Existing County Service
Town Boundary
1 in = 0.5 miles


Source: Kent County Dept. of Planning, Housing and Zoning March 2011
Sewer Service Area
Existing Town Service
Existing County Service
Planned County Service
Denied Access Sewer Main
Town Boundary
1 in = 0.75 miles

E. HOUSING

Housing is one of the most important elements of the Town. It is not merely shelter; but physically and socially reflects the character of the Town from its roots as a port and fishing town dating to the early eighteenth century.

At the time of the 2000 census, there were 834 occupied and vacant housing units in Rock Hall with the majority being single-family units of varying ages. Seventy-five percent of the existing housing units in Rock Hall were constructed prior to 1970. Many of the older structures in the community have been preserved and reflect the historic character of Rock Hall.

Adding to the value of Rock Hall as a community, there are a variety of recreational and leisure opportunities available to the residents and visitors. These include the Civic Center, athletic fields, picnic and playground areas, museums, community festivals, as well as multiple points of waterway access for swimming, boating and fishing.

ISSUES

The Comprehensive Plan for Rock Hall was last updated in 1990 and had a focus of providing opportunities for the development of a variety of housing options for its residents, while maintaining the historic character of the Town. The 1990 Comprehensive Plan established the following housing goals and objectives:

- ≈ established an affordable housing goal of 10 percent of new development;
- ≈ encouraged a mix of single-family, duplex and townhouse housing units to meet the needs of various age groups, family sizes, and income capabilities;
- ≈ discouraged the development of new high-density housing in the waterfront area;
- ≈ preserved views of the water;
- ≈ designated land for appropriate residential densities with a focus on low and medium-density development; and
- ≈ encouraged preservation of the Town's historic architecture.

Many of these goals appear to have been addressed since the 1990 Comprehensive Plan was adopted and will be continued within this Comprehensive Plan update. Also to be considered are complementary housing goals and strategies developed in the 2006 Kent County Comprehensive Plan, which are as follows:

- ≈ provide a wide range of housing opportunities to meet the needs of County residents;
- ≈ ensure that new housing is suitably located and compatible with the existing community character;
- ≈ rehabilitate existing substandard housing units;
- ≈ promote energy efficient design;
- ≈ support the development of a range of opportunities for housing for the elderly; and
- ≈ aggressively enforce building code violations.

During the public outreach phase of the development of this plan, the following housing related visions and suggestions were identified:

- ≈ new development should reflect Rock Hall's current design – both in spacing and architecture;
- ≈ the Town should develop standards and examples of acceptable architecture;
- ≈ encourage the development of a retirement community that includes affordable housing; and
- ≈ streamline the regulatory process for new development to encourage improvements and enhancements to existing structures.

Since housing is a major source of Town revenues, it is in the Town's best interest to support the development and redevelopment of quality housing and associated support services. It is the community's desire to provide a balanced program of housing that provides starter homes, middle-income homes, and upscale single-family homes.

Considering the aging population in Rock Hall, there is and will be a greater need in the future to provide housing for senior citizens, including assisted living units, and possibly full nursing facilities.

It is important for the Town to consider concepts to encourage and promote workforce and affordable housing for the community. Workers that comprise this segment of the community are generally defined as those having an income between 80 and 120 percent of the median income for Kent County and include those whose full time jobs are vital to the community's day-to-day functioning such as: teachers, police, firefighters, hospital workers and others who respond first in an emergency.

HOUSING DEMOGRAPHICS

Housing growth in Rock Hall is projected to be moderate. While Rock Hall is identified as a targeted growth area, development will be dependant upon economic growth to support new residents. It is important to acknowledge that the uncertainty in the national economy may provide slower development than projected.

Table H-1: Projected Occupied Housing Units 2000-2030

Year	Households	Household Change Percent
2000	**654**	-
2005	**687**	5.0%
2010	**708**	3.0%
2015	**750**	6.0%
2020	**795**	6.0%
2025	**835**	5.0%
2030	**860**	3.0%

2000 Census data compiled by ARRO Consulting, Inc. Projections interpolated from

Kent County projections prepared by the MD Department of Planning

Table H-1 shows that based on previous growth, there will be approximately 206 new occupied dwelling units available in 2030. This number is based on 654 dwelling units in 2000 that were occupied.

Table H-2: Rock Hall Housing Units Status, 1980 and 2000

Housing Status	Units (1980)	Units (2000)	Percent Change
Occupied	674	654	-3%
Owner Occupied	541	471	-13%
Renter Occupied	133	183	37%
Vacant	98	180	84%
Total Units	772	834	8%

1980 and 2000 Census Data summarized by ARRO Consulting, Inc.

Table H-2 indicates that during the period between the 1980 census and the 2000 census, the percentage of vacant housing increased from 13 to 22 percent. In the same period the percentage of owner occupied housing decreased from 70 to 56 percent and the percentage of renter occupied units increased slightly from 17 to 22 percent. Vacant units are those that are seasonal units, up for sale, or unoccupied for other reasons. Based on this data it can be concluded that an increasing portion of the housing stock in Rock Hall is being utilized for seasonal purposes.

Table H-3: Rock Hall Housing Units by Householder's Age, 2000

Age of Householder	Owner Number	Occupied percent	Age of Householder	Renter Number	Occupied percent
	471	100		183	100
15-24 years	2	.4	15-24 years	15	8.2
25-34 years	22	4.7	25-34 years	32	17.5
35-44 years	68	14.4	35-44 years	34	18.6
45-54 years	87	18.5	45-54 years	30	16.4
55-64 years	98	20.8	55-64 years	22	12.0
65-74 years	99	21.0	65-74 years	24	13.1
75-84 years	74	15.7	75-84 years	17	9.3
85 years and older	21	4.5	85 years and older	9	4.9

2000 Census Data; Summarized by ARRO Consulting, Inc.

Table H-3 depicts housing units by age and by owner or renter occupied. Notice that householders over 55 make up approximately 62 percent of owner occupied householders. An additional 39 percent of householders are 55 years old and older and are renting their homes. This is significant in that Rock Hall not only will have to provide housing for this aging population, but will have to have services and shopping for them as well. Public transit will likely be necessary if services are not located in Town.

DESIGN GUIDELINES

There is considerable diversity of housing in Rock Hall due to the following variables: a range of incomes, a mix of single households and family households with a variety of age differences in each; historically significant and mixed-use properties. With all of these competing interests, it is often necessary to create design guidelines and/or standards to help plan growth in the Town.

Much of the development and redevelopment that will take place in Rock Hall is infill development that is adjacent or in close proximity with residential properties and neighborhoods which increases the necessity of good design guidelines or standards. Guidelines or standards with detailed criteria should be reviewed and updated in the land development regulations. This action would provide more compatibility with new development and adjacent neighborhoods. In addition, developers will know what will be expected of them when they submit an application which will add to a faster review time.

ACCESSORY DWELLING UNITS

An accessory dwelling unit is considered to be a residential dwelling unit located within the existing principle building or above an existing accessory structure such as a garage but which is clearly subordinate to the principal use. Although the existing demand for such units is moderate at present, the demand is expected to increase over time. As a result, the requirements, restrictions and allowances for such structures have received increased scrutiny by Town officials. Consideration of suggestions in adopting any future regulations may include:

- ≈ Compatibility with existing neighborhood
- ≈ Impact on adjacent properties
- ≈ Viewshed and privacy protection
- ≈ Short term and long term rental standards

HOUSING GOALS

1. Encourage the construction of a mix of housing for all age groups and income levels.
2. Support preservation of historic dwellings and buildings located in Town.
3. Encourage new development and renovations that are consistent with the eclectic character of Rock Hall in architecture, scale, and spacing and that retain the high quality of the public views of the water.
4. Improve the availability of housing stock for the elderly and disabled individuals.
5. Increase the workforce with allowing home occupations that are compatible with surrounding neighborhoods.
6. Review existing design guidelines and standards for compliance with policies and implementation strategies of this plan.

POLICIES AND IMPLEMENTATION STRATEGIES

GOAL: PROMOTE THE DEVELOPMENT OF A MIX OF HOUSING THAT IS COMMENSURATE WITH THE RANGE OF INCOMES AND TO PROVIDE WORK FORCE AND AFFORDABLE HOUSING FOR ALL CITIZENS.

GOAL: SUPPORT AND ENCOURAGE HISTORIC PRESERVATION.

Strategy: Support the presence of the historic structures in Rock Hall, and publicize the value of preserving, protecting, and restoring areas of historic significance.

Strategy: Safeguard and improve property values in the area of historic structures or properties by investigating the possibility and public acceptance of creating a Historic District or a Historic Overlay District. Potential areas to be included in the overlay district would include:

- ≈ Main Street, south of MD Route 20
- ≈ Sharp Street
- ≈ Liberty Street
- ≈ Catholic Avenue
- ≈ Boundary Avenue (within R-1 zoning district)
- ≈ Chesapeake Avenue (within R-1 zoning district)

Strategy: Provide incentives to retain portions of historic structures during redevelopment and adapt the significant historic part of the building to the design of the new structure.

GOAL: CONSERVE, REHABILITATE AND REVITALIZE EXISTING HOUSING.

Strategy: Provide opportunities to upgrade substandard housing through the use of tax incentives, grant programs, and the enforcement of Town and State livability codes.

Strategy: The Town's Ordinances should encourage new development, including infill development, as well as redevelopment projects, to be consistent with the surrounding community.

GOAL: MAINTAIN THE INTEGRITY OF EXISTING RESIDENTIAL NEIGHBORHOODS FROM INCOMPATIBLE ADJACENT LAND USES AND FURTHER IMPROVE THEIR APPEARANCE AND VIABILITY AS NEIGHBORHOODS BY ADOPTION AND ENFORCEMENT OF APPROPRIATE REGULATIONS.

Strategy: Ensure that incompatible land uses and zoning map amendments are not approved that will have a detrimental impact on existing residential neighborhoods or views of the water.

Strategy: Review existing ordinances and regulations, including the zoning ordinance, junk car ordinance, and others to insure that they are adequate for conserving, rehabilitating, and revitalizing existing housing.

GOAL **PROMOTE A VARIETY OF ELDERLY CARE FACILITIES, SUCH AS INDEPENDENT AND ASSISTED LIVING ACCOMMODATIONS.**

Strategy: Consider the adoption of zoning regulations that would encourage the establishment of such facilities. Land currently zoned R-3 and MCI may be appropriate for this type use with some modification and possible incentives added as an inducement. The undeveloped area in the MCI zoning district would be ideal for this use because of its proximity to the Town center and Walgreens Pharmacy.

Strategy: Work with the County and the State to identify funding sources and other programs which may be utilized to assist with implementation of a program of elderly housing opportunities.

GOAL: **PROVIDE ADEQUATE FACILITIES AND SERVICES NECESSARY TO MAINTAIN, REHABILITATE AND ENCOURAGE THE DEVELOPMENT OF NEW HOUSING.**

Strategy: Budget and schedule an annual program of capital facility improvements to upgrade the Town infrastructure. The provision of sidewalks, public open spaces, community centers, and libraries will improve the overall quality of life within the Town.

Strategy: Require open space and amenities as a component of major new developments as a means to increase property values and further enhance and provide facilities for the community.

GOAL: **IMPROVE THE OVERALL APPEARANCE OF THE TOWN BY ENCOURAGING VISUAL IMPROVEMENTS TO EXISTING STRUCTURES, STREETS, AND PARKING AREAS, AND BY ADOPTING DESIGN STANDARDS FOR NEW DEVELOPMENT.**

Strategy: Develop and implement design standards to be met as part of the subdivision and site plan review process. Incorporate the need for sidewalks and trails during reviews.

Strategy: Initiate efforts to work with existing landowners on a voluntary program of site improvements. Provide incentives and design guidance for the community to improve on its own.

GOAL: ENCOURAGE HOME OCCUPATIONS TO PROVIDE ADDITIONAL JOB OPPORTUNITIES IN TOWN.

Strategy: Consider amending the Zoning Ordinance to allow low impact home occupations that can be administratively approved, if the applicant can meet revised criteria set forth in the Zoning Ordinance.

Strategy: Consider amending the Zoning Ordinance to allow home occupations that are approved by Special Exception after being publicly heard, if the applicant can meet criteria set forth in the Zoning Ordinance.

Strategy: Require staff visits to home occupations before approval and condition all approvals on allowing inspections by code enforcement, if violations of the permit occur.

F. DESIGN GUIDELINES

Established in 1707, Rock Hall's architecture has evolved over time. Almost no remnants of the colonial period remain within the town limits. The predominant period of building occurred between 1877 and 1895, with continued and sustained growth through 1930. It is this period of development that has most influenced building design in the Town and should be incorporated into proposed development plans by following these design guidelines, goals, and strategies. The late 1900's architecture that is along Maryland Route 20 should be enhanced with landscaping and street trees. Major redevelopment along Route 20 would appear to be more compatible by utilizing these design guidelines when possible and by limiting sign clutter in this area.

The purpose of design guidelines is to establish high quality development and design as a priority to guide and accomplish future development and redevelopment. These guidelines will enable the Planning Commission to draft specific regulations to review development plans consistently and fairly while helping to meet the goals of the community. These guidelines address public and private building design, site design, streetscape improvements and signage; provide a direction for all areas of the Town to develop or redevelop in a integrated manner; and, are intended to achieve architectural styles and the spacing, massing, style, articulation, height and materials that are present in existing historic structures and that has been acknowledged in the previous Comprehensive Plan and recent community visioning. Design guidelines do not include review of general maintenance of buildings, replacement in-kind, paint color, and minor improvements that do not affect the high quality development standards that the Town intends to achieve.

The overall design philosophy is to provide goals and strategies to be used when planning, reviewing and approving new construction and redevelopment projects while recognizing that there are several major characteristics within various locations in Town: the downtown commercial core area, commercial strip development along Maryland Route 20, the waterfront and harbor area, and residential neighborhoods throughout the Town. Guidelines for new site development and infrastructure are expected to be followed more closely than redevelopment occurring in the built environment that may need some modifications to preserve historic or architectural elements during development review.

DESIGN GUIDELINES BACKGROUND MATERIAL

The architecture of Rock Hall has a mixture of architectural styles that can be found on the streets today. In earlier periods and since its establishment, buildings have generally been one or two stories; and were constructed of brick, wood, and sided with clapboard. Houses with low kitchen wings on one side of the house and chimneys at each gable end often flush with the wall were common and remnants of that trend are seen today. Gables frequently had small square windows flanking the chimney. Many homes featured front porches and houses that were set up to the street, often having a vegetative wall or wooden or metal fence. Some houses had telescopic design with three sections; dormers with flat roofs extending from the ridge pole; and pitched roofs on the cellar ways.

Shutters, cornices, chimneys at each gable, awnings, balustrades, front porches, columns, and dormers are all features that are found on historic buildings in Rock Hall. These architectural features should be retained and preserved in existing structures. Shutters are encouraged to be wood and fit the opening of the window adjacent to them. Building plans that propose a chimney should follow the historic precedent that was sent with historic structures in Town.

Character-defining features on houses were dormers, cornices, shutters, and balustrades. Since there is a high water table in Rock Hall, many homes did not have a basement nor did they have a crawl space so the house was set directly on the foundation at ground level. This has resulted in some structurally problematic issues with older homes.

Many of the older structures that exist today have many of these architectural features; however, some have had to replace elements due to age and deterioration. Redevelopment of historic structures should follow the design guidelines and replace architectural features in kind.

BUILDING DESIGN, SPACING, SETBACKS

The objective of design guidelines relative to new or renovated buildings is to maintain the continuity and compatibility of architectural features that exist and project the traditional character of Rock Hall. New contemporary buildings that are distinguished from historical structures may be permitted and are encouraged to incorporate design themes of existing buildings into the new structure. Efforts should be made to blend the new building into the existing historic context. The new building should be in-keeping with the scale, theme, and style without duplicating the specific elements of the historic structure.

Buildings should be oriented to the street; and in the downtown commercial core area should be abutting the property line along the street's sidewalk while maintaining the prescribed front yard setback.

The spacing of new buildings and existing structures should be compatible with the character of the residential neighborhood where it is constructed and reflect the style that is presented in these guidelines. New buildings and infill development in the downtown commercial core should reflect the pattern, widths, and spatial relationships of existing buildings and possess an appropriate storefront element on the first floor of the building. New construction or redevelopment in the commercial area along Maryland Route 20 should follow the pattern and intent of these guidelines.

CROSSWALKS, ENTRANCES, AND PARKING

Entrances and driveways should permit safe and convenient pedestrian crossings where the sidewalk crosses a driveway or entrance. A change in paving material can alert a driver of a possible pedestrian or bicycle crossing at the junction of an entrance or driveway. Points of access should be minimized along Maryland Route 20, when possible, and if any redevelopment is requested property frontages should be channelized.

Principal entrances to a public building should enter on to the public street or a patio, square, or sidewalk. Parking areas should not dominate a site and should be to the rear of the building or to the side of the building, if not possible in the rear. If parking must front the street, it should be screened with a three foot high wall or fence.

Shared parking should be utilized to minimize the amount of impervious area in Town. Any parking structures that are proposed in the future should be compatible in quality, materials, and texture as buildings in the area with the lower floor that fronts the street containing programmed uses.

HEIGHT, MASSING, ROOF TOP STRUCTURES

Building heights are encouraged to be the height established by neighboring structures and not block public views of the water. Buildings, including roof top mechanical equipment, should be placed on the lot in a manner that optimizes views of the Chesapeake Bay.

Several roof top styles and forms are found in Rock Hall and define the character of the various periods of architecture that has been built here. Replacement roofs should be replicated, new additions should not obscure the original roof, and the roofs of new buildings should conform to those in the neighborhood or areas where they are located.

Roof mounted mechanical equipment should be screened by a parapet wall integral with the building design and as unobtrusive as possible while preserving views of the water. A parapet or architectural wall should be of the same material as the structure and preferably integrated into the building design. Ground mounted equipment is encouraged to be located in a loading area or an obscure part of the property. Supply or exhaust fans should be located away from pedestrian view and access.

Commercial antennas and satellite dishes should be placed in an obscure part of the building and co-location of antennas should be encouraged. Utilities should be placed underground or located to the rear of buildings whenever possible. Installation of sleeves for future extension of utility lines should be considered.

MATERIALS

Materials proposed for new construction are encouraged to reflect the various traditional materials that are typical of the surrounding buildings and be compatible with the character of Rock Hall's historic style. Exterior finish materials that are acceptable for use are brick, clapboard, stone, and wood. Materials that should be discouraged include, but are not limited to: plain concrete, corrugated metal, plywood, and concrete block. Replacement windows should replicate those of the existing buildings. Materials such as mirrored or tinted glass should not be used adjacent to traditional structures.

STREETSCAPE, LIGHTING, LANDSCAPING, AND FENCES

Streetscape improvements have been recently constructed in Rock Hall and should be continued in other parts of Town. Improvement of the streetscape adds a dramatic aesthetic quality to the built environment. Street trees, sidewalks, street furnishings, and street lighting should be appropriate and consist of quality materials that will provide savings over time. Sidewalks should be handicapped accessible and the street width should be adequate to accommodate parking where appropriate and emergency vehicle access and turnaround.

A street tree list should be developed to ensure that trees will survive in storms and roots will not surface and degrade the sidewalk or street. Maintenance of the trees can be less expensive if the correct species are selected for the Town. Street furnishings such as benches, trash receptacles, bicycle racks, tree grates, and planters should be used where a walking width of five feet can be maintained. Furnishings should not interfere with pedestrian movement and should allow for handicap accessibility. Furnishings should be compatible to the areas where they are placed and should be of strong and durable materials. Compatibility in architectural style throughout the neighborhood or core commercial area where they are located will increase the visual consistency of the furnishings and streetscape.

Lighting styles, placement, and illumination potential should be considered carefully. Lighting should be architecturally compatible with the streetscape and surrounding buildings as well as increasing security and providing visibility.

Fences or walls serve an important function when considering high quality design of a community and in defining the character of a specific site. They provide screening of necessary, but, less than attractive features of a site's design. Loading docks, dumpsters, parking lots, storage areas, ground mounted equipment, and the like can be effectively screened which preserves the aesthetics of an area.

Wrought iron, evergreen, and painted or stained wooden fences are encouraged for screening purposes; however, chain link fencing with or without slats should be prohibited. Although high fences may be necessary to preserve the aesthetics of some site elements at the harbor and commercial areas in Town, lower fences are encouraged to preserve site lines.

Landscaping should be appropriate to the area and require low maintenance. Low evergreen front yard fences are in character with the historic context of the Town. Landscaping can provide visual screening from the public right of way, mitigate effects or adjacent development on a property, or can break the line of sight to mitigate commercial or industrial equipment that is necessary for the business; but, can be less than attractive.

SIGNS

Signs are important to providing direction to the public and a necessity for businesses to identify their establishments; however, they are generally too prolific and can add poor aesthetic quality to the streetscape and the built environment. Temporary signs, such as those made of paper, plastics, balloons, pendants and the like, should be strongly discouraged since they add unsightly clutter and confusion. Monument signs, signs placed on the fascia of a building, and permanent changeable copy signs should be encouraged.

Signs that are encouraged in the core commercial area downtown may be in the form of wall panel signs, a projecting hanging sign, and awnings with lettering that should be made of canvas. The use of plastic awnings is strongly discouraged. Similar signage should be used along Maryland Route 20. A unified sign standard should be encouraged along the Route 20 commercial core. Way finding signage is encouraged to help tourists navigate through town.

SHARED USE PATH

A shared use path for pedestrians and bicyclists can provide short distance transportation and lower parking requirements, in addition to providing recreational benefits for the Town's residents.

Paths and walkways should be at least a five feet wide and hard surfaced; however, an eight foot wide path is more desirable. Traffic calming techniques should be considered for streets that maintain a shared path. Finally, the feasible alignment of paths needs to be studied with approval from the State Highway Administration for proposed paths along Maryland Route 20.

Although the construction of a shared path in Town is a timely process that would need to be planned and funds designated in the Town's Capital Improvement Program, the project could be phased and would provide many benefits to residents and tourists.

VIEW SHED PROTECTION

Approximately 40% of the Town’s boundary is bordered by the Chesapeake Bay. The Town’s tourism industry, recreational opportunities and economy are heavily dependent on this valuable resource. It is to the benefit of all citizens of Rock Hall that the natural beauty of the Bay be protected and preserved. Views, vistas and public vantage points such as from Route 20, Beach Road, Bayside Avenue, Haven Road, and Chesapeake Avenue are of particular importance.

In order to minimize adverse visual impacts upon the public views and vistas associated with the Chesapeake Bay, building heights should be low enough to avoid obstruction of views from public vantage points. Mechanical equipment should be screened, prohibit large or flashing signs and soften proposed development by siting construction on less

obtrusive portions of the site, use of clustering, low building profiles and using materials and colors that are subordinate to the environment.

Recognizing the importance of protecting and preserving prominent views of the Bay, thoughtful and sensitive planning of future development should be encouraged. In addition, the Town should consider the acquisition of easements or property that would preserve important prominent views of the waterfront in perpetuity.

GOALS AND STRATEGIES

Goals and strategies within this section may be implemented by the Town's officials with necessary revisions of existing ordinances or when making land use decisions during the planning period. Additional narrative relative to the intent of strategies may be found in the background discussion in the Design Guideline's Section.

GOAL: CONTINUE TO REINFORCE THE SMALL TOWN CHARACTER AND HISTORIC HERITAGE AND ARCHITECTURAL STYLE WHILE PROMOTING THE INTERESTS OF THE COMMUNITY BY ESTABLISHING HIGH QUALITY DESIGN GUIDELINES TO BE FOLLOWED DURING REVIEW OF NEW DEVELOPMENT, REDEVELOPMENT AND ADAPTIVE REUSE OF PROPOSED SITES AND BUILDINGS AND ASSOCIATED INFRASTRUCTURE.

Strategy: Define, identify, retain and preserve the historic buildings in Town.

Strategy: Appoint a committee to study and model communities in Town that have maintained their character and make recommendations using adopted Comprehensive Plan Design Guidelines and results of study.

Strategy: New building design should be integrated into the overall design of the historical features of existing buildings in the downtown area. Encourage design elements that have historically appeared in Rock Hall to complement the design and make it compatible with adjacent development: but, do not to replicate the design.

Strategy: Street lights, trash receptacles, street furniture, and in ground planters should be consistent in design and compatible with the most recently installed street lights on Main Street and be of good quality so they will need not be prematurely replaced.

Strategy: Infill development should be compatible architecturally and meet the set backs, height, and style of the adjacent development, if historical in character.

Strategy: Discourage removal of any character defining or architecturally relevant feature of a building or demolition of historically significant structures during redevelopment.

GOAL: **BUILD UPON THE TOWN'S DEVELOPMENT REVIEW PROCESS BY ENCOURAGING FAIR AND PREDICTABLE STANDARDS THAT RESULT IN DEVELOPMENT PLANS THAT REFLECT AND COMPLEMENT THE CHARACTER OF EXISTING ARCHITECTURAL DESIGN OF HISTORIC BUILDINGS AND STRUCTURES.**

Strategy: Make the development review process user and customer friendly to encourage improvements and enhancements to existing historic structures. New structures and major additions should be strongly encouraged to meet design guidelines. Any modifications or features to be replaced on a building should be supported with appropriate historical, pictorial, or physical documentation before approval or any demolition takes place.

Strategy: Encourage a shared public-private partnership in promoting and achieving high quality development and design especially in downtown and near the Harbor. Explore the possibility of providing incentives to encourage the use of design guidelines in proposed plans.

Strategy: Review design guidelines concepts and study application of the same to establish specific requirements that must be well written and clearly understandable.

GOAL: **ACCOMPLISH THE TOWN'S VISION FOR FUTURE DEVELOPMENT AND VIABILITY WHILE PROTECTING ENVIRONMENTAL FEATURES AND THE VIEW SHED OF THE CHESAPEAKE BAY.**

Strategy: Building heights should not be permitted that obstruct the view shed to the Bay even if less than the maximum permitted by the Zoning Ordinance.

Strategy: Retain existing trees to the maximum extent possible. Removal and mitigation must comply with the requirements of the State Critical Area Program.

Strategy: Assure that the height, bulk, and location of all proposed buildings minimize adverse impacts on scenic views, insofar as possible, through these design standards, by retaining and creating forested and vegetative buffers and earthen berms.

Strategy: Assure that mechanical equipment, on-site storage, and on-site activities and processes do not adversely affect public views through low-visibility man-made screening, natural buffering, careful site planning, and control of placement and size of signs.

Strategy: Obtain easements or acquire land that would preserve important views of the waterfront in perpetuity.

Strategy: Assure parking lots and ingress and egress to the site are situated, designed, and buffered so as to minimize adverse impacts on public views.

Strategy: Assure that obtrusiveness of structures and activities, including those by virtue of height, bulk, and materials are eliminated or minimized by careful site and building design, buffering, and use of impact-reducing techniques.

Strategy: Prohibit off premise signs; flashing, rotating or animated signs; and minimize the allowable number and surface area of signs.

Strategy: Place on the zoning map or other map of suitable character any special views, vistas, or vantage points of particular importance as determined by the Planning Commission.

Strategy: Encourage proposed development be softened by siting construction in the less obtrusive portions of the site, use of building clustering, use of low building profiles and use of materials and colors subordinate to the natural environment.

Strategy: Encourage methods of construction that minimize visual encroachment upon the view shed such as using high performance, tinted, non-mirrored, low-reflectivity glass and reducing exterior lighting to illuminate only functional areas such as garage doors, storage areas, walks and drives using low wattage fixtures.

Strategy: Exhaust fans, and roof-mounted equipment should be screened from the public right of way and adjacent properties. Commercial antennas and satellite dishes should be integrated within or close to the top of the building.

Strategy: Include Low Impact Development (LID) techniques, rain gardens, and vegetation to uptake and help to collect storm water during construction of new facilities. Require storm filters in new and reconstructed parking lots to treat storm water as required in the State's 2000 Design Manual and latest amendments.

GOAL: MAINTAIN RECREATIONAL AND TOURISM OPPORTUNITIES IN THE TOWN WHILE SUPPORTING THE WORKING HARBOR, MAINTAINING AND IMPROVING TOURIST ATTRACTIONS, AND APPROVING DEVELOPMENT PROJECTS THAT MEET THE DESIGN GUIDELINES.

Strategy: Support and seek funding for bicycle and pedestrian shared use paths as a component of recreational activities and an alternative transportation option in the Town.

Strategy: Provide traffic calming on heavily used streets by tourists and citizens that may be considered unsafe due to a lack of sidewalks or vehicular maneuvering.

Strategy: Incorporate way finding signs into the streetscape.

Strategy: Provide entrance features at the entrances to Town. Encourage the use of monument signage and discourage paper, plastic, balloons, and other types of temporary signs.

GOAL: CONTINUE TO IMPROVE STREETSCAPES, PARKING AREAS, AND SUPPORT AND SEEK FUNDING FOR A BICYCLE AND PEDESTRIAN SHARED-USE PLAN TO RECREATIONAL AREAS, THE WATERFRONT, DOWNTOWN AND ALL OTHER PARTS OF TOWN.

Strategy: Identify appropriate alignments for pedestrian linkages throughout the Town.

Strategy: Support and seek funding for bicycle and pedestrian shared use paths and bicycle racks in recreational areas, parking lots, public buildings, and other key locations.

Strategy: Parking areas should be located behind buildings; if not possible, they should be located along the site of the building. Parking in front of the building is not encouraged.

Strategy: Cross walks should have a change in paving material from the street, such as brick or stamped concrete, to make drivers aware of the crossings.

Strategy: Continue to make streetscape improvements with curb, sidewalk, gutter, street trees, and appropriate uniform lighting. A street tree list should be adopted to prevent inappropriate trees from being planted in the right of way.

Strategy: Appoint a committee to study the concept of constructing a phased share use path system in the Town. Recommendations should include alignment of paths, crossings, materials and widths, identifying the necessary right of way for paths, destinations, and safety features.

Strategy: In new subdivisions, require sidewalks that are handicapped accessible and streets that are adequate in width to accommodate a bicycle lane and emergency vehicles.

G. TRANSPORTATION

"Plan after plan was scrapped, but finally one that suited both Tovey and Ringgold was developed. The Town was laid out on a forked plan; the incoming road split into three branches at the edge of town. The center branch went straight into the center and formed the main street; the left fork went to the northern Shipyard; and the right branch went to the wharf south of the Town's center. All three forks reconnected at the end with a street running along the shores of the creek. It was a beltway of sorts providing direct routing to selected destinations without passing through the center of town." This road pattern as described in Robert J. Johnson's book Gravesend, remains evident in Rock Hall's current network of streets and highways. The emphasis and strong connection to water – so vital to Rock Hall's early history – remains a major component of the Town's transportation system. Today, with renewed recreational interest, alternative transportation modes such as walking, bicycling, and the trolley have additional importance.

THE STREET SYSTEM

The existing network of streets and highways in the Rock Hall area lead from Maryland Routes 20 and 445 which connect Rock Hall with the County seat in Chestertown to the east, the Gratitude bay front area to the west, Tolchester Beach to the north, and Eastern Neck to the south. Route 20 and Route 445 from Rock Hall to Eastern Neck Island have been designated as a part of the Chesapeake Country National Scenic Byway.

For the most part, developed streets are narrow with limited areas dedicated to on-street parking or loading. Pedestrians must compete with moving vehicles for a place to walk. Residential streets in the Town handle very low volumes of traffic and are considered adequate for their function. Some residential streets have been platted but never developed and others have been platted but encroached upon by adjacent uses and are probably not available for future use. These breaks in the street pattern are not a serious problem currently, but further encroachment could limit the Town's options for future road or pedestrian/bike pathway construction.

According to State Highway Administration traffic data, volume on Route 20 from Beach Road to MD Route 21 had an annual daily average of 4,600 vehicles in 2009. Over the past ten years, the annual average daily traffic peaked at 5,000 vehicles in 2006 and has dropped in the last four years. However, traffic is heavier on summer weekends, when recreational visitors arrive. The daily average trips per day are in the middle of the normal capacity range for two lane rural highways. While the capacity for such roads will vary with differences in terrain, pavement width and alignment, traffic characteristics and other factors, they are generally capable of carrying between 3,000 and 5,000 vehicles per average day, with 5,000 vehicles as the desirable upper limit. Most increases in traffic are expected to be generated by increased numbers of boaters and tourists coming into the area. Development of an industrial park could also result in greater traffic flow toward Rock Hall.

The only road warranting designation as a primary highway is Route 20 from its intersection with Main Street easterly toward Chestertown. The 150 foot right-of-way which exists between Main Street and Route 288 should be adequate for any future development in the area. Collector streets are designed to collect traffic from the local street network and distribute it to the primary highway. Collector streets include Route 445 passing through the Town north and south, Route 20 westward from Main Street to Gratitude, and Boundary Avenue/East Sharp Street from Route 20 southward to Route 445. All other streets in Rock Hall are designated local streets, semi-public streets, or private lanes providing access to individual lots.

A recent State Highway Administration neighborhood conservation program constructed numerous streetscape improvements along Main Street and Rock Hall Road. These included turning lanes, shoulder widening and improvement, provision of sidewalks, crosswalks, and street trees and drainage improvements. These road improvements have improved the visual quality of the area as well as providing needed vehicular and pedestrian improvements.

GOAL: ENSURE THAT STREETS ARE DESIGNED IN A MANNER THAT IS COMPATIBLE WITH EXISTING DEVELOPMENT IN THE TOWN.

Strategy: Continue the grid pattern of Town streets in any future developments and discourage dead-end arrangements.

Cul-de-sacs and dead end streets tend to unravel the traditional small town feeling and interrupt the pattern of connecting streets, thereby decreasing accessibility between adjacent neighborhoods. Therefore, new streets should connect to other streets, both existing and planned. Exceptions of course are appropriate where connections are only possible by disturbing wetlands, forest, or other important habitat. Where vehicular connections are not feasible, provision should be made for bikeway and foot path connections.

Strategy: Require local streets to be narrow and designed for a low speed**.**

Existing streets are generally narrow and appropriate to the small scale residential character of the town. New streets should continue this pattern where lots are large enough to provide off-street parking. Narrow streets will complement the current streetscape and slow traffic. Slowing traffic is not a bad idea in residential areas where children and pets abound.

Strategy: Require shade trees to be planted along new streets and in redevelopment projects.

Street trees provide innumerable values to a community. These include softening the urban environment with their green foliage, reducing pollution by removing airborne dust and particulate matter, reducing green house gases by removing carbon monoxide, cooling air temperatures in the summer

by providing shade, soothing people's spirits by their natural beauty, elevating property values by enhancing neighborhood aesthetics, providing places for birds and other wildlife to live, and increasing neighborhood pride. New developments should provide street trees and the Town will investigate ways to begin a street tree planting program on existing streets.

Strategy: Discourage the possible continuation of the north-south vehicular street system between Route 20 and Bayside Avenue, west of Hawthorne Avenue**.**

Severe environmental constraints are imposed by numerous wetlands in this area. However, a bike or pedestrian footpath could provide connectivity between the Haven and the Harbor.

GOAL: IMPROVE THE QUALITY OF STREETS IN THE TOWN.

Strategy: Identify the function of current streets and develop an Official Map of Streets

Rock Hall currently has a system of state highways, local collector roads, semi–public roads, and private lanes. In addition, there are numerous paper roads and alleyways which the Town may or may not want to retain. The Town should establish the function, ownership and right-of-ways for all non-state roads and develop an Official Map of Streets that clearly identifies all roads and right-of-ways.

Strategy: Use the Official Map of Streets in reviewing future development proposals

The Official Map of Streets identifies the desired function of each of the existing roads, and new development should be reviewed in accordance with this map. New development should not be permitted on private lanes and new private lanes should not be created. Limited development, appropriate to the scale of the existing users may be permitted on semi-public roads.

Strategy: Develop a workable plan to maintain the streets**.**

The Town will review the Official Map of Streets to clearly identify which streets will be maintained by the Town and develop a maintenance program including street improvements. The review of the map will also note which streets are appropriate for future bike and pedestrian ways and those that could be adjusted into adjacent properties.

Strategy: Upgrade existing streets to meet future drainage needs.

The Town will undertake a street drainage study which will identify those streets needing drainage improvements. The study will suggest an effective and environmentally sensitive manner to conduct these drainage improvements.

Strategy: Adopt design guidelines to foster the creation of livable streets.

The Town will adopt design guidelines which will foster the creation of livable streets when new roads are proposed and when existing streets are upgraded. These guidelines will address access, signage, visual attractiveness, general safety, convenience, and to ensure that the streets are pedestrian and bicycle friendly.

Strategy: Analyze the traffic impact of proposed development

The Town will evaluate the potential traffic impacts of proposed development. Primary access points from traffic generating development will be located to minimize impacts on residential areas. When appropriate, developers will be required to provide roadway improvements necessary to off set any impacts to the Rock Hall transportation system.

PEDESTRIAN & BICYCLE PATHWAYS

Large numbers of visitors and local residents walk and bike on the streets of Rock Hall. In many locations walkers and bikers are forced to compete with automobile traffic for space. Three loop systems seem to dominate the pattern of walking and biking in the Town and all include downtown, the Harbor, and Gratitude.

GOAL: PRESERVE AND ENHANCE THE WALKING AND BIKING SCALE OF THE TOWN.

Strategy: Identify opportunities for walking and bike paths.

Clearly identified pathways help to separate automobile traffic from pedestrians and bikers and could encourage the use of such pathways. The Town will investigate potential areas for future paths.

Strategy: Develop a pedestrian and bicycle system to connect residential areas and community facilities where feasible.

The Town will investigate areas where additional or improved pedestrian or bicycle paths would improve connections between the various users of the Town. These include connections between:

- ≈ Residential and business areas
- ≈ Marinas and restaurants or other visitor amenities
- ≈ Marinas with Main Street
- ≈ The areas around the Harbor
- ≈ The Harbor with the Town Beach
- ≈ The Haven with the Harbor
- ≈ Civic Center Park with the Harbor

Strategy: Identify and pursue funding sources for the construction and maintenance of a pedestrian and bicycle system.

The Town will investigate public and private funding sources for the construction and maintenance of a pedestrian and bicycle system and will look for opportunities to provide pedestrian and bicycle pathways as a part of the subdivision and site plan approval process.

WATER TRANSPORTATION

In the future development of Rock Hall, as much attention must be paid to the use of the area's waterways as to its streets and highways. The commercial and recreational opportunities offered by these waterways are the economic lifeblood of the Town and consideration of the needs of various marine activities is an important element in the planning program.

Many of the present marine facilities are clustered around Rock Hall Harbor where a nine-foot channel circling the Harbor was dredged by the Corps of Engineers in the early 1980's. Much of the shoreline around the Harbor has been bulkheaded. Commercial marine activities, including several seafood companies and a marine railway, are located at Rock Hall Harbor. Other facilities available in the Harbor include the Bayside Public Landing, restaurants, boat repair and storage, fuel, and marinas for recreational boats.

Outside of the Harbor area, much of the shoreline is marshy and the water depth is only one to four feet with a grassy bottom. Water depths of five feet or more are available at the marinas located on The Haven and at Gratitude.

GOAL: IMPROVE THE HARBOR AREA FOR WATER-BASED TRANSPORTATION.

Strategy: Investigate means of improving the function of the Harbor and other waterfront areas.

The Town will initiate a harbor line study and program for the entire Town waterfront. This study will identify a harbor line for the extensions of marina slips and moorings, boater circulation patterns, natural areas to be preserved, areas appropriate for dredging and water quality initiatives.

Strategy: Explore the feasibility of a passenger ferry service to Baltimore or the Western Shore.

Historically, Rock Hall was connected to the Western Shore via water transportation. In the 1990's, a passenger ferry ran from Rock Hall to Baltimore, Annapolis, and St. Michaels. Recently, a tourist cruise to Rock Hall was available from Annapolis in the summer season. Currently, a private

company proposes to operate a high speed passenger ferry connecting Rock Hall to Baltimore. The Town will carefully study the impacts that a passenger ferry system may have on the Town's infrastructure.

PARKING

Parking is available in two municipal parking lots in the Main Street Area, some on-street parking spaces, and off-street parking provided by businesses. This system has served the Town well and should only be enhanced by other potential municipal/semi-private parking areas during the life of this Plan. Large scale parking lots are strongly discouraged.

GOAL: PROVIDE PARKING THAT MEETS THE NEEDS OF LOCAL BUSINESS BUT DOES NOT DISRUPT THE TRADITIONAL SMALL TOWN STREETSCAPE

Strategy: Investigate the provision of additional semi public parking in the Main Street Area

The Town will look for opportunities to consolidate or reorganize parking in the Main Street Area to better serve the local businesses

Strategy: Develop parking standards for new development

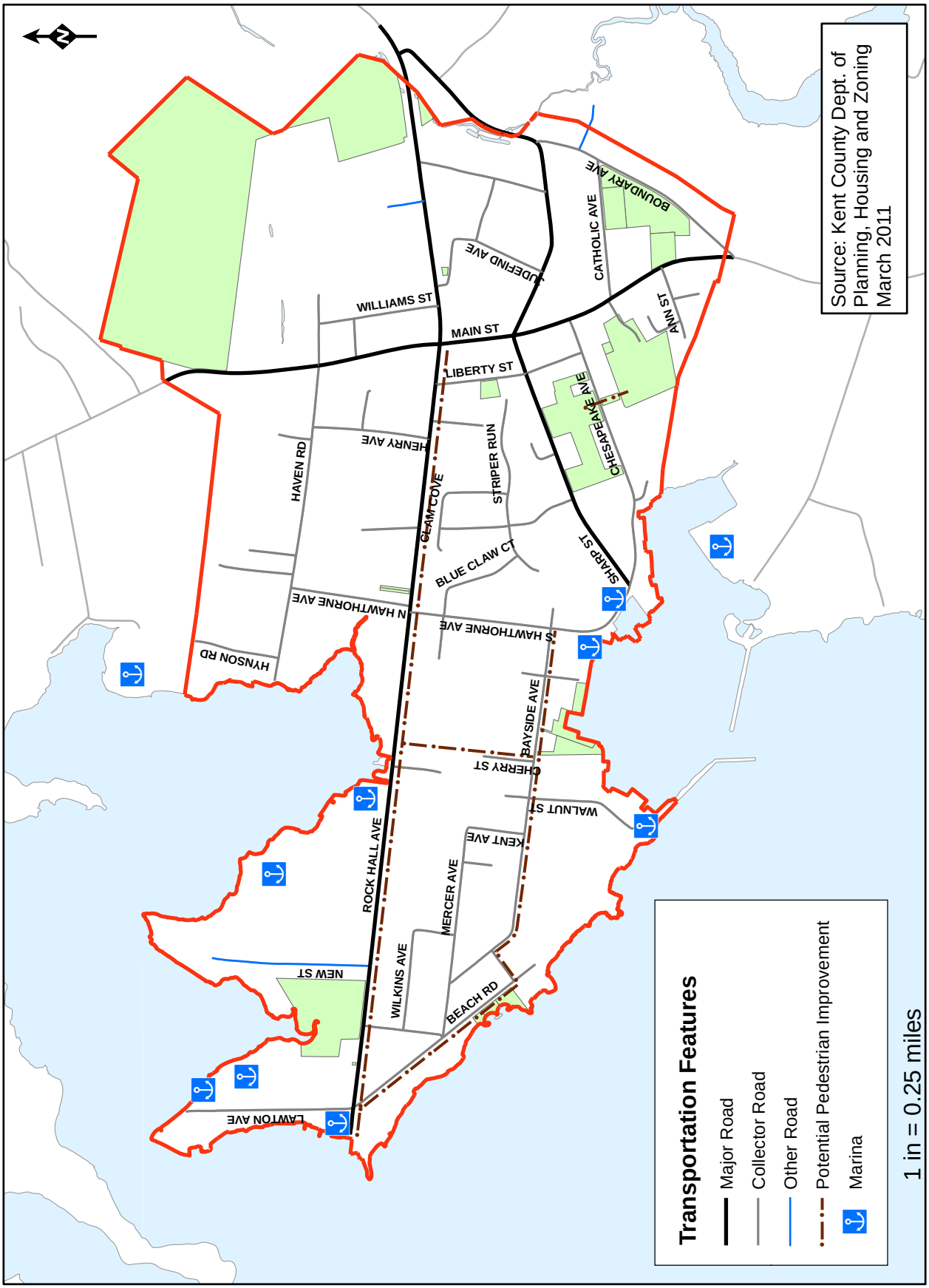
The Town will develop parking standards appropriate to the business areas of town with the goal of minimizing the impact of parking on the Town's streetscape through location, design, landscaping, and lighting.

ALTERNATIVE TRANSPORTATION MODES

GOAL: DEVELOP AND ENCOURAGE THE USE OF ALTERNATIVE TRANSPORTATION MODES

Strategy: Encourage public and private transportation efforts

The Town will continue to support and promote public, semi-public, and private transportation systems.


Source: Kent County Dept. of Planning, Housing and Zoning March 2011
WILLIAMS ST
MAIN ST
LIBERTY ST
JUDEFIND AVE
CATHOLIC AVE
BOUNDARY AVE
ANN ST
CHESAPEAKE AVE
HENRY AVE
HAVEN RD
STRIPER RUN
CLAM COVE
BLUE CLAW CT
SHARP ST
N HAWTHORNE AVE
S HAWTHORNE AVE
HYNSON RD
BAYSIDE AVE
CHERRY ST
WALNUT ST
KENT AVE
MERCER AVE
ROCK HALL AVE
WILKINS AVE
BEACH RD
NEW ST
LAWTON AVE
Transportation Features
Major Road
Collector Road
Other Road
Potential Pedestrian Improvement
Marina
1 in = 0.25 miles

H. COMMUNITY FACILITIES & PUBLIC SERVICES

Providing a wide range of quality community services is essential to the well-being of Rock Hall residents and also invites future growth and prosperity. The Town serves its citizenry through initiatives and coordination with County, State, and private agencies. Rock Hall provides water and wastewater services, police protection, and trash and recycling collection. The Town works with the State Highway Administration on road improvements. The Town, in conjunction with the County, provides emergency medical services, parks and recreation areas, public docking, recycling, and libraries. The County provides an elementary school in the Town. The Rock Hall Volunteer Fire Company serves the Town and surrounding community with fire protection and other emergency services. Some additional local services are provided by Federal and State organizations such as the Health Department and State Police.

GOAL: MAINTAIN AND IMPROVE THE QUALITY OF ESSENTIAL PUBLIC SERVICES AND FACILITIES.

Strategy: Identify needs for future public services expansion.

Town of Rock Hall has undergone population changes led by residential construction and the recreational boating industry. In addition, the Town is seeing a rise in its aging population. With these constraints acknowledged, Rock Hall must seek new opportunities for the expansion of future public services.

Strategy: Identify and preserve sites for future public service expansion.

The Town will take action to prevent sites identified for future public facilities from being lost through development for other purposes. When looking for future sites and facilities, the Town will consider the needs of its residents and visitors.

Strategy: Provide access to public facilities within the Town Center.

The Town will investigate the viability of providing public land within the Town Center. This strategic location of a Visitor's Center would provide public restrooms for its residents and visitors, as well as resources for the tourism industry.

Strategy: Ensure that private developers bear their fair share of the burden of providing public facilities and services to the residents or users of their projects.

New developments should be required to perform a benefit analysis quantifying such potential revenues to the community as general property taxes, other local taxes, income tax share, and water and sewer revenues.

Strategy: Continue to maximize alternative uses of Town, school, and public building spaces.

Currently Rock Hall Elementary School is an underutilized resource and, according to state Board of Education mandates, must continue to provide educational services to the community within the next 15 years. The community should work with the Kent County Board of Education to fill this need and utilize this community resource.

GOAL: SUPPORT EMERGENCY SERVICES

Strategy: Support the Volunteer Fire Company in meeting its future needs.

A new fire house was completed in 2005. The new fire hall is available for community use and is the site for many annual events. The Fire Company also caters events.

The County finances the Fire Department through an annual allotment. The department adds to these resources by hosting a bazaar, dinners, and an annual fund drive each March. The department has adequate personnel at this time but will accept membership applications at anytime. They are dedicated to protecting the people of the district.

The Volunteer Fire Companies and the Kent and Queen Anne's Rescue Squad have a critical role in the delivery of fire, medical, ambulance, and other emergency services throughout the Town and County. To maintain this system, the Town should evaluate strategies to assist these organizations in the recruitment and retention of volunteers.

Strategy: Work cooperatively with the County to provide Emergency Medical Services.

GOAL: MAINTAIN AND STRENGTHEN HAZARD PROTECTION

Strategy: Maintain, enforce, and if necessary, strengthen existing stormwater management regulations.

As the Town's surface area becomes increasingly paved and otherwise impermeable, the natural filtration process decreases. Natural cover plays an important role in reducing the amount of pollutants entering surface waters. Soils filter out many types of contaminants; grasses and ground cover slow the flow of water, allowing sediment to settle; trees reduce siltation by stabilizing soil as it reaches the ground. Unlike most overland flow, water entering the stormwater system in an urban area does not have the benefit of being filtered through vegetative buffers. Each rainfall flushes pollutants from streets and yards into the stormwater collection system that are then transported directly into the Harbor and the Chesapeake Bay.

Private and public development is required to meet all State and local stormwater management regulations. Several alternatives exist for controlling stormwater on site, including infiltration beds and trenches, pervious black top and open cored pavers. These items as well as "low impact" development techniques should be used to the extent possible to attenuate stormwater flows, reduce sedimentation and improve the overall quality of stormwater discharges. Catch basins are on the median and contribute to the flooding problem. Additional stormwater management/flooding issues include:

- ≈ All streets do not have sediment basins
- ≈ Flooding is impacted by the tides
- ≈ Flooding occurs from just tidal events
- ≈ Storm drain system must have a maintenance program

The Town will promote the implementation of these stormwater management techniques and to mandate that developers install and maintain the best-suited on-site systems to collect and treat surface runoff.

Strategy: Maintain, enforce and if necessary, strengthen existing regulations for floodplains and buffer.

Rock Hall's existing regulations address building, filling and other disturbances within stream buffers, shoreline cliffs, and floodplains.

Strategy: Promote flood hazard awareness.

Much of the Town is located within the flood zone. In addition to its situation within the 100 year floodplain, the Town is subject to high coastal winds and tidal surge adding a layer of high velocity flood protection needs to its residents. The Town will work to implement the Kent County Hazard Mitigation Plan which it adopted in 2004. Specifically, the Town will work to implement an enhanced flood warning system and an evacuation route.

TOWN GOVERNMENT

The Town has a councilmanic form of government made up of a mayor and four council members all elected by the people. The council operates under Code Home Rule and a charter that establishes the powers and responsibilities of the Mayor and Council.

The Town Hall is located on South Main Street one block from the central commercial core and is housed in the former Rock Hall Elementary School. The building houses the Town Manager's Office, Clerk's office, Mayor's office, Council meeting room, branch library, Police Department Headquarters with Chief of Police's Office, Head Start room, Rock Hall Museum, auditorium, and Townsend Memorial Clinic. Maintenance has improved in recent years, but the building is aging and requires constant maintenance. The building provides

space for the examination and storage of Town records, and the former school auditorium provides an excellent gathering place for community groups or the Town to hold meetings. Space for future growth is limited.

Fire protection services are provided by a volunteer fire company. The County also provides paramedic services to the Town. The Rock Hall Volunteer Fire Department and Ambulance Service have relocated from the central commercial district to a tract of land on Rock Hall Avenue. Operating costs for this service are substantial, and maintaining a good supply of trained personnel for the volunteer rescue squad is a constant challenge. Emergency patients are transported to the Chester River Hospital Center in Chestertown while more severe cases are taken by helicopter to the Shock Trauma Unit in Baltimore.

GOAL: MAINTAIN AND IMPROVE THE QUALITY OF GOVERNMENT SERVICES

Strategy: Maintain and upgrade buildings and facilities.

Explore and pursue funding options to ensure that the Town's facilities are well-maintained and attractive components of the community. Additional landscaping at Town Hall could make the building more attractive and inviting to residents and visitors.

Strategy: Foster public/private partnerships to help improve government services.

The Town will foster cooperation among the various public agencies and other relevant public and private interest groups. These efforts will increase communication and coordination regarding services and provide the opportunity to share resources to meet the needs of local citizens.

PUBLIC UTILITIES

The Public Works Department consists of a supervisor and two divisions: Streets/Sanitation and Public Utilities. The public utility services that will most affect the pattern of future growth and development in Rock Hall are the water supply and sewage disposal systems. Adequate sources of potable water and safe means of sewage disposal are the prerequisites to encouraging desirable development inside the Town and allowing annexation of contiguous areas in the future. The three wells and the purification plant that provide the Town's water have capacity for additional growth. The Town's sewage disposal system was upgraded in 1993 and now serves the entire Town.

GOAL: PROTECT DRINKING WATER QUALITY AND INSURE PROPER WASTEWATER TREATMENT WITHIN THE TOWN

Strategy: Identify cost effective technologies to assure that any upgrades to the wastewater treatment facility remove nutrients utilizing the most innovative, approved methods.

Nutrients, particularly nitrogen and phosphorus, are a major cause of the ecological decline of the Chesapeake Bay. Wastewater treatment plants provide secondary treatment of wastewater and then discharge to a river or stream. Secondary treated wastewater still contains relatively high nutrient concentrations. Since much of the Town's history, culture, and economy is related to the Bay, the Rock Hall will encourage all new and upgraded wastewater treatment facilities to remove nutrients in the most economically feasible way.

SCHOOLS

The Kent County Board of Education consists of five elected members. The Board's responsibility is to set policy and approve educational programs for the school system. In March 2010, the Board voted to consolidate the middle schools into a single school with grades 6-8 in Chestertown and to keep five elementary schools with grades K-5 in Chestertown, Galena, Millington, Rock Hall and Worton. The Board also voted to relocate the students from Rock Hall Elementary to the Rock Hall Middle School building, and finally to relocate the Central Office from the old Chestertown High School to the Rock Hall Elementary School building. Class sizes are averaging approximately 25 students per classroom. At the start of the 2010-2011 school year, Rock Hall Elementary had 213 students.

Due to budgetary constraints, the County has been forced to limit their once-excellent adult education program. The County still offers a GED course and a few courses in vocational training, crafts, and hobby topics. Concerned with expanding educational opportunities beyond the 12th grade, the Board of Education has provided satellite courses and "Distance Learning" from Chesapeake College to be offered at the regional high school. Increased technical capabilities now allow local schools to "bring in" teachers and classes from distant colleges. College opportunities exist at nearby Washington College in Chestertown and at Chesapeake College in Wye Mills.

Private schools in the County include the Kent School, Inc., a nonprofit, co-educational facility for grades K-8 outside of Chestertown, the Chestertown Christian Academy for grades K-12 located in Chestertown and sponsored by the Chestertown Baptist Church, the Radcliffe School in Chestertown for children with learning differences, and a Montessori school in Worton.

GOAL: PROMOTE AND EXPAND EDUCATIONAL SERVICES IN THE TOWN

Strategy: Cooperate with the County to maintain and upgrade existing educational facilities.

The Town will coordinate with the County and the Board of Education in aggressively pursuing funding from the State for major renovations,

modernization and necessary maintenance of the existing educational facilities.

Strategy: Encourage alternative uses of the public schools.

The public school buildings are a resource to the Town that should be used by all citizens. Community activities, county recreation programs, and programs for the elderly should be held at the schools.

Strategy: Support and explore ways of providing adult education programs.

The average age of Town residents is projected to increase over the next fifteen years. This creates a need for adult continuing education programs and provides an opportunity to garner support for school programs. The Town will coordinate with the County, Board of Education, and local businesses to develop vocational and technical training and other adult education classes.

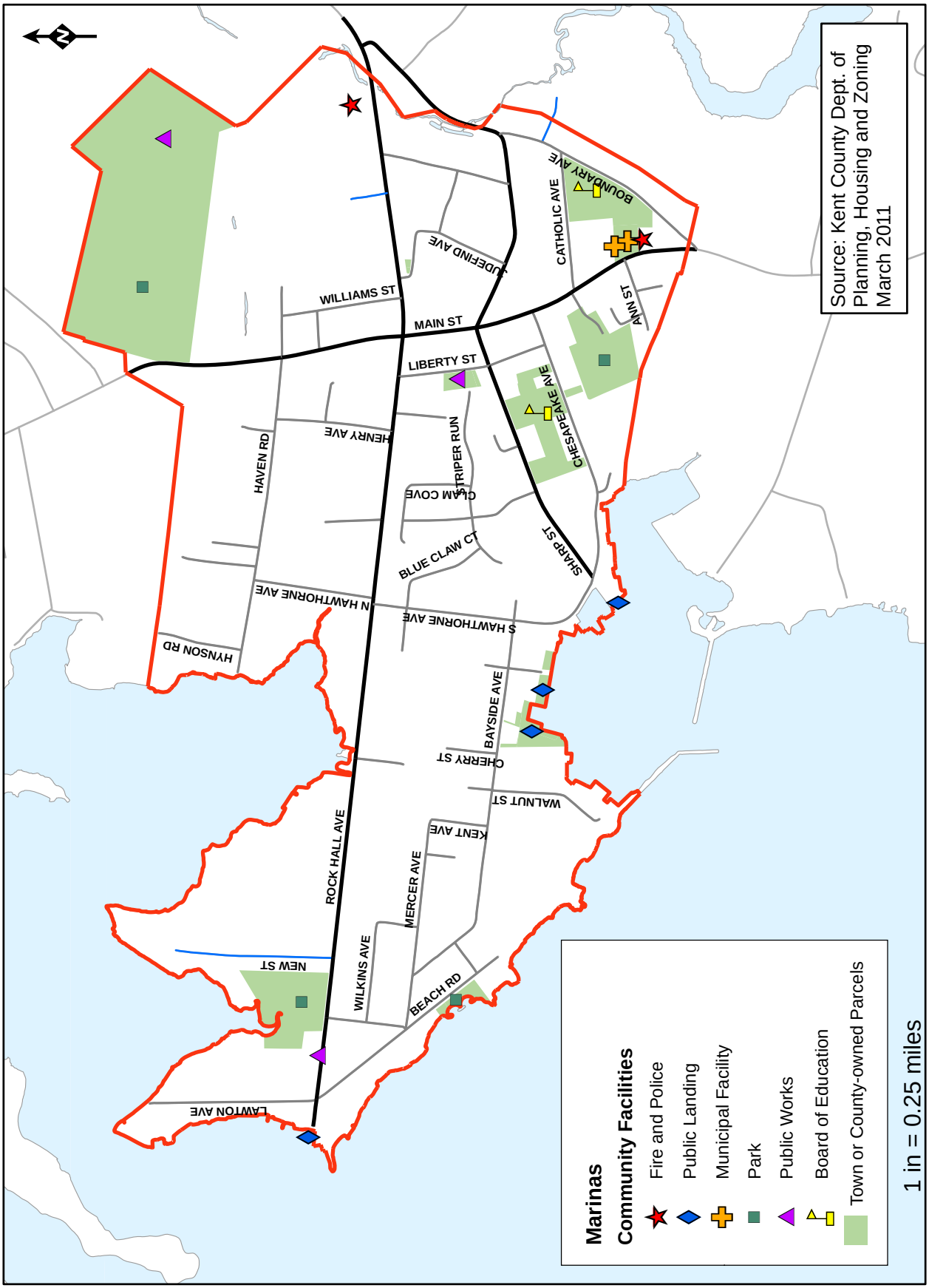
LIBRARY SERVICE

The Rock Hall Municipal Building houses a branch of the Kent County Public Library in the Town. The library is staffed entirely by volunteers from the town. With access to the Kent County Public Library and eleven other college and public libraries through inter-library loan, it provides a much-needed service to the students and adults in the community. The present circulation of 4,300 books per year should increase as Rock Hall grows. All of the facilities at Kent County Public Library are available to the cardholders of the Rock Hall branch. The Kent County Public Library has installed two computers so that the cardholders may have access to the Internet as well as the other learning opportunities electronic media offers.

GOAL: COLLABORATE WITH THE COUNTY TO IMPROVE LIBRARY SERVICES

Strategy: Identify needs and explore alternative funding sources to address those needs.

Working with the Foundation for the Kent County Public Library, the Town will explore alternative funding sources to expand computer, digital, and video technologies into current library services. Such technologies will increase accessibility of information to local citizens and increase opportunities for networking and resource sharing among other library and educational facilities.


Source: Kent County Dept. of Planning, Housing and Zoning March 2011
1 in = 0.25 miles
Marinas
Community Facilities
Fire and Police
Public Landing
Municipal Facility
Park
Public Works
Board of Education
Town or County-owned Parcels
WILLIAMS ST
MAIN ST
LIBERTY ST
JUDEFIND AVE
CATHOLIC AVE
BOUNDARY AVE
ANN ST
CHESAPEAKE AVE
SHARP ST
HENRY AVE
HAVEN RD
STRIPER RUN
CLAM COVE
BLUE CLAW CT
N HAWTHORNE AVE
S HAWTHORNE AVE
HYNSON RD
BAYSIDE AVE
CHERRY ST
WALNUT ST
KENT AVE
MERCER AVE
ROCK HALL AVE
WILKINS AVE
NEW ST
BEACH RD
LAWTON AVE

I. PARKS, RECREATION, AND OPEN SPACE

Rock Hall's natural environment is a chief ingredient in the town's character—making it one of the most attractive and inviting small towns in the county. Rock Hall's citizens, community groups, and government have a proud tradition of protecting what is important to them and what sets them apart—its sense of place, natural environment, open spaces, and recreational opportunities. Town amenities include the Rock Hall Beach, Blue Heron Park, Civic Center, the Rock Hall Ball field, and Bayside Public Landing and Bulkhead.

Recent studies throughout the country have debunked the myth that conservation and development are inherently at odds. The fact is that open space conservation is good for everyone—residents, property owners, visitors, and businesses alike—and their bottom line. This is a fact that Rock Hall clearly recognizes and has long benefited.

GOAL: ENHANCE EXISTING AND PROVIDE NEW, RECREATIONAL PROGRAMS TO MEET THE RECREATIONAL NEEDS OF ALL TOWN RESIDENTS AND VISITORS

Strategy: Provide and promote recreational programs

Strategy: Promote cooperation among recreation-related agencies. The Town will foster cooperation among the various public agencies and other relevant public and private recreation interest groups. These efforts will increase communication and coordination regarding recreational programming and provide the opportunity to share resources to meet the needs of local citizens.

Strategy: Encourage private sector involvement at all levels of recreational development in the Town. The Town will continue to support and encourage the expansion of the vast number of volunteer athletic and other recreational teams which exist in the Town.

Strategy: Work cooperatively with the County and State to identify new recreational opportunities within the Town. The Town will explore a master planning effort for the civic center property.

GOAL: PROVIDE FOR THE VARIED RECREATIONAL NEEDS AND INTERESTS OF CITIZENS AND VISITORS IN ROCK HALL BY DEVELOPING AND ENHANCING FACILITIES THROUGHOUT THE TOWN

Strategy: Promote multiple-use of existing facilities to more effectively serve community needs. The Town will develop strategies to insure provision of recreational facilities that satisfy the demands of projected growth. Strategies may include development exactions, targeting of existing funding and continued public/private partnerships.

GOAL: ENHANCE AND PROMOTE THE PRESERVATION AND RECREATIONAL USE OF PUBLIC OPEN SPACE AND NATURAL AREAS

Strategy: Establish a Greenways Program. The Town will coordinate efforts with other public and private agencies, as well as individuals to establish a town- and county-wide Greenways Program. The Greenways Program will establish a network of parks and open spaces throughout the Town that would provide pedestrian trails, access ways and linkages between town center and residential areas and parks and open spaces. Greenway corridors are often established through acquisition of linear parks and open spaces along prominent physical features such as streams, railways or utility lines.

Strategy: Coordinate the acquisition of public parks and open spaces with other natural resource protection programs. The Town offers recreational amenities in natural resource areas which allow for both active and passive recreation, such as walking trails, environmental education areas, and open space, where possible. Information guides and related programs will be developed to promote the recreational and educational use of these areas by local citizens and visitors. Preservation of these areas for recreational use also can protect groundwater recharge areas, stream and reservoir water quality, and wetlands.

Strategy: Improve public access to the Chesapeake Bay and its tributaries. The Town will pursue any opportunity to improve and expand the existing public landings to allow for additional parking, picnic areas, beaches, and passive park and open space areas. Improvements will be constructed in an environmentally sensitive manner. The Town will also look for opportunities to promote existing parks and open spaces contiguous to and providing linkages with, the Chesapeake Bay.

Strategy: Promote the development, expansion, and connectivity of a walking/biking trail throughout the Town. The Town recognizes the interconnectivity between the promotion of physical activity and the health of its citizens and its visitors. The Town is committed to providing its citizens and tourist with access to its resources through the continued support of existing and new walking and biking connections.

Strategy: Ensure that public open space and recreational land keeps pace with population growth and development.

Strategy: Ensure that water views and public access to Rock Hall's waterways are preserved and enhanced.

Strategy: Ensure all new development and programs focus upon the following goals:
- ≈ Trail systems
- ≈ Open space and access to the water
- ≈ Development and expansion of existing facilities
- ≈ Promotion of pocket parks within the town center

GOAL: RECOGNIZE THE IMPORTANT RESOURCES FOUND THROUGHOUT THE COMMUNITY AND HOW THEY IMPROVE QUALITY OF LIFE

Strategy: The Town shall provide appropriate educational services for the public which increase public awareness of the Town's irreplaceable and renewable resources and the management techniques appropriate for their protection, preservation, and conservation.

Strategy: Rock Hall will cooperate with schools and non-profit organizations to provide environmental education activities which increase awareness, understanding, appreciation, and support for stewardship of the natural and cultural resources on open space.

Strategy: The Town will utilize trained volunteers, cooperating groups, and private individuals to assist in the delivery of environmental education and interpretive services.

J. HISTORIC AND CULTURAL PRESERVATION

Rock Hall is framed by the Harbor, Gray's Inn Creek, the Haven, Swan Creek, and the Chesapeake Bay, and its heritage is contained within those waterways. Founded in 1707, the town has evolved from an important tobacco port into a major fishing and crabbing center and into a unique sailing and boating destination. Offering traditional seafood fare and a vibrant arts, music, and entertainment culture, the Town continues to attract an eclectic gathering of residents and visitors.

Town residents have progressed with its industry and the inherent connectivity is apparent in the Town's historic buildings, old churches, and traditional working landscapes. These historic sites and structures remind residents and visitors of a cultural richness and provide a reassuring sense of time and place. Through public and private efforts, many houses, buildings, and landscapes have been restored and protected. New uses have been found for historic buildings.

The National Park Service has created the Chesapeake Bay Gateways program in which Eastern Neck Island, south of Rock Hall, participates. The Chesapeake Country National Scenic Byway Corridor Management Plan and the Stories of the Chesapeake Heritage Area Management Plan also promote the preservation and enhancement of the Town's rich historic and cultural resources. Rock Hall has three museums: one which honors the watermen who formed the heritage of the area and one which interprets elements of the general cultural history of the region. A third museum is dedicated to the former Tolchester Amusement Park.

Historic preservation is about much more than the preservation of historic buildings and structures—it is about the preservation of the context in which they are found. Preservation of the objects that possess integrity of location, design, setting, materials and association preserves Rock Hall's character and promotes a sense of community. Preservation promotes the revitalization the Town, as well as individual structures of all types. The economic value of historic preservation has been proven again and again; it increases property values and provides for heritage tourism, the cleanest of clean industries.

GOAL: PRESERVE ROCK HALL'S HISTORIC RESOURCES

Strategy: Support Rock Hall's Museums.

There are three museums in Rock Hall. The Rock Hall Museum is located in the Town Center and is unknown to most town visitors. The Museum relies entirely on donations and is served by volunteer workers who keep the facility open for a few hours each day Wednesday through Sunday, or by appointment. The Museum houses a collection of Rock Hall and Chesapeake Bay memorabilia that evokes thoughts of another day and another way of life.

It has also been designated by the State of Maryland as an Indian artifact museum.

The Rock Hall Watermen's Museum is located at Haven Harbor and is open daily except during the winter. It is privately owned; however, there is no admission charge. The museum includes exhibits on oystering, crabbing, and fishing. A reproduction shanty house is also on display, along with historical photographs, local carvings, and, of course, boats.

Tolchester Revisited is located at the corner of Main and Sharp Street and is open to the public on weekends. Located north of Rock Hall, Tolchester Beach, at its height, attracted as many as 20,000 visitors a weekend from across the bay an the Eastern Shore. After flourishing for eight-five years, Tolchester Beach passed from the scene, finally closing in 1962. This museum archives the heyday of one of the region's most memorable sources of amusement and nightlife.

Strategy: Promote awareness of Rock Hall's history and culture.

The museums should be marketed as points of interest to tourists. Schools and residents should be encouraged to visit the museums. Increased local awareness could lead to the donation of additional artifacts that are important to Rock Hall's history and culture.

Strategy: Explore alternatives to provide more space for the Museum at Town Hall to expand.

Strategy: Expand the interpretation of the Town's history and culture.

The abundance of natural, recreational, cultural, and historical resources in Rock Hall supports tourism as an important component of the local economy. The Town should attract new visitors, extend the stay of visitors, and welcome repeat visitors with new attractions, events, and programs. Success will require a focused marketing effort that includes cooperation with the development of an interpretive museum. This effort should encourage year-round tourist activities that promote the natural and cultural qualities of Rock Hall. History or natural resource-based tours and programs will help sustain year-round employment and economic opportunities.

Strategy: Investigate options for directional signage in the Town identifying key cultural and recreational sites.

Strategy: Promote the oral history and photographic records of Rock Hall's maritime culture.

Oral histories are an important component to understanding and archiving our historic and cultural past. Traditional lifestyles are disappearing and the histories are slowly fading away as older community members pass on. Local watermen are already gathering oral histories and photographic records. The Town will encourage these individuals to work together and to coordinate with the Stories of the Chesapeake Heritage Area to establish a standard methodology and central depository for collected histories. Evidenced throughout Rock Hall, the working harbor is the core of the community's identity. Not only playing a vital role in the Town's economy, but also establishing a base for heritage tourism, the oral history and photographic record of area watermen are cultural and economic assets to the community.

Strategy: Promote the Stories of the Chesapeake Heritage Area.

The Town supports the Stories of the Chesapeake Heritage Area's environmental, recreational, and cultural value, as well as its role in identifying significant historic sites and districts on the National Resister of Historic Places. The Stories of the Chesapeake Heritage Area Management Plan enhances these resources, improves linkages, advances economic development strategies, and provides for stewardship and preservation. The Town will encourage local participation in the Management Plan.

Strategy: Promote the Chesapeake Country National Scenic Byway.

The Chesapeake Country National Scenic Byway is one of the 126 Scenic Byways in the United States. It celebrates life on the Eastern Shore. The Town is rich in natural, cultural, and human resources. Quality soils, topography, climate, woodlands, the Chesapeake Bay with its tidal tributaries, wetlands, and marshes create an environment rivaled by few other areas. These natural features enrich our economy and the lives of our citizens. Rock Hall is also steeped in historic maritime tradition.

GOAL: PRESERVE THE CULTURAL, HISTORICAL, AND ARCHEOLOGICAL RESOURCES OF ROCK HALL

Strategy: Investigate preservation policies that will enable county residents to qualify for state and federal tax credits

Tax credits are a proven technique for promoting the restoration and rehabilitation of structures. The Town will identify the existing tax credit programs available from the state and federal governments, review the

requirements of these programs, and explore policies that will enable its residents to take advantage of these programs.

Strategy: Assure that new development complements and enhances the County's rural and historic character

New development can either enhance or erode the Town's historic character. Therefore, the Town will consider the applicant's effort to design developments to complement or enhance the town's cultural and historic nature.

Strategy: Assist property owners in preserving historic sites

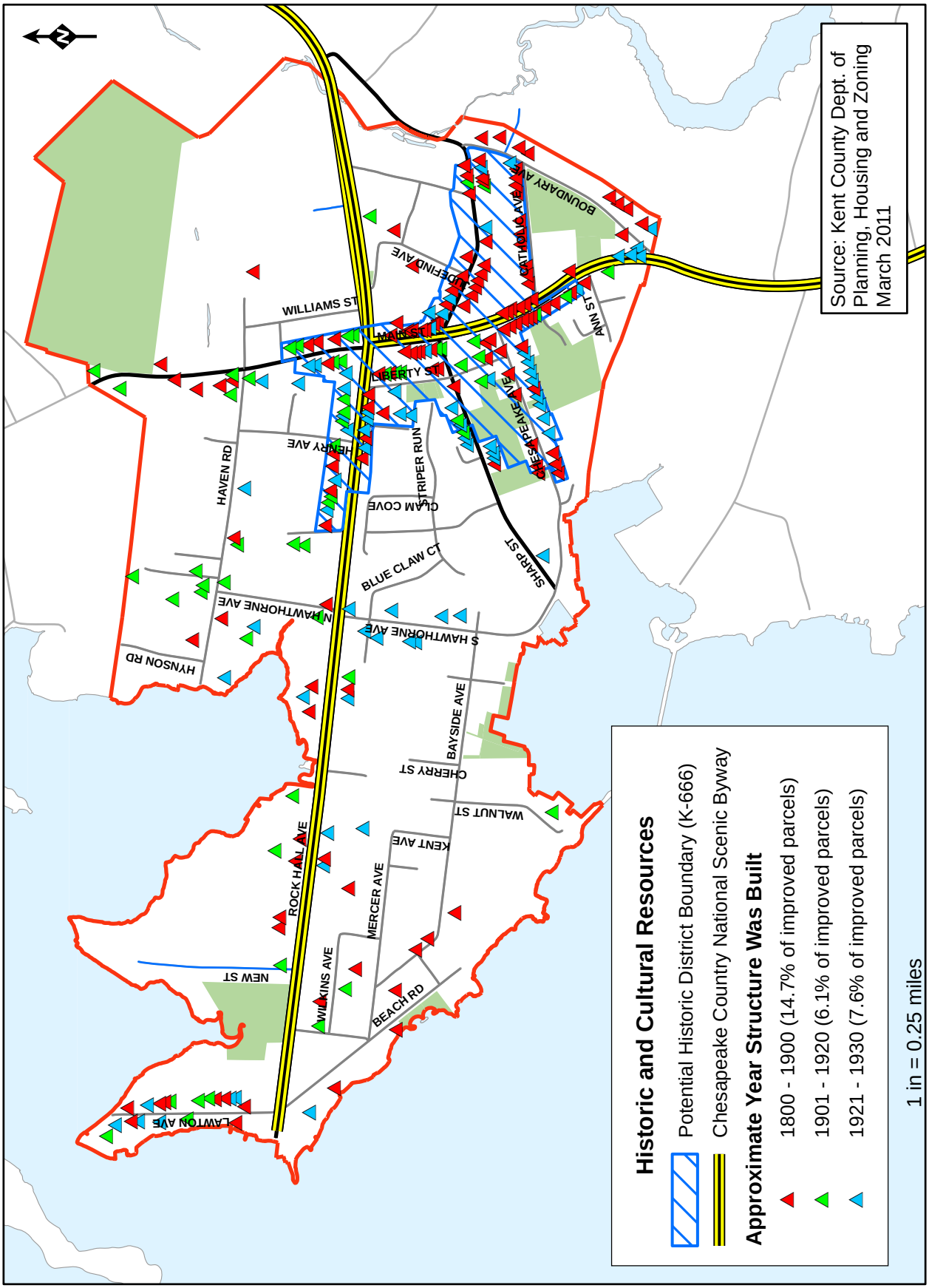
The Town of Rock Hall will work with local organizations to develop education and outreach programs to help citizens better understand the benefits and values of owning historic properties. This partnership will make owners of historic properties aware of tax credit, grant and loan programs for restoring historic buildings and provide information on the proper maintenance and repair of historic buildings. The Town will continue to promote the compatible adaptive reuse of significant historic structures through the use of flexible regulations.

Strategy: Investigate "delay of demolition" ordinance

The Town will investigate adopting a "delay of demolition" ordinance to encourage owners of historic structures to explore options for avoiding demolition or at a minimum allowing time for documentation of the structure and salvage of reusable materials. The Town will investigate innovative programs which would result in the movement or preservation of these structures.

Strategy: Develop marketing approaches to promote and encourage heritage tourism

Rock Hall will encourage local historic preservation groups to explore alternatives for promoting regional heritage tourism and the history and culture of the Town. They will initiate and promote local events and museums that celebrate our local heritage, as well as recognize state and national events such as National Historic Preservation Week.


Source: Kent County Dept. of Planning, Housing and Zoning March 2011
Historic and Cultural Resources
Potential Historic District Boundary (K-666)
Chesapeake Country National Scenic Byway
Approximate Year Structure Was Built
1800 - 1900 (14.7% of improved parcels)
1901 - 1920 (6.1% of improved parcels)
1921 - 1930 (7.6% of improved parcels)
1 in = 0.25 miles
WILLIAMS ST
MAIN ST
LIBERTY ST
HENRY AVE
HAVEN RD
STRIPER RUN
CLAM COVE
BLUE CLAW CT
SHARP ST
CHESAPEAKE AVE
ATLANTIC AVE
BOUNDARY AVE
DOLPHIN AVE
ANN ST
N HAWTHORNE AVE
S HAWTHORNE AVE
HYNSON RD
BAYSIDE AVE
CHERRY ST
WALNUT ST
KENT AVE
MERCER AVE
ROCK HALL AVE
WILKINS AVE
NEW ST
BEACH RD
LAWTON AVE

K. REGULATORY STREAMLINING

The Economic Growth, Resource Protection, and Planning Act of 1992 directs local governments to streamline regulations to assure achievement of growth management and resource protection goals. Streamlining, in the context of growth management, has a substantive focus -- the Act specifically encourages streamlining within areas designated for development and growth. This Plan designates Rock Hall as a rural growth center and discourages intensive residential or commercial growth outside its boundaries.

The development regulations of the town must be reviewed to achieve consistency with this Plan and to efficiently carry out its purposes. These modifications shall follow several guidelines:

- ≈ Clear areas of responsibility will be assigned within town government to guide development applications through the regulatory process.

- ≈ All development standards will be clearly-written, current, consistent, and widely-available.

- ≈ Any required interagency reviews, e.g. with Kent County or state agencies, will be conducted in a coordinated and concurrent manner.

- ≈ All review procedures should be examined to promote administrative efficiency.

In keeping with the newly-enacted Kent County Comprehensive Plan, Rock Hall and the County will cooperate to assure that any growth around its limits is carefully coordinated, consistent in both character and scale, and governed by compatible land use regulation. The Town will cooperate with the County regarding land use decision-making for the areas outside the Town limits. The Town will take part in any Town Growth Comprehensive Planning activities or formal Council of Governments forums dealing with planning and zoning matters.

Regulatory consistency with this Plan is required in all implementing ordinances, capital improvement programs, and functional plans. This Plan is the dominant policy document and guide for all other land use plans, programs, and regulations and is to be directly linked to the drafting, interpretation, application, and amendment of land use laws and programs.

BACKGROUND DOCUMENT

POPULATION

In 1960 there were 1,073 persons living in Rock Hall and 2,929 in the 5th Election District according to the 1968 Comprehensive Plan. The figure for Rock Hall does not include the Gratitude or Haven areas which were annexed to the Town in the 1970's. In the 1980 census there were 1,511 persons in the Town and 2,861 in the 5th Election District. In 1990 the town had grown to 1,584 residents, but in 2000, the population was reported as 1,396 persons—a 13.5% decrease.

	1960	1980	1990	2000
Rock Hall	1,073	1,511	1,584	1,396

Source: U.S. Census Bureau

POPULATION PROJECTIONS						
	1990	2000	2005	2010	2015	2020
Kent County	17,842	19,197	19,760	20,300	21,300	22,200

Source: Maryland Department of Planning, Planning Data Services, February 2009

These projections show minimal absolute growth for the County over the next twenty years. This does not mean, however, that individual locations such as Rock Hall will not experience substantial increases. The recently adopted County Comprehensive Plan focuses growth in the small villages and municipalities throughout the County and they should expect an increase in building activity. With very few opportunities remaining in the County for a residential location on the Bay, communities such as Rock Hall and Betterton become very attractive to residential developers.

AGE

In 1980, the percentage of citizens in Kent County over the age of 55 was 26.7%; in 1990, the figure was 27.8%. By 2000, almost one-third of residents were 55 or older. Rock Hall's percentage over 55 actually declined from 1980 to 1990 (33% to 32.8%) but increased significantly between 1990 and 2000 to 38.6%. This difference might be attributed to the in-migration of retirees to Rock Hall. Many of those moving into the town come as a result of their experiences in recreational boating or purchasing second homes that will serve as retirement homes in later years. Other new property owners have come from nearby states to investigate the town described in various newspaper articles as a nice place to settle. On the other hand, the number of residents below the age of 24 is significantly lower than both the County and the state. With the town's population tilted toward those of retirement age, the lower percentage of young is not surprising.

AGE DISTRIBUTION (FROM US CENSUS)									
	Kent County 1980	Kent County 1990	Kent County 2000	Rock Hall 1980	Rock Hall 1990	Rock Hall 2000	Maryland 1980	Maryland 1990	Maryland 2000
0-4	5.7	6.4	4.6		6.1	4.4	6.5	7.6	6.7
5-19	23.3	19.2	19.8		18.1	17.0	25.0	19.7	21.5
20-24	9.6	8.0	7.2		5.0	3.9	9.3	7.8	5.9
0-24	38.6 %	33.6 %	31.6%	33 %	29.2%	25.3%	40.8 %	35.1%	34.1%
25-44	24.1	27.6	23.7	27.7	28.3	21.3	29.7	35.0	31.4
45-54	10.6	11.1	13.6	10	9.6	14.8	10.6	10.8	14.3
55-64	11.6	10.9	11.7	13	11.9	14.7	9.6	8.3	8.9
Over 65	15.1	16.8	19.3	20	21.0	23.9	9.4	10.8	11.3

The age distribution projections prepared by the Maryland Department of Planning in February 2009 predict the following for Kent County:

AGE DISTRIBUTION PROJECTIONS				
AGE	2000*	2010	2020	2030
0-4	4.6	4.6	4.2	3.7
5-19	19.8	17.1	15.5	15.0
20-44	30.9	27.0	26.0	24.9
45-64	25.3%	29.7	27.1	22.3
65+	19.3%	21.6	27.1	34.1

* Historical Census Data

These projections show a continuing decline in the number of youth and a substantial increase in the number of people over 65. This trend is a national one that will certainly continue to affect Rock Hall. If the statistical relationships remain the same, nearly 30% of the Town's residents will be over 65 by the year 2010. This has strong implications for the types of services and facilities that the Town should consider providing.

NATURAL RESOURCES

Topography

Although Rock Hall's topography appears to be quite flat, elevations range from four feet to twenty four feet above sea level, the highest point being a low ridge occupied by the business district. From here the land falls away very gradually, draining east toward the headwaters of Gray's Inn Creek and to the west toward Rock Hall Harbor and The Haven. A few areas are at such a low elevation that they are inundated when high tide and periods of heavy rainfall coincide. Both the Harbor and the Haven are partly surrounded by tidal marsh and both are naturally shallow, with depths ranging from one to seven feet at low water. The Harbor has a dredged nine foot channel along its shoreline and tidal flats

located in the center. The Haven is an estuary of Swan Creek and its channel ranges in depth from five to seven feet. There is also a cove off Swan Creek to the west of the Haven and east of Lawton Ave. with an important tidal marsh at its southern end.

Rock Hall's flood plain generally exist from the Chesapeake Bay and its tributaries, Swan Creek and The Haven, eastward cutting a rough diagonal through Town from Jamar Road, the northern limit, southward through the middle of Chesapeake Avenue. A second flood plain exists on the eastern town limits along the banks of Grays Inn Creek.

Climate

Rock Hall has a moderate climate which is affected by the water mass of the Chesapeake Bay. This relationship increases the humidity and provides a greater tendency toward rainfall than is found farther north. The average low temperature for the coldest month, January, is 35 degrees and the average temperature for the hottest month, July, is 75 degrees. The annual precipitation is 40 inches and the annual snowfall is approximately 15-20 inches. The prevailing wind direction is from the northwest from October to April and from the south and southwest from May to September. The average growing season for the area is approximately 210 to 220 days.

Soils and Soil Drainage

The suitability of specific areas for urban development, cropland, pasture, etc., depends in part on soil characteristics. There are three basic soil types in the Rock Hall area. These are: Mattapex, Othello and Westbrook. Mattapex soils have a fine-loamy texture and formed a silt layer over coarser, older sediments. These soils are deep and moderately well drained. The Othello soil type is deep and poorly drained; its texture is fine-silty. The soils of the Westbrook series are deep and very poorly drained. They are commonly found in marshes, inundated areas, and areas adjacent to shallow open water. The organic component of Westbrook soils is typically more than 50 inches thick.

Although most existing development in Rock Hall has occurred on Mattapex soils, there is a band of Othello soils running north and south through the Town just east of Hawthorne Avenue. Special treatment will be required if these poorly drained soils are to be built upon.

Habitats of Threatened and Endangered Species

The physical and biological features of certain areas are conducive to the maintenance, expansion, and long-term survival of threatened and endangered species. These features which include the structure of vegetation, the faunal community, soils, water chemistry and quality; and geologic, hydrologic, and microclimatic factors all comprise habitats. Protection of threatened, endangered, and locally rare species is grounded in ethical and cultural reasons for preservation of all species, regardless of their known value to humans. This ethic is part of the current emphasis placed on conserving biological diversity. The key to protecting rare, threatened, and endangered species is protecting their natural habitats from human disruption.

The Natural Heritage Program (NHP) at the Maryland Department of Natural Resources reports that there are no known habitats of threatened or endangered species located within the boundaries of the Town of Rock Hall.

It is possible, however, that habitat areas may be discovered in the future, or may be present on future annexation sites. At such time as these areas are identified, goals, objectives, and policies will be prepared for each site. This work would be conducted in coordination with the NHP. The NHP can provide advice on habitat protection and is in charge of the detailed data for site boundaries, thus we would include NHP in our decision making process. The Town would provide the NHP a reasonable period of time to review and comment on certain development applications. This information would be made part of the public record along with other information submitted on a project.

HOUSING

The residential areas of the Town are filled with small single-family homes. According to the 2000 Census, 32% were constructed before 1939 and another 31% prior to 1970. Private homes may be constructed in the Commercial Marine zone around the Haven and on Lawton Ave. Multi-family needs were planned for in a central corridor near the commercial area when zoning was initiated in 1968, but for the most part the single-family homes existing in this corridor at that time still remain standing. Another area toward the eastern edge of Town has been used for apartment construction to satisfy the need for low and moderate income housing.

DATE OF CONSTRUCTION, ALL HOUSING				
	1990 Census		2000 Census	
	NUMBER	PERCENT	NUMBER	PERCENT
1939 or Earlier	287	35.5	265	32.0
1940-1969	288	35.6	259	31.3
1970-1979	96	11.9	73	8.8
1980-1989	137	16.9	128	15.5
1990-2000			102	12.3
TOTAL	808		827	

The following tables have been developed from 1980 and 1990 Census figures. No comparison can be made to the 1965 Rock Hall Comprehensive Plan because the Town's size has changed through annexation in the interim.

HOUSING UNITS 1980-2000 Census				
OCCUPANCY	1980	1990	2000	Change, 1990-2000
Occupied	610	664	654	-10
Vacant (Seasonal)	64 (?)	144 (97)	180 (124)	+36 (+27)
TOTAL	674	808	834	+26

HOUSING UNITS 1980 - 2000 Census			
TYPE	1980	1990	2000
Single-Family, detached	591	625	656
Single-Family, attached		12	41
Multi-Family (2 to 10 units)	49	103	105
Mobile Home	34	61	23
Other (Boat, RV, Van, etc.)		7	2
TOTAL	674	808	827

In 1965 a count was made of the number of dwellings in the area then within the Town limits. It showed approximately 80 year-round residences and 92 summer homes. Today, due to annexation of Gratitude, Ferry Park and Haven Road, there are 834 dwellings (124 of which appear to be summer residences), 105 are apartments, and 663 are single-family detached. In addition, there are 23 trailers at various locations, the majority of which are in the Boundary Avenue Trailer Park.

According to the 2000 Census, 79.5% of Rock Hall's homes are single family dwellings. This is down from the 1980 Census when 88% of Rock Hall's homes were single family dwellings.

Household Characteristics		
	1990	2000
Persons in Households	1584	1396
All Households	664	654
Married Couple Family	321	311
Female Household, no husband present	80	78
Non-family Household	227	245
Householder Living Alone	181	212
Householder Living Alone over 65	124	129
Persons per Household	2.39	2.13
Persons per Family	2.85	2.67

In 1980, 4% (27) had no bath or 1/2 bath, and 1% (10) had no complete kitchen facilities, and none were without heat. In 1990, 17 housing units lacked complete plumbing facilities and 14 lacked complete kitchen facilities. By 2000, only 2 occupied housing units lacked complete plumbing facilities and none lacked complete kitchen facilities.

Many of the Town's residents perceive cost as the greatest housing problem today and believe that home ownership is beyond the reach of the younger generation. The Town's young families, as well as some of its older retirees, need housing that is not only reasonably priced but relatively maintenance free. Census figures from 1989 show the median household

income in Rock Hall was $22,905 for 668 households, and county-wide it was $30,104. In 1999, the median household income in Rock Hall was $32,833 and county-wide it was $38,850. In 1979, 28% of Rock Hall families made less than $10,000; in 1989, only 23% of households earned less than $10,000. By 1999, only 15.1% of households earned less than $10,000. Less than 2% earned more than $150,000.

VALUE OF SPECIFIED OWNER-OCCUPIED HOUSING UNITS - 2000					
Housing Value	Rock Hall	Chestertown	Betterton	Galena	Millington
Less than $50,000	3.6%	0.9%	3.7%	1.7%	9.3%
$50,000-99,999	53.8	26.9	66.4	35.0	57.7
$100,000-149,999	28.6	34.2	16.8	56.4	20.6
$150,000-199,999	5.9	15.4	11.2	6.8	7.2
$200,000-299,999	6.7	15.4	0	0	5.1
Over $300,000	1.4	7.2	1.9	0	0
TOTAL	420	726	107	117	97

The majority of the owner-occupied housing units in Rock Hall, Betterton and Millington are less than $100,000. Using a conservative multiplier of 2.5 X Household Income, the average household in Rock Hall could afford access to a home costing approximately $82,000 or roughly 50% of the housing stock.

ECONOMY

There are seven main sources of income in the 5th District, the market area for Rock Hall. These include the seafood industry, the marine industry, farming, finance and real estate related business, tourism, hunting and fishing, and service businesses. The following estimates of per capita income were prepared by the Maryland Department of Planning based on Census data.

ESTIMATED PER CAPITA INCOME			
JURISDICTION	1979	1989	1999
Rock Hall	$5,926	$11,593	$20,521
Chestertown	$6,700	$14,847	$18,769
Kent County	$6,502	$15,488	$21,573
Maryland		$17,730	$25,614

Note: Per capita income values have not been adjusted to reflect constant dollars.

The number of retired and the slow pace of economic growth in the Town tend to keep these numbers low. In 1999, over 28% of households reported no income. Of the households reporting income, over 47% reported receiving Social Security income and almost 4% reported receiving public assistance income.

EMPLOYMENT SUMMARY TABLE,
5TH ELECTION DISTRICT, ROCK HALL,
March, 1997

BUSINESS	# 0F FIRMS	FULL-TIME	PART-TIME	SEASONAL	1997 TOTAL	1987 TOTAL
Seafood Industry	90	90			90	307
Marine Industry	33	109	30	56	195	125
Restaurants/Bars	13	38	28	88	154	136
Retail	16	55	19	13	87	84
Services	27	37	16	1	54	95
Government	3	64	7		71	70
Bldg Trades						47
Farming						16
Artisans						10
Lodging	6	6	8	1	15	6
Manufacturing	0				0	3
Misc.						5
TOTAL						904

["Seafood Industry" includes watermen, shipping, and processing. "Marine Industry" includes marinas, marine construction, marine stores, boat building and repair, boating instruction, chartering, and boat sales. "Services" includes finance, insurance, real estate, medical, day care, auto service, hunting services, cleaning, printing, machine shops, and welding. "Miscellaneous" includes churches and businesses not easily classifiable.]

The labor force is defined as the number of people age 16 or over. In 1990, 677 were employed and 33 unemployed. In addition, there were 545 people who were not in the labor force. This number includes students, retired persons and people working at home or caring for a family member. In 2000, 1,104 people were in the labor force with only 29 people unemployed, and there were 387 people who were not in the labor force. By occupation, the labor force was distributed as follows:

OCCUPATION - 1990	Number
Managerial and professional specialties	113
Technical, sales and administrative support	172
Service	116
Farming, forestry and fishing	67
Precision production, craft and repair	84
Operators, fabricators and laborers	125
Total	677

OCCUPATION - 2000	Male	Female	Total
Management, professional and related fields	73	117	190
Sales and office	38	111	149
Service	58	63	121
Farming, forestry, and fishing	39	0	39
Construction, extraction and maintenance	77	10	87
Production, transportation and material moving	60	40	100
Total	345	341	686

By industry, in 2000, the labor force was distributed as follows:

INDUSTRY – 2000	KENT TOTAL	%	ROCK HALL TOTAL	%
Agriculture, forestry, fishing and hunting	581	6.2	46	6.7
Mining	0	0	0	0
Construction	908	9.7	92	13.4
Manufacturing	1140	12.2	61	8.9
Wholesale trade	240	2.6	18	2.6
Retail trade	892	9.5	68	9.9
Transportation and warehousing	275	2.9	17	2.5
Utilities	28	0.3	7	1.0
Information	150	1.6	10	1.5
Finance and insurance	293	3.1	18	2.6
Real estate and rental/leasing	129	1.4	19	2.8
Professional, scientific, and technical services	432	4.6	21	3.1
Management of companies	0	0	0	0
Administrative and support and waste management services	242	2.6	18	2.6
Educational services	1300	13.9	38	5.5
Health care and social services	928	9.9	67	9.8
Arts, entertainment and recreation	331	3.5	40	5.8
Accommodation and food service	430	4.6	67	9.8
Other services	475	5.1	25	3.6
Public Administration	520	5.6	54	7.9
	9334	100%	686	100%

One of the continuing employment difficulties is provision of an educated workforce. In Kent County in 1960, only about 20% of the graduating seniors went on to higher education. By 1990, this number had increased to nearly 50% but only a small percentage from the Rock Hall area continue their education beyond high school. In 1990, of the 1,122 Rock Hall residents over age 25, over 31% did not graduate from high school, 45% have only a high school diploma, and 7% have a Bachelor's degree or higher. By 2000, 15.2% of the population over 25 had a bachelor's degree or higher and the percentage of residents with a high school degree or higher was almost 80%.

	1990 Census		2000 Census	
EDUCATIONAL ATTAINMENT	Kent County	Rock Hall	Kent County	Rock Hall
Population 25 years and over	11,822	1,122	13,103	981
Less than 9th grade	1,346 11.4%	135 12.0%	837, 6.4%	61, 6.2%
9th to 12th grade, no diploma	2,038 17.2	219 19.5	1,942, 14.8%	156, 15.9%
High school graduate or equivalent	4,372 37.0	510 45.5	4,705, 35.9%	403, 41.1%
Some college, no degree	1,624 13.7	145 12.9	2,273, 17.3%	173, 17.6%
Associate degree	441 3.7	35 3.1	506, 3.9%	38, 3.9%
Bachelor's degree	1,292 10.9	45 4.0	1,652, 12.6%	77, 7.8%
Graduate or professional degree	709 6.0	33 2.9	1,188, 9.1%	73, 7.4%
Percent high school graduate or higher	71.3	68.4	78.8	77.8
Percent bachelor's degree or higher	16.9	6.9	21.7	15.2