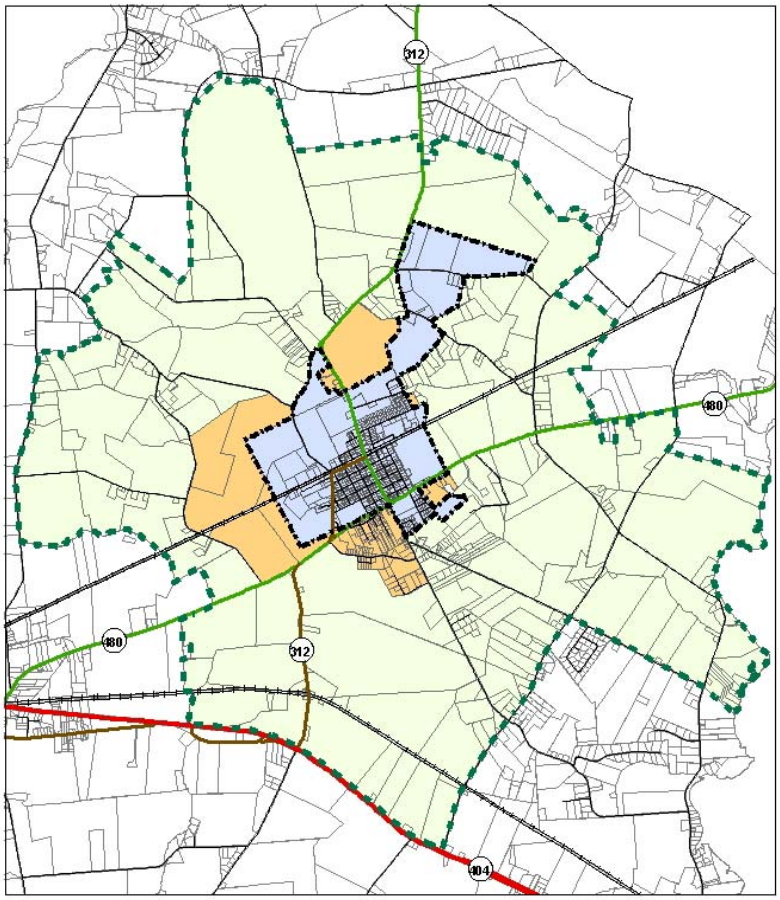
# RIDGELY ENTERPRISE GEOGRAPHIC INFORMATION SYSTEM

## REQUIREMENTS ANALYSIS




## TOWN OF RIDGELY
## CAROLINE COUNTY, MARYLAND

GeoG-415: JANUARY 21, 2009

Dr. Arthur Lembo; Salisbury University
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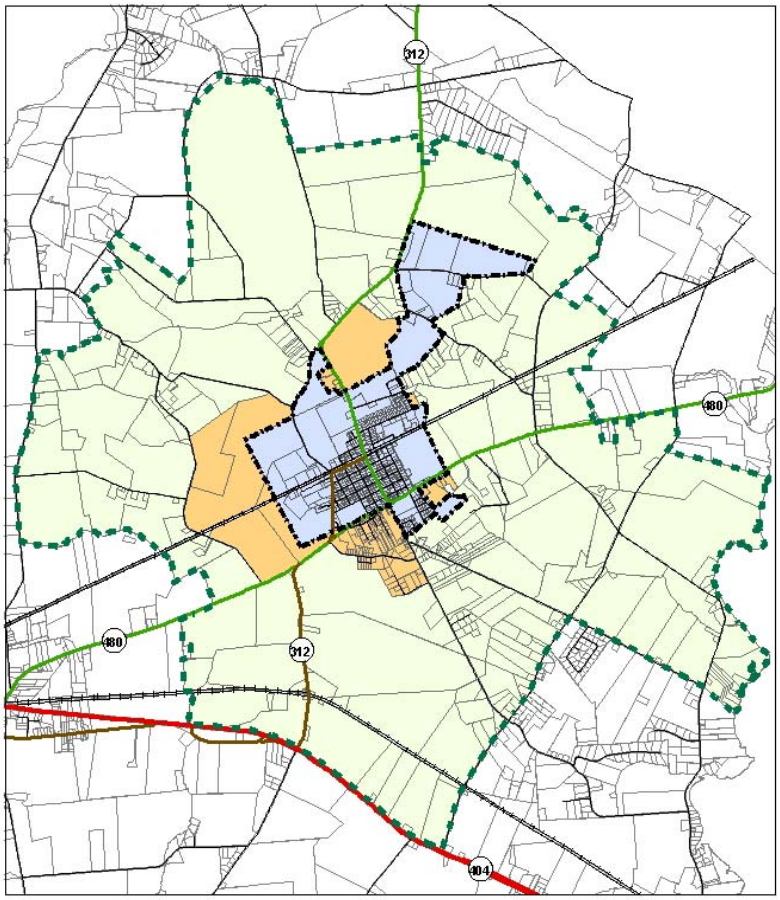
## REQUIREMENTS ANALYSIS

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# INTRODUCTION

Digital information systems, such as Geographic Information Systems (GIS), Global Positioning Systems (GPS), Computer Aided Design (CAD) and other mapping programs are becoming an indispensable tool for government and affiliated entities. These programs are used to store, track, analyze, and display spatial data. Public policy issues and opportunities are causing officials to rely on heightened information technologies for efficient government and effective decision-making.

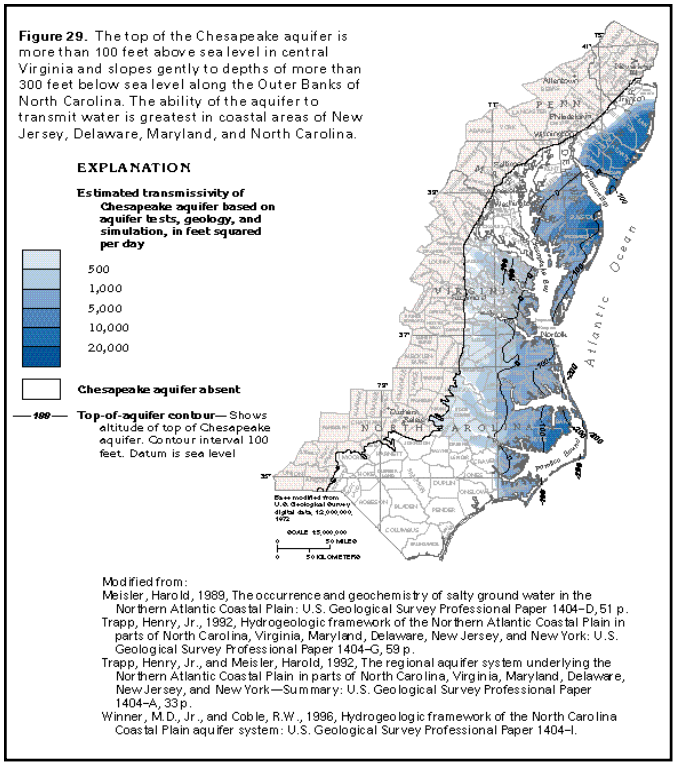
## GEOGRAPHIC INFORMATION SYSTEMS (GIS)

As we enter the 21st Century, GIS systems are becoming vital to government. Many federal, state, and local government agencies already utilize GIS.

### What Is GIS?

GIS links information to real-world geographic locations and its features. It is a powerful mapping tool for analyzing, managing, and tracking information. GIS assists local governments with:

- Land Use & Growth Management;
- Environmental Resources and Conservation;
- Transportation and Infrastructure;
- Economic Development;
- Public Health and Safety;
- Emergency Management;
- Law Enforcement; and
- Homeland Security.

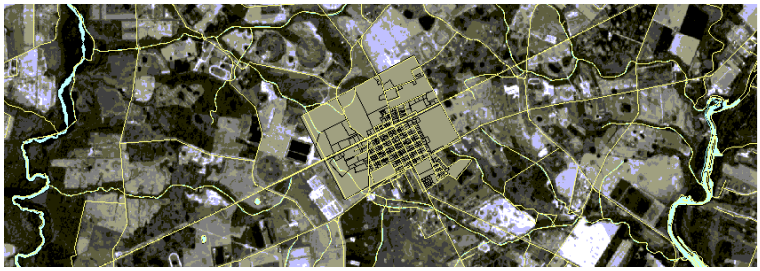



**KNOWLEDGE IS POWER**

**Every government should be intimate with the details of its locality and region. Without knowledge, informed decisions regarding local affairs cannot be addressed, potentially causing social, political, and economic consequences. GIS can help.**

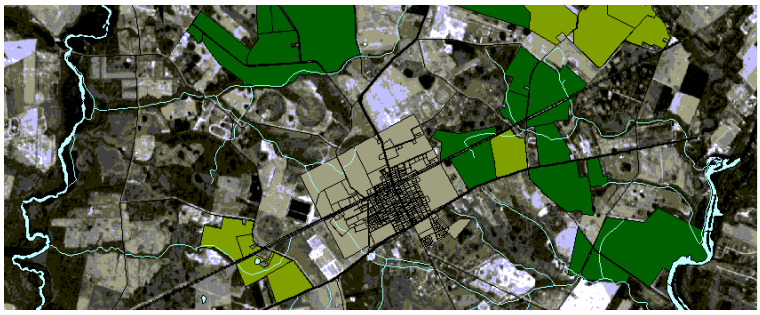
## How Does GIS Work?

GIS utilizes spatial data as digital map data, which contains the locations and shapes of map features on a computer system. Map features are linked to actual real-world locations measured in degrees of latitude and longitude. On a flat map, such as those used in Computer Aided Design programs (CAD), the locations of map features are measured in two-dimensional planar coordinates. GIS allows a broader range of map visualization by attaching these features to a database, which provides further description. For example, GIS users can study spatial relationships, such as boundaries, states, counties, cities, towns, villages, census tracts, postal zones, and natural geologic features. It also allows users to study more detailed information, such as streets, roads, highways, land features, and individual parcels.



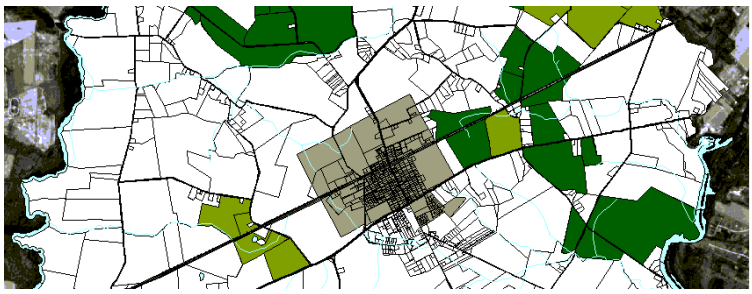
**FIGHTING CRIME**

**Police in Frederick, Maryland used GIS to map and define an area experiencing repeated burglaries. Crime analysis determined a probable zone for the next crime and the burglar was caught "red-handed."**



**SAVING MONEY**

**GIS saves local government money by reducing labor, eliminating the need to constantly duplicate work. This is accomplished by automating processes that once relied on multiple people, typewriters, filing, and physical paper shuffling**



**ATTRACTING BUSINESS**

**Many private industries use GIS for shipping and business management. Enhanced digital infrastructure attracts technology based firms and states like Maryland are technology hubs for the United States.**

## What Does GIS Do?

In the case of mapping, geographic coordinates (latitude/longitude) are linked to information contained in tabular databases, which can be imported from other programs in spreadsheet form or created in GIS. Satellite images, pictures, charts, and graphs also may be imported and included with the information linked to specific geo-coordinates, all of which can be viewed and displayed.

## What Are the Range of Uses for GIS?

Regarding government use, GIS has many applications. GIS also creates links to the internet, such as a government web-site, to allow the public ready access to government maps and information. Some applications include:

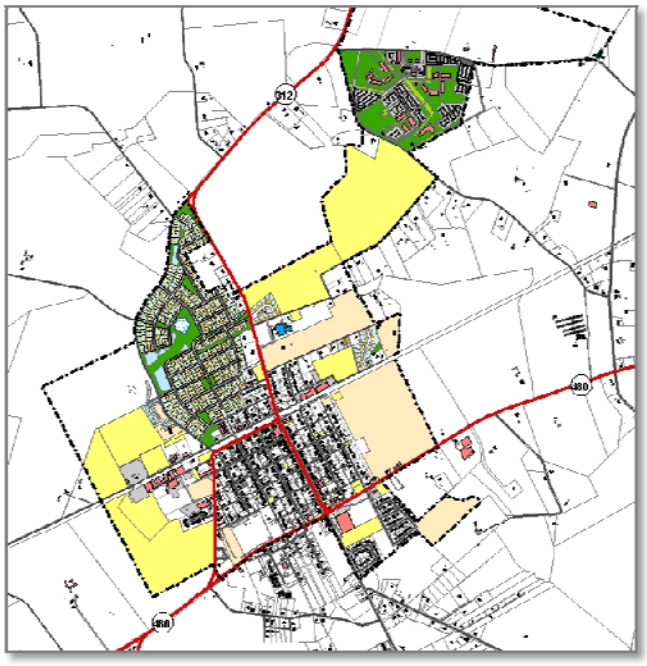
- Government to business applications, which relate to economic development, land development, licensing, and permitting.
- Government to citizen applications, which provide information on government services by enhancing public interaction with agencies and departments, supplying feedback outlets, and allowing on-line payment of fees.
- Government to government applications, which improves information exchange and promotes better communication between agencies and departments by minimizing duplication and enhancing response times.

## What Is GIS's Compatibility with Other Programs?

GIS is compatible with a wide-range of programs, most notably MicroSoft products (Access/Excel). These database programs produce tabular data or attributes, which can be imported to GIS and linked to specific geo-coordinates.

## How will GIS Work in Government?

At present, government employs GIS for mapping and information exchange. In this example to the right, new subdivisions in the Town of Ridgely, Maryland were georeferenced and digitized to assess municipal growth trends and assist with infrastructure and capital investment planning, as required by State law. Utilized to its fullest potential, GIS can alter dramatically the ways in which information is created, stored, used, exchanged, and presented. Government entities use GIS applications to catalogue geographic data.




### ADDRESSING MANDATES

Maryland law requires all jurisdictions to plan for growth in order to exercise local zoning power (Article 66B of the Annotated Code of Maryland). The law also requires that jurisdictions assess growth and its impacts in order to address potential fiscal and environmental pitfalls (Maryland House Bill 1141).

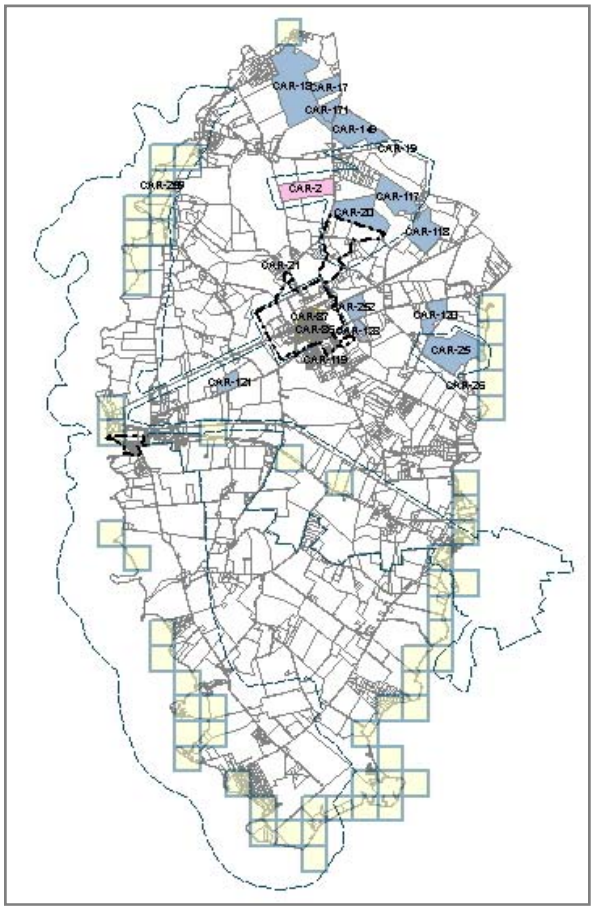
The most powerful aspect of GIS is the ability to relate geographic or spatial data to database information (tabular data). This provides spatial data with a reference and detailed information concerning a particular geographic location. This allows a local government to not only map areas but also provide special characteristics or attributes regarding that data. Tabular data allows for more advanced querying, analysis, and modeling. The end result is the creation of a "thinking" program that grows with time, storing valuable institutional knowledge.

### What is GIS Functionality

Spatial data linked to specific tabular attributes provides a wide scope of functionality for querying, analysis, modeling, and display.

In the example to the right, the Maryland Historic Trust's Inventory of Historic Places in Caroline County was linked to the area surrounding the Town of Ridgely. The MHT identifier code for historic sites and structures was then enabled on the display map as a labeling function.

These sites were then hyperlinked to specific documents and plans that provide further detailed information regarding historic sites and structures. These links provide for "interactive referencing." Being able to display such processes and walk officials through them is important for showing the range of GIS functionality.




INVENTORYING DATA

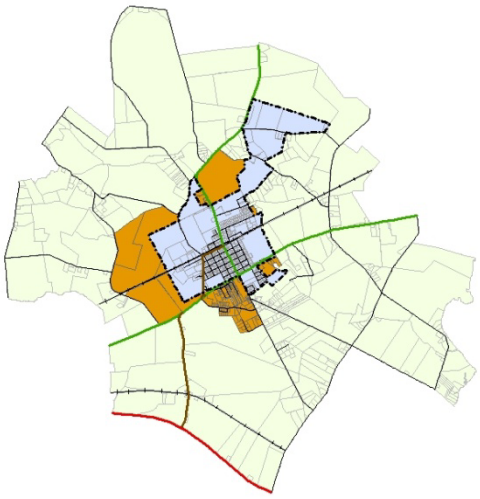
GIS assists local governments with the inventorying of data. This provides a format for accessing "ready-to-use" institutional knowledge when making important decisions.

### How can GIS Assist with Capital Investment?

In many cases, small local governments often do not have the professional staff or funding to enable important capital project initiatives, like updating and/or expanding water and sewer facilities. In 2009, the United States Federal Government is creating an economic stimulus plan that, among other things, provides funding for infrastructure projects. In most cases, the government will likely look for projects that have a high rate of success, provide the most benefits, and are "shovel ready." Shovel ready means projects that have completed planning, design, and engineering and are nearing a construction phase.

GIS can assist local governments in regards to infrastructure and necessary facilities and services. GIS provides a practical base of institutional knowledge and actions such as geographically locating existing municipal infrastructure and ensuring that a program is in place to monitor capital planning. Most importantly, having an up-to-date GIS can assist local governments in accessing grants and loans for capital planning and projects.

## PROJECT SUMMARY



The Client for this project is the incorporated Town of Ridgely, located in Caroline County, Maryland. Currently, State requirements related to land use, zoning, growth management, and improving Chesapeake Bay water quality are impacting local governments. In order to effectively address these mandates, local governments will require GIS. The purpose of this project is to construct an "Enterprise Geographic Information System" (E-GIS) for the Town of Ridgely, Maryland.

The Ridgely E-GIS focuses on building an affordable enterprise-wide spatial database. Many local governments are finding it difficult to afford and operate GIS technology. Small villages and towns are particularly vulnerable as the federal and state governments continue unfunded mandates to meet ever-changing social, political, and environmental issues. Many smaller jurisdictions do not have the economic resources or professional staffing to develop effective GIS technology.

### REQUIREMENTS ANALYSIS FOR THE RIDGELY E-GIS

A Requirements Analysis, for any system including Geographic Information Systems (GIS), is a methodology that produces a blueprint for action. It is coordinated in a series of stages or phases to determine organizational goals and objectives as well as needs, capacity, and limitations. The findings from this work produce an implementation plan. Phases include the following:

- PHASE 1: Determining system requirements and specifications by identifying users, user needs, the level of use, and available data resources.

- PHASE 2: Providing a description and evaluation of resources as well as the limiting factors of an organization's ability to design and implement a system.
- PHASE 3: Evaluating and developing alternative systems that can meet the needs of the organization and provide flexibility.
- PHASE 4: Producing a final evaluation of the "best-fit" system for implementation.

The Requirements Analysis is the first step in developing and implementing a successful GIS System. It is the planning phase. The Requirements Analysis provides a systematic review of departmental functions and needs including the following:

- What are the perceived benefits of a GIS System;
- What GIS or other spatial data is currently in use, if any, and is it effective;
- What GIS or spatial software applications are currently employed;
- What are departmental goals and objectives, for example improving efficiency or converting hard copy maps to digital maps to name a few;
- What is the current departmental setting (i.e. what are its policies, processes, regulations, responsibilities etc. and how is oversight provided);
- What is the current governmental management structure, the hierarchical structure of the government system to be analyzed;
- Is there professional staff for GIS, adequate budgetary power, support from higher officials, and other such considerations;
- What is the level and degree of inter and intra-departmental coordination between the various levels of government;
- What range of access and compatibility is required for the data (i.e. will it be transferred to other government entities for use, made available to the public, etc.); and
- What is the policy and oversight mechanism recommended for long-term management (i.e. what departments will be the primary GIS managers and secondary users, who will be responsible for ensuring success, long-term maintenance, safety and security, staffing, ongoing costs, etc.).

### What is a Requirements Analysis?

Essentially, the Requirements Analysis is a needs assessment. It includes detailed analyses of departmental staffing, future roles, budgets, technical needs, and timelines for implementation. It also includes an analysis of designated staff to:

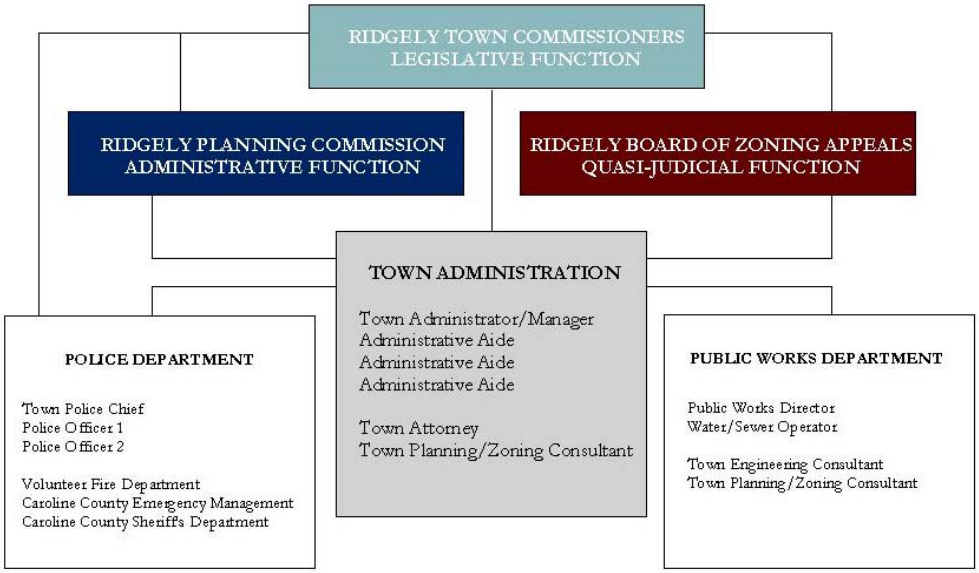
1. Maintain data,
2. Ensure technical efficiency, and
3. Perform annual needs assessment updates.

The purpose is to supply direction for the implementation of technology and its maintenance, ultimately improving the level of government services. A detailed summary of the Ridgely E-GIS GIS data and proposed database design is attached as Appendix A.

## CLIENT OVERVIEW

The Client for this project is the incorporated Town of Ridgely, located in Caroline County, Maryland. The Town has three (3) primary departments that utilize spatial technologies including:

1. Town Administration;
2. The Town Police Department; and
3. Public Works.




The figure to the right, provides a sample government flow chart, a hierarchy for Town departments. It lists the various governmental entities to which the Town departments are responsible as well as the various consultants that assist the Town. Every department, staff person, and consultant employed by the Town is responsible to the Commissioners of Ridgely, Maryland. This is the local elected body that makes legislative decisions and controls the budget.

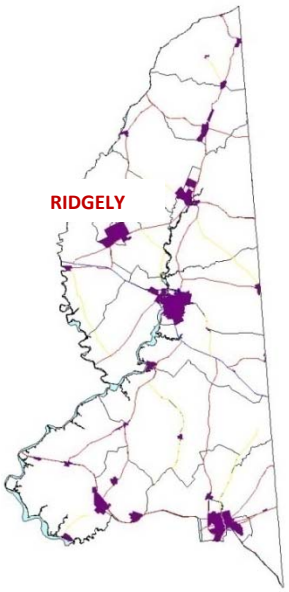
### OVERSIGHT & ADMINISTRATION

Each Town department is structured in a similar way and oversight is provided by Town Administration. In addition, the budgetary process for officials is assisted by Town Administration. Town Police coordinate with the Ridgely Volunteer Fire Department, Caroline County Sheriff's Department and the Department of Emergency Management. This is a loose coalition of fire, medical, and police responders to fulfill Town emergency service needs.

The development of Town information technologies, such as the Ridgely E-GIS, will be the responsibility of Town Administration, those in charge of administration and management. Town Administration employs several consultants to assist the Town Manager fulfill required functions. This includes a planning and zoning firm (Town Planner), which has been designated by the Town Manager to assist with the Ridgely E-GIS system. The Town Planner has the primary responsibility for creating and maintaining the Town's GIS System, due to an absence of qualified professional staff and the hardware and software systems needed to accommodate the GIS. Currently, GIS data for Ridgely is housed on the planning firm's central server, whereby the Town requests specific information and maps when required.

## CLIENT PROFILE

This summary provides background data on the Client: the incorporated Town of Ridgely in Caroline County, Maryland. A detailed description of Ridgely is contained in the *2008 Ridgely Comprehensive Plan*, which is included as an Appendix D.




**Location:** The Town of Ridgely is located in Caroline County on the Delmarva Peninsula in the State of Maryland. It is part of the Upper Eastern Shore Region. This area comprises five counties; Cecil, Caroline, Kent, Queen Anne's, and Talbot. Caroline County is bordered by Queen Anne's, Talbot, and Dorchester Counties in the State of Delaware.

**Description:** Ridgely is a small historic town in an ideal rural setting with picturesque farms and plentiful heritage and natural resources. The Upper Choptank River and Tuckahoe Creek are the nearest tributaries, located two and three miles from the Town respectively.

**Location Characteristics:** Major arterials for the region include Maryland Route 404 (MD Rt. 404 – Shore Highway), U.S. Route 50, and U.S. Route 13 in Delaware. Ridgely is primarily served by MD Rt. 404 and U.S. Rt. 50. State roads, which link to these primary arterials, include Maryland Routes 480 and 312. Urban areas near Ridgely

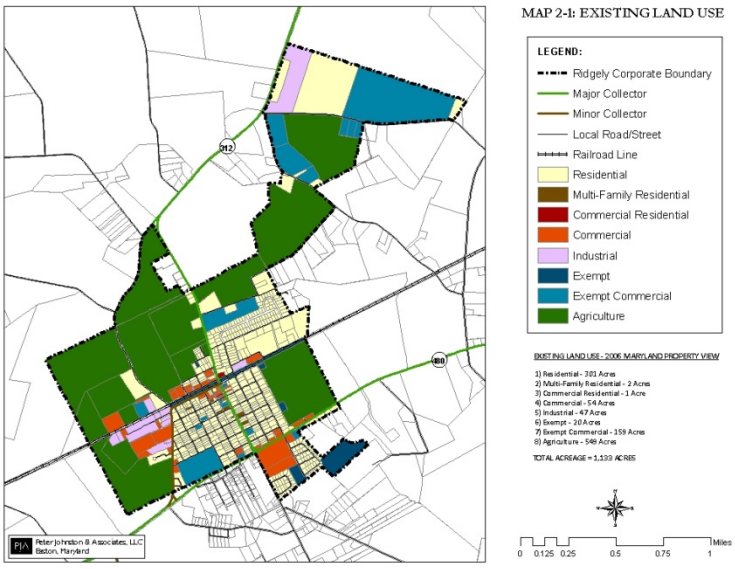
are Dover, Delaware; Annapolis, Maryland; Baltimore City, Maryland; and the District of Columbia (Washington DC). Other nearby metropolitan areas includes Wilmington, Delaware; Philadelphia, Pennsylvania; and New York, New York. The nearest metropolitan areas are Annapolis, Maryland and Dover, Delaware.

Approximate travel times and distances to nearby large metropolitan centers are as follows:

- Dover, Delaware is 47 minutes and 31 miles;
- Annapolis, Maryland is 51 minutes and 41 miles;
- Baltimore City, Maryland is 1 hour and 19 minutes and 67 miles;
- Washington DC is 1 hour and 26 minutes and 70 miles;
- Wilmington, Delaware is 1 hour and 26 minutes and 71 miles;
- Philadelphia, Pennsylvania is 2 hours and 102 miles; and
- New York, New York is 3 hours and 26 minutes and 188 miles.

**Geography:** Ridgely is approximately 1,193 acres in Caroline County. The County is approximately 321 square miles or 205,383 acres. It has an elevation of 40 to 70 feet above sea level and is located entirely within the Atlantic Coastal Plain. The topography of the region is relatively flat, including the Ridgely area. Caroline County contains numerous natural resource areas, including large forested areas that serve as wildlife habitat, a number of rivers and streams that serve as spawning areas for Chesapeake Bay fish, and large areas of wetlands. Major water resources include the Choptank and Tuckahoe Rivers.

**Land Use:** Much of Caroline County is rural and agricultural. As of the year 2000, agricultural lands total 119,831 acres or 58% of the County's total acreage. Forested areas and wetlands comprise an additional 66,731 acres or 33% of the County's total acreage. Approximately 8% of the County is considered urban/suburban with 91% comprising resource lands.



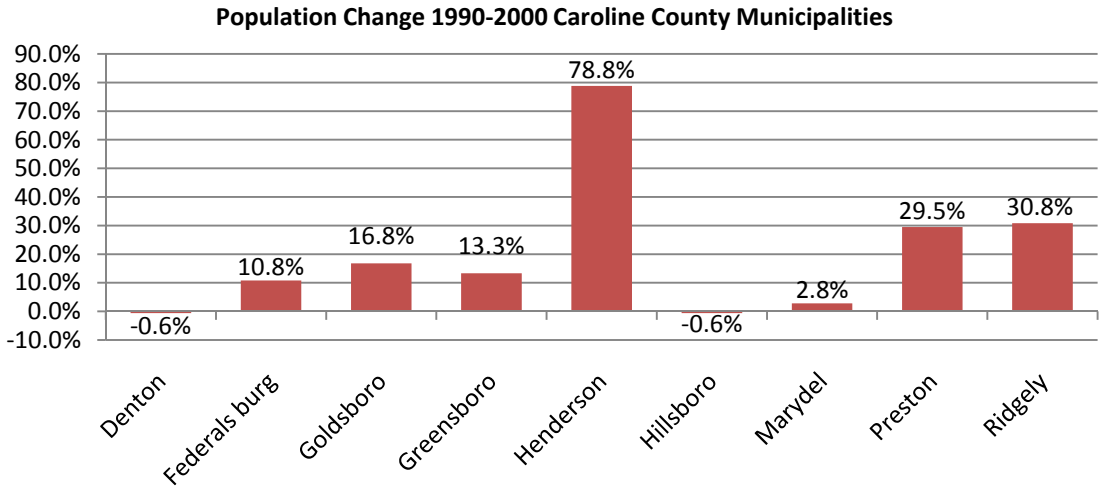

Ridgely is a urban/suburban area within the County. The highest concentrations of dwellings (urban density) are located within the Town's historic core. Table 1 describes the exiting land uses within Ridgely.

| TABLE 1: RIDGELY EXISTING LAND USE (2006-MARYLAND PROPERTY VIEW – MPV) | | |
|---|---|---|
| **Land Use Category** | **Acres** | **Percent of Total** |
| Residential | 301 | 25.2% |
| Multi-Family | 2 | 0.2% |
| Commercial/Residential | 1 | 0.1% |
| Commercial | 54 | 4.5% |
| Industrial | 47 | 3.9% |
| Exempt | 21 | 1.8% |
| Exempt/Commercial | 159 | 13.3% |
| Agriculture | 550 | 46.1% |
| Roads/Infrastructure | 58 | 4.9% |
| **TOTAL** | **1,193** | **100.0%** |

Peter Johnston & Associates
SOURCE: 2008 *Ridgely Comprehensive Plan*

**Demographics:** Caroline County ranks the 5th highest for population growth on the Eastern Shore as a whole and the 3rd highest for the Upper Eastern Shore Region, being eclipsed only by Queen Anne's and Cecil Counties. In 2000, Caroline County's population was 29,772 people.

The Town of Ridgely is the County's fourth most densely populated area. As of the 2000 Census, the Town had 1,352 people. As shown on the chart below, between 1990 and 2000, the Town has witnessed steady population growth. As of 2000, Ridgely had 549 total dwelling units. The average household size in Ridgely is 2.63 people; the average family household is 3.21 people.




Population projections shown in Table 2, as noted in the Town's Comprehensive Plan, indicate continued growth from 2000 to 2030. Ridgely is projected to increase by 1,374 people with an additional 559 dwelling units. The average annual growth rate is 3.4%, indicating substantial demographic changes.

| TABLE 2: POPULATION PROJECTIONS FOR CAROLINE COUNTY AND RIDGELY (2000-2030) | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|
| **Classification** | **2000** | **2010** | **2015** | **2020** | **2025** | **2030** | **Change** | **Percent** | **Annual** |
| **Caroline County** | 29,772 | 34,200 | 37,300 | 40,750 | 44,000 | 47,150 | 17,378 | 58% | 1.9% |
| **Ridgely** | **1,352** | **1,491** | **1,838** | **2,187** | **2,544** | **2,726** | **1,374** | **102%** | **3.4%** |
| Dwelling Units | 549 | 606 | 747 | 889 | 1,034 | 1,108 | 559 | N/A | N/A |
| % of County Population | 5% | 4% | 5% | 5% | 6% | 6% | N/A | N/A | N/A |
| Sources: Maryland Department of Planning; U.S. Census; Peter Johnston & Associates | | | | | | | | | |

# PURPOSE

**MISSION STATEMENT: The purpose of the Ridgely E-GIS Project is to design and develop a digital mapping system to improve government efficiency for a small municipal jurisdiction.**

## GOALS & OBJECTIVES

Goals and objectives are policy statements that represent a clear vision of what the Client desires to accomplish in developing the Ridgely E-GIS, based on the "Mission Statement." As policy statements, goals provide the overarching direction and guidelines for choosing tasks (objectives) to achieve effective implementation. Implementation strategies are the measurable tasks represented as a series of actions. Based on discussions with the Client, goals were synthesized to include the following:

**GOAL 1:** Develop a localized E-GIS System and information infrastructure to assist with governmental functioning.

**GOAL 2:** Improve workflow efficiency for Town departments and decision making power for officials through the use of GIS and other information technologies.

**GOAL 3:** Improve public relations by providing quality products.

**GOAL 4:** Modernize departmental organization.

**GOAL 5:** Provide for qualified staff and/or consultants to assist in the long-term maintenance of information systems and technologies.

Objectives provide specific tasks and milestones, which are designated by Funding Year for the Town. A Funding Year (FY) is the annual budgetary cycle for government. Funding Year FY10 represents tasks that will be performed in the calendar year 2009.

**Objective #1: Establish a GIS Technical Advisory Committee-TAC for the long-term oversight of GIS and other digital technologies and infrastructure (FY10).**

Description: The primary objective for Ridgely is to establish a Technical Advisory Committee (TAC) composed of department heads and technical consultant staff:

- Establishing a TAC for Ridgely by Funding Year 2010 (FY10);
- Integrating a TAC with Regional IT Efforts (i.e. Caroline County, other municipalities, and the Caroline County Council of Local Governments); and
- Utilizing the TAC to develop and implement the Requirements Analysis and Ridgely E-GIS.

A TAC should be composed of department heads from Town Administration, Public Works, and Police (i.e. those departments that most utilize GIS and other information technologies). In addition, high level technical staff from the Town's planning firm and Salisbury University has been selected to assist with the project. Technical staff will be the lead GIS coordinators. TAC members also will be responsible for researching grant funding and programming to assist in GIS efforts. The TAC can meet quarterly to discuss the Ridgely E-GIS program and plan strategic actions through the course of the project.

**Objective #2: Initiate a Town-wide "Needs Assessment" (FY10)**

Description: The TAC should initiate a needs assessment to ascertain use of GIS applications in departmental operations, the compatibility of GIS with existing technology systems, the level of education/experience with such systems, interest, and technical expertise for GIS applications, and ways to integrate GIS with present applications.

This assessment is an important part of the Requirements Analysis and will be necessary to develop an adequate strategic plan for long-term use. Needs assessments will form the basis for the development of a budget and required funding. Assessments should include any grant funding, assistance programs, data needs, and integrated hardware and software needs (present hardware/software integrated with new hardware/software).

**Objective #3: Utilize professional assistance for initial GIS development, access, and maintenance. (FY10)**

Description: Due to a lack of professional expertise and funding at the Town level, Ridgely should utilize professional assistance to initialize and implement the E-GIS. This includes coordination with Caroline County as well as GIS efforts currently underway through the State and Federal governments. Other entities for coordination could include other municipalities,

surrounding counties, educational facilities, non-profit organizations, and public/private entities.

**Objective #4: Construct GIS "Base-Maps" and applications for the Town of Ridgely (FY10)**

Description: Ridgely should complete Town-wide GIS base maps, such as land use, zoning, transportation, community facilities and services, etc. The base maps will be developed in concert with the *2008 Ridgely Comprehensive Land Use Plan*. Every local government's primary role deals with local land use and the protection of the public health, safety, and welfare. The Comprehensive Plan is a broad and general Plan that guides land use and growth management decisions and addresses such needs as community facilities, transportation, protection of resources, etc.

Base map development includes utilizing available GIS mapping and data layers developed by Caroline County, the State, the Federal government, and other entities. This also may include digitizing Town hard-copy maps from mylar, constructing local mapping and data layers, and creating a usable application format for public/private entities. In addition, base map production will allow for the development of automated program applications to assist Town administrative functions.

**Objective #5: Develop and adopt a detailed "Information Systems Strategic Plan" for Ridgely (FY 11)**

Description: A detailed Information Technologies Strategic Plan (IT Plan), including GIS, should be developed by the TAC through a lead coordinator. This will require consultant assistance and will include GIS System development, program application, and integrated technologies. It also will include a budget, goals, objectives, and implementation strategies as well as grant opportunities and program assistance from County, State, and/or Federal sources. This document will serve as the general policy guide to implement an information system for Ridgely, Maryland.

When complete, the TAC should present important elements of the IT Plan to appointed and elected officials. This will assist to further explain financial benefits and why a system is important for Ridgely. The purpose of the presentation also is to encourage support for information technologies, gage its acceptance, and measure interest in technical training and application. The support of officials to initiate technology strategies is critical for success. The system will create a cost effective, efficient, standardized and unified technology program for the Town (each agency and department). The IT Plan can be partially based on the Requirements Analysis but provides additional levels of detail needed to ensure long-term use and effectiveness.

**Objective #6: Continually integrate GIS with Global Positioning Systems (GPS), high resolution satellite/ortho-Imagery, and other new relevant technologies**

Description: Technologies such as Global Positioning Systems (GPS) and remote access GIS allow local government to take "on-ground" location coordinates and transfer information to GIS applications for mapping and data expression. In particular, GPS should be integrated with GIS to initiate the accurate mapping and updating of public infrastructure, such as fiber optic lines, water and sewer lines, public drainage ditches etc. If the Ridgely E-GIS is housed with an entity other than the Town (GIS warehousing), remote access technology can allow Town staff to access the GIS anytime from that company's central server.

High resolution satellite imagery will assist the Town to perform mapping overlays. Advanced GIS mapping based on GPS, High Resolution Imagery, and GIS will include the development of graphic simulations, such as streetscaping or landscaping, topographic maps, road-center line mapping, building footprints, environmental overlays, design aspects, and addressing or geo-coding to name a few. When combined, these initiatives will greatly assist Town departments and improve the efficiency for operation and maintenance over time.

Most importantly, an integrated GIS System, utilizing new technologies, will assist with public infrastructure. GIS will prove invaluable for new State regulations, such as GASB 34 (Government Accounting Systems Board), which requires local government to account for infrastructure and infrastructure expenditures.

**Objective #7: Initiate internal training programs and encourage technical education for GIS and other information systems technology for Town staff.**

Description: New Town positions may be required in the future. These jobs will require technical expertise in creating and administering GIS and other information systems programs and applications. This also includes internal training of existing staff as well as local educational classes and seminars. Staff can learn applications, such as GIS, from GIS professionals in a pyramidal knowledge dispersing process. GIS positions will need to be filled by reliable employees with long-term plans to be employed by the Town because considerable investment in dollars, time, and training will be required (employees may become highly marketable as knowledge increases).

**Objective #8: Coordinate a Town GIS program with other GIS programs**

Description: Other GIS programs can help in cost sharing. The Town GIS program should access and utilize County/State sponsored GIS data exchange and assistance programs to further municipal objectives and implementation strategies, such as the Maryland State Highway

Administration's program for road-center line assistance. Many State agencies and departments, such as Maryland Departments of Transportation, Planning, Natural Resources, Environment, and Housing and Community Development have a wealth of GIS information, which can be accessed. The Town should encourage inter-jurisdictional GIS initiatives with more advanced GIS and mapping systems, such as the Caroline County GIS System.

**Objective #9: Attend meetings related to GIS and other technologies.**

Description: TAC members should attend regular meetings held by relevant local, state, and federal agencies/entities for GIS implementation, such as the Maryland State Geographic Information Committee MSGIC. State and Federal meetings also discuss new funding and programs for GIS related initiatives.

**Objective #10: Ensure a mechanism for municipal inclusion of Caroline County's GIS data for the Town GIS.**

Description: Data sharing agreements with other jurisdictions such as Caroline County can assist with coordination and provide valuable information for Town initiatives. This also provides cost savings for municipalities.

**Objective #11: Ensure the long-term maintenance and distribution of the Town GIS.**

Description: GIS is a major investment by local government. Ridgely should seek to provide long-term viability to the information system eventually created. This includes funding and eventual staffing to ensure efficiency and success of the system.

## THE SYSTEMS ANALYSIS

The Ridgely E-GIS utilizes open source software such as PostGRES/GIS as a spatial data server in coordination with ArcGIS, Manifold GIS, and Quantum GIS as client applications. The Ridgely E-GIS focuses on database design and management of user roles as well as the development of end user applications.

### SYSTEMS ANALYSIS

A Systems Analysis for a GIS is a detailed report based on an interview and assessment process. It includes defining the users, the data, and the methods for collecting data. Most importantly, the Systems Analysis provides the details on the present GIS structure to examine the future needs of the organization and support long-term maintenance.

A Systems Analysis evaluates each department to determine GIS needs, tasks, processes, data, applications, operability, automation etc. Forms are provided to guide this process and are supplied to each department to assess their GIS. A Systems Analysis is divided into four (4) broad categories:

1. **GIS Description:** Provides background information on the current GIS System, if any, and its structure.
2. **GIS Applications:** Examines GIS applications and the tasks to be performed by the GIS, when a user requires spatial and/or tabular data.
3. **GIS Data:** GIS data is a listing of available spatial and tabular data for a GIS System. This is entered directly into a Master Data List. GIS data are the location specific files used with the GIS software programs.
4. **GIS Activities & Uses:** GIS activities are process oriented such as issuing building permits, conducting inspections, issuing addresses, etc. GIS uses include the following: browsing; simple display; query and display; map analysis; and spatial modeling. Some combination of these uses will be performed by every municipality.

## GIS DESCRIPTION

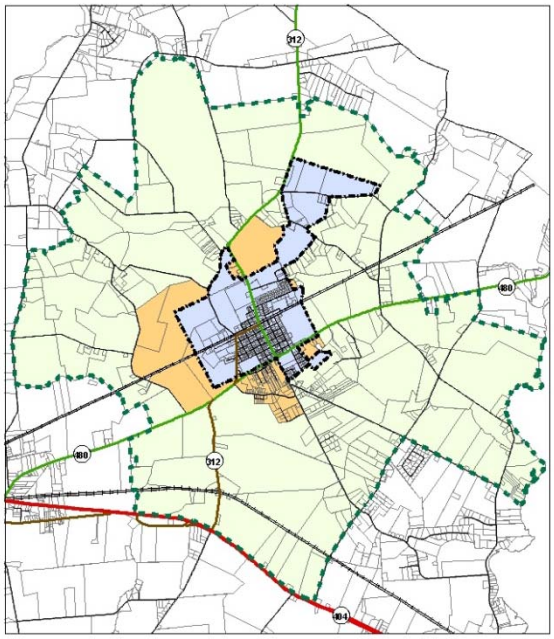
The Town of Ridgely has a limited budget and no professional GIS staff. Currently, GIS is provided by the Town's planning consultant firm, Peter Johnston & Associates (PJA). No centrally structured GIS System exists and little to no digital infrastructure to facilitate multi-departmental access. The Town has not purchased GIS software or the necessary hardware to support GIS, including individual work stations. GIS is used on an "as-needed" basis, whereby the Town Manager contacts with PJA for data, maps, and/or GIS analysis and modeling. Town staff primarily utilizes hard-copy maps for day-to-day administration and enforcement.

Existing Ridgely GIS data consists of various "loose" shapefiles as part of the following initiatives:

- Caroline County's E-911 initiative with the County departments of Emergency Management, Planning and Codes Administration, Public Works, and Information Technologies (basic planimetric, topographic, and addressing or geocoding layers);
- Land use, zoning, and resource protection data layers developed by the Caroline County Department of Planning & Codes Administration;
- Local Town data layers developed by PJA to fulfill government mandates such as comprehensive planning, zoning, subdivision, development/design, and infrastructure facilities and services; and
- Other data developed by the State of Maryland including, but not limited to, the Maryland Property View – MPV system (a taxation and assessment database for Maryland), the

Maryland Department of Natural Resources Technology Toolbox (resource/environmental data); and the Maryland Historic Trust's Inventory of Historic Places database.

From 2007 to 2009, PJA developed specific GIS data layers for Ridgely as part of the Town's comprehensive planning process (see Appendix A: Ridgely Master Data List). This created a rudimentary GIS based on a defined "Study Area" for the Town, as shown on the figure to the right. Developed data layers included shapefiles specifically created for the Comprehensive Plan as well as the integration of existing and available local, state, and federal GIS data for the Ridgely Study Area.




**RIDGELY STUDY AREA**

The Ridgely Study Area defines a boundary for the Town's jurisdictional influence based on the 2008 *Ridgely Comprehensive Plan*.

PJA GIS data layers include the following: base data, existing land use, zoning, transportation, heritage resources, natural and environmental resources, soils, municipal growth, and future land use (projected to 2030). Base data layers include updated shapefiles for the Ridgely Corporate Boundary (as of 2008); Ridgely Cadastre (parcels for the existing incorporated Town); and the creation of a Ridgely Growth and Greenbelt, which forms the boundaries for the Study Area.

Although, accurate data was developed by PJA for general administration and planning purposes, a quality control check was not performed to ensure data integrity. This data now exists as individual shapefiles on PJA's central server, which is "backed-up." Existing PJA workstations have GIS software and Computer Aided Design (CAD) software. Computer memory and processing speeds are adequate to perform high levels of GIS querying, analysis, and spatial modeling. Database information, aside from the primary identifiers and geographic coordinate fields within the individual shapefiles, has not been entered for any GIS data.

Due to budgetary restrictions, limited staff, a lack of qualified professional expertise, and time constraints, Ridgely likely will continue to use PJA to provide GIS facilities and services for the Town. Therefore, the Ridgely E-GIS will be created, initially, to be housed on the PJA information technology system with remote access provided for Town staff. Salisbury University will construct the Ridgely E-GIS based on the specifications of the PJA information technology system and other available data. Eventually, as Ridgely grows, a GIS position will be provided and the Town will take ownership, operation, and maintenance of the E-GIS.

## GIS APPLICATIONS

GIS Applications include an analysis of the hardware and software available at the PJA main office as well as the basic GIS tasks to be performed by PJA and Town staff. Hardware and software applications range from the following as listed below:

**Photogrammetric Mapping (Caroline County Data)**

- Ortho-Photography (County aerial tiles);
- Seamless Regional Ortho-Photography (compression images);
- Planimetric (vector data layers); and
- Topographic (vector data layers).

**Digital Mapping (PJA Data)**

- Ortho-Photography - Photogrammetric Mapping;
- Computer Aided Design (CAD); and
- Geographic Information Systems (ESRI – GIS).

**Database Design & Maintenance (State Data)**

- Maryland Property View – MPV: State Database for Property Taxation & Assessment;
- DNR Technology Toolbox – Resource and Environmental Data for Maryland;
- Other State database information such as the Maryland Historic Trust's Inventory of Historic Places and additional environmental data provided by the Maryland Department of the Environment in MicroSoft Dbase or Excel formats.

**Website (PJA Data)**

- Development of Website Standards;
- Website Design & Maintenance;
- Compression Files and Formats; and
- Website Coordination and Access.

### Current Automation

GIS products are used by all departments in Ridgely including Town Administration, Police, and Public Works. Each department utilizes these products at a single user level, generally being provided hard copy maps or other products by PJA. Maps and other products also are available on PJA's website for download by Town staff at www.peterjohnstonassociates.com.

GIS software is loaded onto two existing computers at PJA's main office in Easton, Maryland. A centralized GIS structure that permits multi-user functions and access, with a central database for management and maintenance, does not currently exist at PJA. Primary GIS related hardware and software used by PJA includes the following:

- ESRI ArcGIS 9.3 (licenses for 2 workstations);
- AutoCAD 2000 (Computer Aided Design);
- Dell Desk Tops with Pentium Processors;
- Xerox Printer (central printer for the office);
- HP Printer (high velocity color printer); and
- HP Plotter (used for larger maps).

### Maps in Use by Ridgely

Maps used by Ridgely departments are standard for most municipalities and consist of the following:

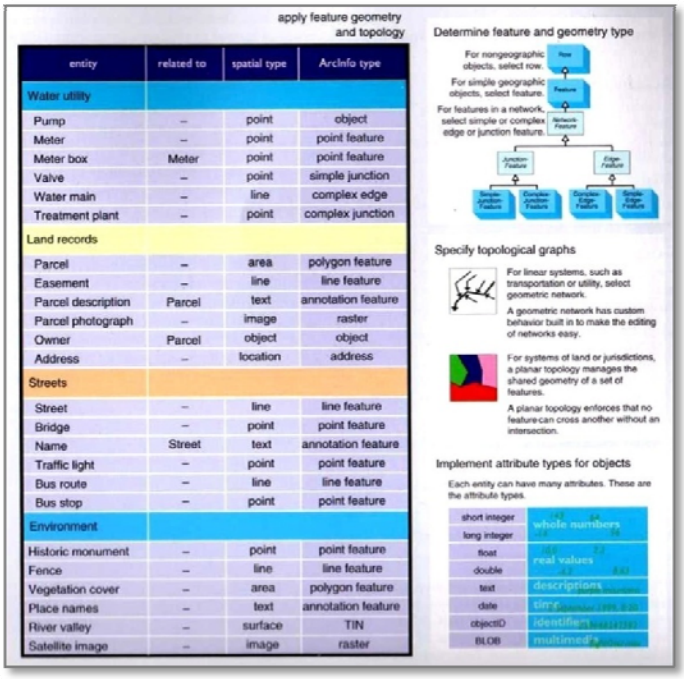
- Location Maps (for general use);
- Zoning;
- Land Use;
- Tax Maps (Map, Grid, Parcel);
- Subdivision Plats/Development Plans;
- Resource Conservation (natural/environmental and heritage resources);
- Transportation & General Utilities; and
- Other Specific Infrastructure Maps (water towers, water/sewer lines, pumping stations, manholes, stormwater management, etc.).

Specialty maps are produced by PJA, if requested. Spatial querying, analysis, and modeling are performed by PJA. Ridgely maintains a large amount of hard copy maps. These include historic maps as well as other maps such as subdivision plats/plans, infrastructure maps, roads maps, etc. These maps have yet to be digitized by the Town.

## Tabular Data

Tabular data includes spatial data as developed by Caroline County. These are ESRI ArcView shapefiles. The "Master List" of this data is kept on a Micro-Soft Excel Worksheet by Caroline County. Categories for County data include the following:

- DTM (line features);
- Hydrography (line, point, and polygon features);
- Miscellaneous Files (Misc-line and point features);
- Miscellaneous Planimetric Features (Miscplan-line and point features);
- Structures (polygon features);
- Topography (line and point features);
- Transportation (line and point features);
- Utilities (line and point features); and
- Vegetation (line, point, and polygon features).




SAMPLE DATA FLOWCHART & TABLE

The following sample flowchart and table above provide a reference for GIS file-type and the characteristics of workflow (access and usage of GIS filed).

All data in Ridgely is linked to the Maryland Property View System (MPV). MPV is developed annually by the Maryland Departments of Planning (MDP) and Taxation & Assessment. MPV is the digital version of Maryland's tax maps, which are developed for each county and town in the State of Maryland. The MDP provides this data to local governments such as Ridgely following annual updates. All data at the local government level is on a parcel by parcel basis therefore, the MPV is relational with all other data. Any relational database system would utilize the unique Tax Identification Number (TAXID#) for database linking. Most local government administrative processes utilize hard copy tax maps, locating parcels by map, block, and parcel number.

## Current Spatial Applications

Spatial applications for Ridgely are rudimentary. Currently, all spatial applications utilize ESRI ArcView shapefiles. Spatial applications include the following:

1. Display: Display existing hard copy or digital copy (pdf.) maps or prepare simple maps from existing maps.

The Town does not have the capability for higher level spatial application, which includes the following:

1. Browse: Browse existing hard copy or digital copy (pdf.) maps or MPV data;
2. Query: Question exiting databases to provide information, mostly used with the MPV system;
3. Analysis: Perform complicated spatial analyses from existing digital map data;
4. Spatial Modeling: Perform complicated spatial modeling from existing digital map data.

However, PJA facilities and services can provide higher levels of spatial application.

### Staffing & Experience

Ridgely has no certified or professional GIS employees. The Town Administrator/Manager is responsible for any GIS applications and/or products produced from outside vendors. In addition, most Town staff has limited computer knowledge and training. This includes inadequate hardware and software systems in the existing Town offices. Government transactions are physically performed with hard copies filed in the individual departments.

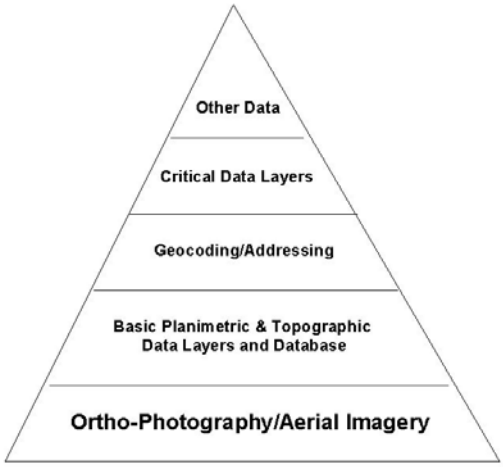
### Organizational Constraints

Organizational constraints describe the limiting factors for full and efficient use of the GIS System in Ridgely. These include the following:

- No technical staff for GIS in Town government;
- Limited knowledge of basic computer processes and applications (office/clerical tasks);
- Total inability to allow multi-users for GIS unless coordinated with PJA;
- Limited ability to coordinate GIS with other governmental entities inside and outside the Town as well as the public at large;
- Need for enhanced safety and security issues that may corrupt GIS data currently stored at PJA's main office;
- No hardware and software systems in the Town for long-term management and maintenance of GIS;
- Insufficient digital infrastructure to facilitate access at the Town level; and
- Lack of training and educational opportunities.

## GIS DATA

Specific GIS data for Caroline County was developed in 2003 as part of a county-wide E911 Emergency Management Project. Data included ortho-photography (tiled aerial imagery for the County and compression images, MRSID); basic planimetric vector data, topographic vector data (1 meter contours with spot elevations); and geocoding (addressing for buildings and centerlines).




**GIS Conceptual Design Model**

The figure to the right provides an example of the pyramidal structuring of E911 GIS data for the County and how it is arranged in the current system. Aerial imagery forms the base of the County GIS System and all data layers overlay the aerials. Vector data (points, lines, and areas or polygons) is projected in the Maryland State Plane Coordinate System NAD 83/NAVD 88 meters. This ensures that County data, as developed, is compatible with Maryland State data. All GIS data is maintained by Planning & Codes and housed on its departmental server.

**Ortho-Photography:** Aerial tiles and MRSID aerial composites for Caroline County are available from 2003. Aerial indexes also are provided for viewers:

- Aerial Image Tiles (200 scale data 1" = 1200');
- Aerial Image Tiles for Towns (100 scale data 1" = 600');
- Aerial Image Composites (200 scale data 1" = 200'); and
- Aerial Indexes (by County).

**Planimetric Data:** The following table lists the vector features along with their feature type and requirements for annotation and attribution. These features include basic planimetric layers such as roads, streams, rivers, buildings, etc.

**TABLE 3: CAROLINE COUNTY PLANIMETRIC FEATURES**

| Feature | Feature Type | Attribute | Annotation |
|---|---|---|---|
| **Hydrography** | | | |
| River/Stream | Polygon | Feature Code | |
| Rive/Stream Centerlines | Continuous Lines | River/Stream Name<br>Feature Code | River/Stream Name |
| Single Line Streams | Continuous Lines | River/Stream Name<br>Feature Code | River/Stream Name |
| Drainage Connector | Continuous Lines | Feature Code | |

| | | | |
|---|---|---|---|
| Lakes/Ponds | Polygon | Lake/Pond Name<br>Feature Code | Lake/Pond Name |
| Reservoir | Polygon | Reservoir Name<br>Feature Code | Reservoir Name |
| Stormwater Retention Ponds | Closed Polygon | Pond Name<br>Feature Code | Pond Name |
| **Cultural Features** | | | |
| Buildings | Closed Polygon | Feature Code | |
| Roads | Polygon | Feature Code | |
| Street Center Lines | Continuous Lines | Road Name<br>Feature Code | Road Name |
| Side Walk | Continuous Lines | Feature Code | |
| Railroad | Continuous Line | Railroad name<br>Feature Code | Railroad name |
| Drive way | Continuous Lines | Feature Code | |

**Topographic Data:** The following table lists the vector features for specific 1 meter contours with spot elevations as GIS point data. Contours portray the shape of the terrain within specified accuracy standards.

| TABLE 4: CAROLINE COUNTY TOPOGRAPHIC FEATURES | |
|---|---|
| **Contours** | **Spot Elevations** |
| Index Contours | Spot Elevations |
| Intermediate Contours | Water Elevations |
| Index Depression Contours | Bridge Elevations |
| Intermediate Depression Contours | |
| Obscured Index Contours | |
| Obscured Intermediate Contours | **DTM** |
| Obscured Index Depression Contours | Masspoints |
| Obscured Intermediate Depression Contours | Breaklines |
| Hidden Contours | Obscured Area Polygons (2D features) |

Every 5$^{th}$ contour is as an index contour. All index contours are distinguishable and labeled with their elevations. Labels are oriented to follow the contours. The distance along a contour line between labels is generally eight inches on plots produced at plot scale (1" = 200').

Elevation values are assigned to contour lines as attributes. Contour lines are coded as “Hidden Contour” when passing through buildings, under bridges, behind text labels, or other artificial breaks. All such breaks provide clean junctures between the contours and the features. Gaps and overruns are not allowed.

Spot elevation data supplements elevation data provided by contours. All spot elevations are labeled with decimal values giving their elevation to the nearest one-tenth of a foot for the required 1” = 200’ scale mapping.

Spot elevations are shown at the following locations:

- At all road/railroad intersections;
- On the road centerline at the center and ends of bridges and similar structures;
- On the road centerline over all culverts;
- At the crest of all closed contours;
- At the lowest point of all closed depression contours, significant saddles, cuts, and depressions; and
- In areas of dense vegetation where the ground is visible.

GIS data for the Town of Ridgely largely utilizes data already developed by Caroline County and the State of Maryland. GIS data developed by PJA, as part of the comprehensive planning process, was structured and formatted similar to the County system to ensure integration. Updated cadastre mapping for Ridgely utilized existing features (right-of-ways/centerlines and aerial imagery from County data) to adjust parcel boundaries, where required. These adjustments were performed in the Ridgely Study Area only to correct mistakes such as inaccurate corporate boundaries, developed properties, etc. All data developed as part of the comprehensive planning process is listed in Appendix A.

### Caroline County Data Description

#### Hydrography - Polygon Features

- Streams/Rivers: Double line - capture as polygon all streams and rivers greater than 10' wide on the ground.
- Lakes/Ponds: Delineate the shoreline of all standing bodies of water designated as a lake or reservoir. Show ponds greater than 0.2 acre in size.
- Reservoirs: Delineate the outline of all reservoirs as a polygon.
- Stormwater Retention Ponds: Capture the banks of all stormwater retention ponds as an enclosed polygon.

#### Hydrography - Line Features

- Hydrography Centerline: Centerline of all double line streams and rivers.
- Single Line Streams: Capture centerline single line if less than 10' wide.
- Drainage Connector: Drainage connectors allow conceptual and topological flow between disjointed features. They are used to connect surface hydrography features. These lines follow topography or obvious points of stormwater entry and exit systems, or lakes. These features are subject to interpretation.

- Hidden Hydrography: Segments of rivers, streams, and canals that flow under features such as bridges and roads shall be captured as continuous portions of the river, stream, or canal.

**Cultural - Polygon Features**

- Building Footprints: Digitized roofline of all buildings, including mobile homes, over 200 square feet in size.
- Bridges: The outlines of the outer bridge deck, from expansion joint to expansion joint, shall be digitized.
- Roads: All paved and unpaved roads shall be delivered as polygons. Tile boundaries will be used to close off polygons at tile boundaries during the delivery phase.

**Cultural - Line Features**

- Street Centerline: The midpoint between road edges shall be calculated mathematically and adjusted interactively by the Contractor to obtain a cartographically acceptable appearance. Where no road edge is digitized, the centerlines shall be digitized photogrammetrically. All divided roads having a median width of greater than 3' shall be shown as double lines. Access or "frontage" roads off of main roads shall have their own centerlines. Access drives through multi-unit developments (County homes, condominiums, office parks) shall have centerlines digitized to each building. All freeway ramps shall have digitized centerlines. All turn lanes separated by medians shall have digitized centerlines. All cemetery roads shall have digitized centerlines. All field roads or driveways leading to more than one residence or commercial/government building shall have digitized centerlines. All airport access roads shall have digitized centerlines. All logging roads shall have digitized centerlines. All alleyways shall have digitized centerlines. All bike paths shall have digitized centerlines.
- Edge of Road: Road edges shall be delivered as a line coverage in addition to polygons.
- Driveways: All driveways over 100' shall be digitized.
- Sidewalks: All public sidewalks shall be digitized. This includes any sidewalk that appears to be within the street right-of-way, and any sidewalk that leads to a commercial building, a government building, or throughout a park.
- Railroad Centerline: All railroad lines shall be digitized. Abandoned lines shall be digitized separately from active lines to the degree that they are apparent in the photography.

## Ridgely Data Description

GIS data for the Town of Ridgely is based on previously prepared Caroline County data and data available from the State of Maryland. Planimetric features are listed in Table 5 (Appendix A provides an abbreviated but detailed reference guide for Ridgely data and GIS Data/Database Design).

| TABLE 5: RIDGELY PLANIMETRIC FEATURES | | |
|---|---|---|
| **ENTITY** | **SPATIAL TYPE** | **ARCINFO TYPE/NAME** |
| **MARYLAND PROPERTY VIEW – MPV2007 (RIDGELY STUDY AREA)** | | |
| Maryland Property View - Study Area | Point | Vector – ridgely_sa_mpv |
| Maryland Property View – MPV 2007 (Town of Ridgely) | Point | Vector – ridgely_mpv2007 |
| Maryland Property View – Growth Area | Point | Vector – ridgely_ga_mpv |
| Maryland Property View - Greenbelt | Point | Vector – ridgely_gb_mpv |
| Maryland Property View - Agriculture | Point | Vector – ridgely_ag_mpv |
| Maryland Property View – Apartments | Point | Vector – ridgely_apartments_mpv |
| Maryland Property View – Commercial | Point | Vector – ridgely_com_mpv |
| Maryland Property View – Commercial Residential | Point | Vector – ridgely_comres_mpv |
| Maryland Property View - Condominium | Point | Vector – ridgely_condo_mpv |
| Maryland Property View - Exempt | Point | Vector – ridgely_exempt_mpv |
| Maryland Property View –Exempt Commercial | Point | Vector – ridgely_exemptcom_mpv |
| Maryland Property View - Industrial | Point | Vector – ridgely_indust_mpv |
| Maryland Property View – New Development | Point | Vector – ridgely_newdev_mpv |
| Maryland Property View – Old Town | Point | Vector – ridgely_oldtown_mpv |
| Maryland Property View – Residential | Point | Vector – ridgely_res_mpv |
| **ENTITY** | **SPATIAL TYPE** | **ARCINFO TYPE/NAME** |
| **BASE DATA** | | |
| Corporate Boundary | polyline | Vector – ridgely_cb |
| Ridgely Parcel Layers | polygon | Vector – ridgely_cadastre |
| Ridgely Growth Area | polygon | Vector – ridgely_ga |
| Ridgely Greenbelt | polygon | Vector – ridgely_gb |
| Growth Area Boundary | polyline | Vector – ridgely_ga_bndry |
| Greenbelt Boundary | polyline | Vector – ridgely_gb_bndry |
| **ENTITY** | **SPATIAL TYPE** | **ARCINFO TYPE/NAME** |
| **TRANSPORTATION NETWORK – FUNCTIONAL CLASSIFICATION SYSTEM** | | |
| Other Principal Arterial | polyline | Vector – ridgely_arterial |
| Minor Collector | polyline | Vector – ridgely_mincoll |
| Major Collector | polyline | Vector – ridgely_majcoll |

| | | |
|---|---|---|
| Local Roads and Streets | polyline | Vector – ridgely_roads |
| Railroad Lines | polyline | Vector – ridgely_rr |
| Unpaved Roads | polyline | Vector – ridgely_unpaved |
| Municipal Gateway Areas | polyline | Vector – ridgely_munigate |
| Transects | polyline | Vector – ridgely_transect |
| Existing Grid Connections | polyline | Vector – ridgely_gridcon |
| Proposed Bypass | polyline | Vector – ridgely_propbypass |
| Rails to Trails Connection (Adkins Arboretum) | polyline | Vector – ridgely_vctrail |
| **ENTITY** | **SPATIAL TYPE** | **ARCINFO TYPE/NAME** |
| **EXISTING LAND USE** | | |
| Residential | polygon | Vector – ridgely_res |
| Agriculture | polygon | Vector – ridgely_ag |
| Multi-Family Residential | polygon | Vector – ridgely_mf |
| Commercial Residential | polygon | Vector_ridgely_comres |
| Commercial | polygon | Vector – ridgely_com |
| Exempt | polygon | Vector – ridgely_exempt |
| Exempt Commercial | polygon | Vector – ridgely_exemptcom |
| Neighborhood Redevelopment Areas | polygon | Vector – ridgely_redev |
| Industrial | polygon | Vector – ridgely_indust |
| Agricultural Preservation Easements | polygon | Vector – ridgely_gb_age |
| Agricultural Preservation Districts | polygon | Vector – ridgely_gb_agd |
| Private Conservation | polygon | Vector – ridgely_gb_pc |
| Landfill Site | polygon | Vector – ridgely_gb_landfill |
| Wastewater Treatment Plant | polygon | Vector – ridgely_wwtp |
| Rural Residential | polygon | Vector – ridgely_rresid |
| Rural Public | polygon | Vector – ridgely_rpub |
| Rural Conservation | polygon | Vector – ridgely_rac |
| Rural Commercial | polygon | Vector – ridgely_rcom |
| Rural Industrial | polygon | Vector – ridgely_rindust |
| Rural – Transfer of Development Rights Receiving Area (TDR) | polygon | Vector – ridgely_wc_tdr_ra |
| **ENTITY** | **SPATIAL TYPE** | **ARCINFO TYPE/NAME** |
| **FUTURE LAND USE** | | |
| Town Center | polygon | Vector – ridgely_tc |
| Central Business District | Polygon | Vector – ridgely_cbd |
| Neighborhood Conservation | polygon | Vector – ridgely_nc |
| Public/Semi-Public | polygon | Vector_ridgely_pub |
| Highway Commercial | polygon | Vector – ridgely_hc |
| Business Employment | polygon | Vector – ridgely_be |
| Planned Development | polygon | Vector – ridgely_pd |
| Parks/Open Space | polygon | Vector – ridgely_pos |
| Redevelopment Areas | polygon | Vector – ridgely_redev |
| Conservation Corridor | polygon | Vector – ridgely_cc |
| **ENTITY** | **SPATIAL TYPE** | **ARCINFO TYPE/NAME** |
| **MUNICIPAL GROWTH** | | |
| Ridgely Sidewalks | polygon | Vector – ridgely_sw |
| Ridgely Buildings | polygon | Vector – ridgely_bldgs |
| Ridgely Public Buildings | polygon | Vector – ridgely_pub_bldgs |
| Ridgely Apartments | polygon | Vector – ridgely_apt_bldgs |

| | | |
|---|---|---|
| Ridgely Commercial Buildings | polygon | Vector – ridgely_com_bldgs |
| Ridgely Out Buildings | polygon | Vector – ridgely_out_bldgs |
| Ridgely Institutional Buildings | polygon | Vector – ridgely_institu_bldgs |
| Ridgely Park Dwelling Units | polygon | Vector – ridgely_rp_du |
| Ridgely Park Accessory Units | polygon | Vector – ridgely_rp_acdu |
| Ridgely Park Lots | polygon | Vector – ridgely_rp_lots |
| Ridgely Park Lot Lines | polyline | Vector – ridgely_rp_lotlines |
| Ridgely Park Streets | polyline | Vector – ridgely_rp_parkrow |
| Ridgely Park Bio-Retention Area | polygon | Vector – ridgely_rp_bioret |
| Ridgely Park Stormwater Management | polygon | Vector – ridgely_rp_swm |
| Ridgely Park Sidewalks | polygon | Vector – ridgely_rp_sw |
| Ridgely Park Open Space | polygon | Vector – ridgely_rp_osp |
| Business Technology Park Commercial Units | polygon | Vector – ridgely_bustech_du |
| Business Technology Park Parking Ilands | polygon | Vector – ridgely_bustech_islands |
| Business Technology Park Impervious Surface | polygon | Vector – ridgely_bustech_is |
| Business Technology Park Sidewalks | polygon | Vector – ridgely_bustech_sw |
| Business Technology Park Open Space | polygon | Vector – ridgely_bustech_osp |
| Business Technology Park Forest Conservation | polygon | Vector – ridgely_bustech_fc |
| Walnut Farms Dwelling Units | polygon | Vector – ridgely_wf_du |
| Walnut Farms Open Space | polygon | Vector – ridgely_wf_osp |
| Walnut Farms Lots | polygon | Vector – ridgely_wf_lots |
| Walnut Street Dwelling Units | polygon | Vector – ridgely_ws_du |
| Walnut Street Lots | polygon | Vector – ridgely_ws_lots |
| Ridgeway Estates Dwelling Units | polygon | Vector – ridgely_re_du |
| Ridgeway Estates Lots | polygon | Vector – ridgely_re_lots |
| Weese Dwelling Units | polygon | Vector – ridgely_weese_du |
| Alis Cove Lots | polygon | Vector – ridgely_ac_lots |
| Ridgely Impervious Surface - Roads | polygon | Vector – ridgely_is_roads |
| Ridgely Parking (Impervious Surface) | polygon | Vector – ridgely_parking |
| Vacant Land | polygon | Vector – ridgely_vl |
| Underutilized Land | polygon | Vector – ridgely_ul |
| **ENTITY** | **SPATIAL TYPE** | **ARCINFO TYPE/NAME** |
| **HERITAGE RESOURCES & TORUISM (RIDGELY STUDY AREA)** | | |
| Visitor Center – Adkins Arboretum | point | Vector – ridgely_vc |
| Rails to Trails - Adkins Arboertum | polyline | Vector – ridgely_vctrail |
| Underground Railroad MD/National Scenic Byway | polyline | Vector – ridgely_scenicbyway |
| Stories of the Chesapeake Heritage Area – Target Investment Zone | polyline | Vector – ridgely_hatiz |
| Archeological Areas | polyline | Vector – ridgely_arch |
| Archeological Areas | polygon | Vector – ridgely_archeo |
| National Register of Historic Places | polygon | Vector – ridgely_nrhp |
| MD Inventory of Historic Places | polygon | Vector – ridgely_mihp |
| Ridgely Historic Area (Potential | polygon | Vector – ridgely_hd |

| | | |
|---|---|---|
| Historic District) | | |
| **ENTITY** | **SPATIAL TYPE** | **ARCINFO TYPE/NAME** |
| **SOILS** | | |
| Hydric Soils | polygon | Vector – ridgely_hydricsoils |
| Highly Erodible Soils | polygon | Vector – ridgely_hesoils |
| Moderately Erodible Soils | polygon | Vector – ridgely_mesoils |
| Not Highly Erodible Soils | polygon | Vector – ridgely_nhesoils |
| **ENTITY** | **SPATIAL TYPE** | **ARCINFO TYPE/NAME** |
| **COMMUNITY FACILITIES** | | |
| **COMMUNITY FACILITIES** | | |
| Ridgely Community Facilities | point | Vector – ridgely_comfacilities |
| **ENTITY** | **SPATIAL TYPE** | **ARCINFO TYPE/NAME** |
| **ZONING** | | |
| R1 - Residential | polygon | Vector – ridgely_r1 |
| R2 - Residential | polygon | Vector – ridgely_r2 |
| R3 - Residential | polygon | Vector – ridgely_r3 |
| C1 - Commercial | polygon | Vector – ridgely_c1 |
| C2 - Commercial | polygon | Vector – ridgely_c2 |
| C3 - Commercial | polygon | Vector – ridgely_c3 |
| I1 - Industrial | polygon | Vector – ridgely_i1 |
| I2 - Industrial | polygon | Vector – ridgely_i2 |
| I3 - Industrial | polygon | Vector – ridgely_i3 |
| Planned Unit Development Overlay Zone | polygon | Vector – ridgely_pro |
| North Planning District | polygon | Vector – ridgely_npd |
| Northeast Planning District | polygon | Vector – ridgely_nepd |
| Cowbarn Road Planning District | polygon | Vector – ridgely_cbrpd |
| Central Business District Planning District | polygon | Vector – ridgely_cbdpd |
| Village Planning District | polygon | Vector – ridgely_vpd |
| South Planning District | polygon | Vector – ridgely_spd |
| Sunrise Avenue Planning District | polygon | Vector – ridgely_sapd |
| Sunset Boulevard Planning Residential District | polygon | Vector – ridgely_sbrpd |
| Sunset Boulevard Planning Industrial District | polygon | Vector – ridgely_sbipd |
| **ENTITY** | **SPATIAL TYPE** | **ARCINFO TYPE/NAME** |
| **RESOURCE CONSERVATION** | | |
| West Caroline County Streams (Ridgely Area) | polyline | Vector – ridgely_wc_streams |
| Ridgely Study Area – Streams | polyline | Vector – ridgely_sa_riparian |
| Public Drainage Ditches (In-Town) | polyline | Vector – ridgely_it_pda |
| Public Drainage Ditches (Out-Of-Town) | polyline | Vector – ridgely_ot_pda |
| Ridgely Study Area – Sensitive Species Habitat | polygon | Vector – ridgely_sa_sspra |
| West Caroline County Wetlands (Ridgely Area) | polygon | Vector – ridgely_wc_wetlands |
| Ridgely Study Area - Wetlands | polygon | Vector – ridgely_sa_wetlands |
| Ridgely Study Area – Wetlands of Special State Concern | polygon | Vector – ridgely_sa_wssc |

| | | |
|---|---|---|
| Ridgely Study Area – Floodplain | polygon | Vector – ridgely_sa_fp |
| Ridgely Study Area – Forest Interior Dwelling Species (FIDS) | polygon | Vector – ridgely_sa_fids |
| Ridgely Study Area – Forested Areas | polygon | Vector – ridgely_sa_forest |
| West Caroline County Green Infrastructure (Ridgely Area) | polygon | Vector – ridgely_wc_gi |
| Ridgely Study Area – Institutional Land | polygon | Vector – ridgely_sa_instland |
| Ridgely Study Area – Parks and Recreation land | polygon | Vector – ridgely_sa_prland |
| Ridgely Study Area – Tuckahoe State Park | polygon | Vector – ridgely_sa_tucksp |
| Ridgely Study Area – Public Drainage | polygon | Vector – ridgely_sa_pda |
| Ridgely Watersheds | polygon | Vector – ridgely_wshed |
| Tuckahoe River Watershed (8 – digit) | polygon | Vector – ridgely_tuckwshed |
| Upper Choptank River Watershed (8 – digit) | polygon | Vector – ridgely_choptankwshed |
| Ridgely Watersheds | polygon | Vector – ridgely_swshed |
| Choptank River Basin | polygon | Vector – ridgely_choptankbasin |

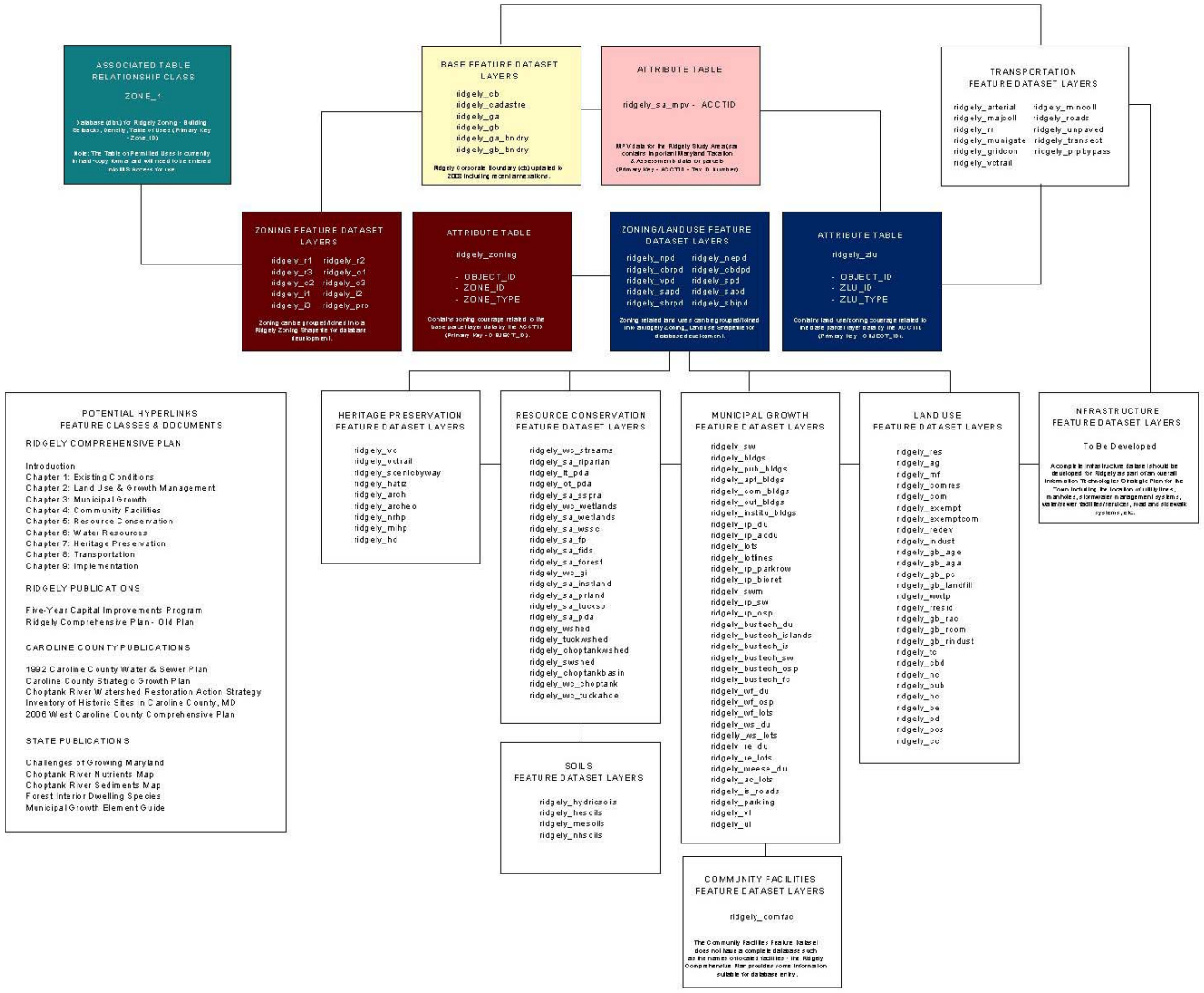
*NOTE: Ridgely raw data was prepared as part of the 2008 *Ridgely Comprehensive Plan* process. Data has not been checked for quality controls (i.e. closed polygons etc.). In addition, some data requires database inputs such as community facilities (point data). Additional layers may be required (see Database/GIS Data Design Flowchart).

### Other Map Data - Description

Other Map Data includes data provided by the State of Maryland, local governments, and other public and private entities such as non-profits or businesses. Particular GIS data is currently developed by the State of Maryland and includes the following:

- Maryland Property View (tax map spatial and tabular data for the State of Maryland and its jurisdictions);
- Department of Natural Resources Technology Toolbox (environmental spatial and tabular data for the State and its jurisdictions – now online);
- Maryland Department of Transportation – State Highway Administration (transportation and infrastructure spatial and tabular data for the State of Maryland and its transportation and infrastructure networks);
- Maryland Historical Trust – MHT (historical and cultural resources spatial and tabular data for the State of Maryland and its jurisdictions);
- Other GIS Data (spatial and tabular data as provided by other neighboring local jurisdictions and municipalities).

## GIS DATABASE DESIGN FLOWCHART



## GIS ACTIVITIES & USE

Table 6 describes current GIS activities and use by Town departments and contractors:

| TABLE 6: CURRENT GIS APPLICATION BY DEPARTMENT/FUNCTION | | | | | |
|---|---|---|---|---|---|
| **DEPARTMENT** | **BROWSE** | **DISPLAY** | **QUERY** | **ANALYSIS** | **SPATIAL MODELING** |
| **Town Administration** | | | | | |
| Town Administrator/Manager | | X | | | |
| Town Attorney | | | | | |
| Planning & Zoning (PJA) | X | X | X | X | X |
| Administrative Aides | | X | | | |
| **Town Police** | | | | | |
| Police Chief/Officers | | X | | | |
| Fire (Volunteer Organization) | | X | | | |
| **Public Works** | | | | | |
| Public Works | | X | | | |
| Water/Wastewater Department | | X | | | |
| Engineering (URS) | X | X | X | X | X |

*NOTE: This chart can be further expanded following an interview process with relevant staff and department heads to determine the frequency of GIS use (how often are specific tasks performed). This should be measured on an annual basis.

Table 7 describes the proposed GIS activities for Town departments and contractors under the E-GIS to be developed by Salisbury University and PJA with remote access capability:

| TABLE 7: PROPOSED GIS APPLICATION BY DEPARTMENT/FUNCTION | | | | | |
|---|---|---|---|---|---|
| **DEPARTMENT** | **BROWSE** | **DISPLAY** | **QUERY** | **ANALYSIS** | **SPATIAL MODELING** |
| **Town Administration** | | | | | |
| Town Administrator/Manager | X | X | X | | |
| Town Attorney | | | | | |
| Planning & Zoning (PJA) | X | X | X | X | X |
| Administrative Aides | X | X | X | | |
| **Town Police** | | | | | |
| Police Chief/Officers | X | X | X | | |
| Fire (Volunteer Organization) | X | X | X | | |
| **Public Works** | | | | | |
| Public Works | X | X | X | | |
| Water/Wastewater Department | X | X | X | X | |
| Engineering (URS) | X | X | X | X | X |

As noted, GIS use by Town departments is significantly expanded under the proposed system (E-GIS). Higher levels of user access (beyond simple viewing, display, and query) will be provided to department heads or designated staff only. Initially, the system will provide higher levels of access to PJA staff, engineering staff at URS, the Police Chief, and the Public Works Director. However, editing capability will be confined to PJA staff only unless otherwise directed by the Town Manager.

### Departmental Map Data

Each Ridgely Department requires some level of access to GIS. Currently, PJA maintains a "Ridgely File Folder" on its main drive, which contains map data/information. Ridgely departments have access to such map data on an "as needed basis." All data is protected in a "read-only" format because GIS map data in this present system and format can be easily corrupted if altered. PJA proposes that "Ridgely File Folders" include the following:

**Town Administration:** The Departmental Directory for Ridgely Town Administration should contain basic map data/information related to general administration such as land use, zoning, transportation, development projects etc. Administration can use "Map View Templates" to browse data. Basic Maryland Property View-MPV queries also are required to assist with public requests. If specific applications related to zoning and permitting is developed by Salisbury University, Town Administration would require access. If a specific query, analysis, and/or spatial modeling are required, PJA should be contacted.

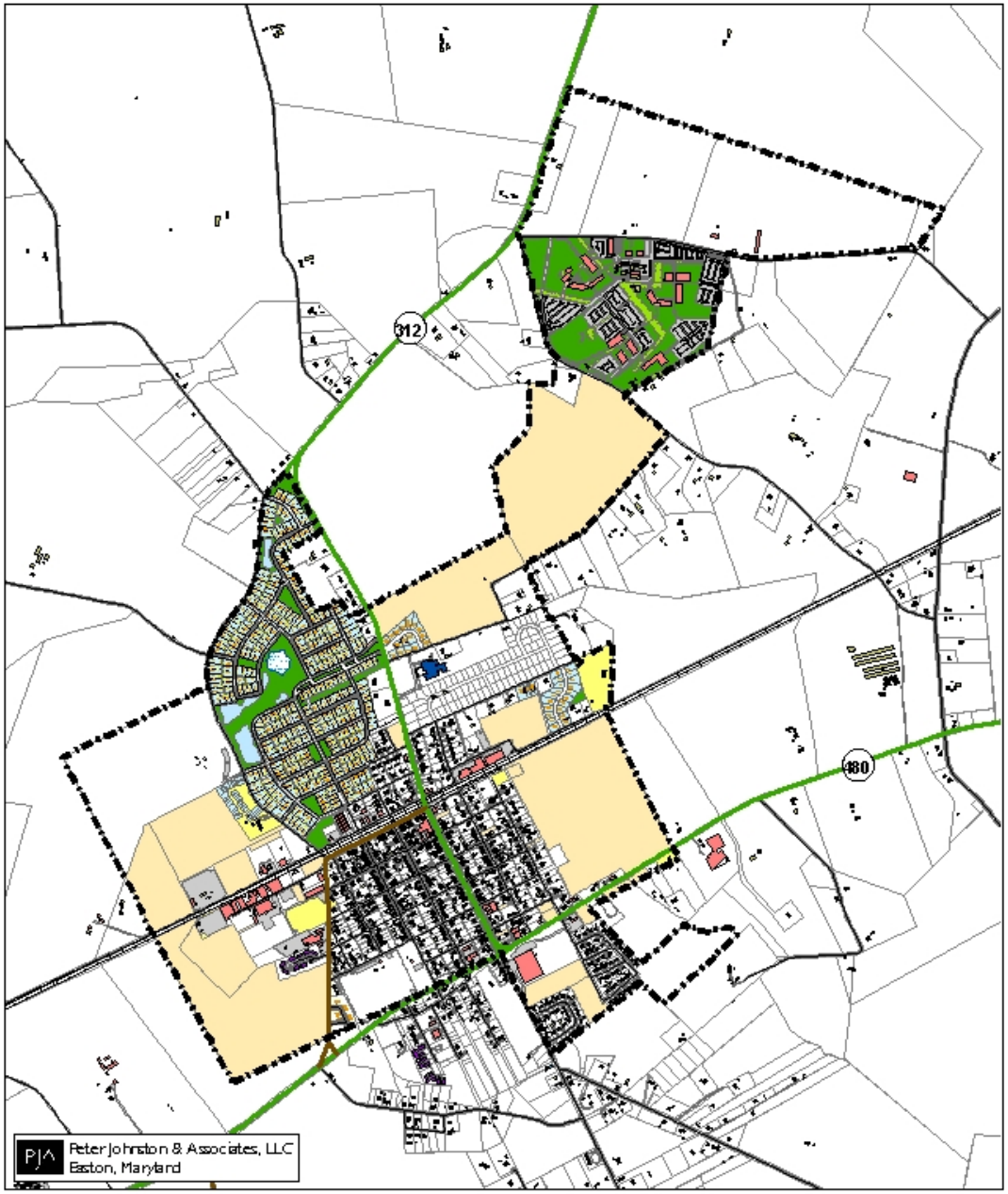
The Departmental Directory for Planning & Zoning, under PJA, could serve as the "Master Directory" for all GIS data including aerials, Map View Templates, and relational databases. Currently, PJA is the central repository for all map files and data/information. This data is kept in a relatively safe/secure environment at the PJA Office Building in Easton, Maryland. If Town GIS data is lost, PJA is contacted to replace said data. PJA is responsible for ensuring a backup system. Specific planning map files for land use, land preservation, and growth management are located with PJA. Map View Templates include, but are not limited to, Ridgely Property Maps (Cadastre, Tax Maps, etc.), Ridgely Land Use and Sensitive Areas Maps, Community Facilities and Services Maps, and Ridgely Zoning Maps.

**Town Police/Fire:** The Departmental Directory for the Ridgely's Police Department and Volunteer Fire Department should contain map data/information related to properties, property owners, buildings, infrastructure, and proposed development projects. The police also require access to the aerials. The Map View Template includes the "Ridgely Figure Ground Plane" and basic parcel and transportation maps. Police may wish to access the Ridgely E-GIS to query existing data and perform analysis on crimes, violations, etc.

**Town Public Works:** The Departmental Directory for Ridgely's Public Works department contains map data/information related to infrastructure, such as roads, sidewalks, stormwater management drains/systems, utility lines, and community services and facilities (such as water and sewer) etc. Map View Templates include the "Functional Classification of County Highways, Road, and Streets," the Community Facilities & Services Map, as well as other infrastructure maps. Public Works also requires access to the aerials.

### Map View Templates

Ridgely departments only use GIS for display. “Map View Templates” for universal viewing are produced by PJA. These are stored on PJA’s central server main drive. In the future, specific Map View Templates should be contained in individual departmental directories under the main Ridgely file. Map View Templates are standard “View Only” maps with a printing option (supplied in a PDF format) and are generally uploaded to PJA’s website for Town access. Larger maps must be requested from PJA. A sample Map View Template is provided below.




MAP 3-2: MUNICIPAL GROWTH PLAN
INFILL & REDEVELOPMENT LAND

**LEGEND:**

- Ridgely Corporate Boundary
- Major Collector
- Minor Collector
- Local Road/Street
- Railroad Line
- Potential Dwellings
- Accessory Units
- Dwellings
- Commercial Buildings
- Apartments
- Out Buildings
- Church/Public
- Public/Semi-Public Buildings
- Sidewalks
- Impervious Surface
- New Subdivisions - Open Space
- New Subdivisions - Lots
- Underutilized Land
- Vacant Land

N

0 0.125 0.25 0.5 0.75 1 Miles

### Map Data Exchange & Update

No established program/process exists in the Town of Ridgely or with PJA to provide for map data exchanges and updates. This Requirements Analysis recommends that Ridgely adopt the map data exchange and update program developed by Caroline County. Ridgely can direct PJA to follow standard procedures for such tasks, thereby creating a record of Ridgely data access.

In Caroline County, map data exchange and updates are performed by the Caroline Department of Planning & Codes Administration (Planning & Codes). Planning & Codes is responsible for updating and maintaining the "Master Directory" for other departments as well as County towns and state/federal data. Each Department or County town is required to provide a record of when map data has been exchanged and/or updated. Simple data use and viewing does not require a record. Records are only required when a map file is copied or a new version is developed for the file (a security measure).

For example, when a County department accesses map files (shapefiles) contained in a Planning & Codes folder to retrieve specific data, responsible personnel is required to leave a record of that transaction on a designated "Map Data Exchange and/or Update Form" form with Planning & Codes. The form outlines the following:

- Shapefiles will be labeled by month and year.
- Updated shapefiles will be distinguished by month and year to retrieve the most recent version.
- Shapefiles will not be deleted or altered without authorization from Planning & Codes.

The form also requests the following information:

1. Date of the Map Data Exchange and/or Update;
2. Listing of County Department(s), Town Department(s), or Regional Entities Utilizing Map Data;
3. Contact Information for Authorized Representative for Exchange and/or Updates;
4. Map Data Files Utilized, Type of Map Data Files (whether feature files or image files), If Updated – New File Name (Ag Easements 4_05); and
5. Purpose of Exchange and/or Update.

Upon completion of a form, Planning & Codes performs a "save as" function in MicroSoft Word and provides for a file title date; type of transaction (exchange, update, or both), and name of department acronym (for example "4 5 05_Exchange_P&R). This allows Planning & Codes to track usage for analysis and ensure some level of security.

Caroline County also provides for GIS policies and guidelines. *The 2005 Caroline County Photogrammetric Mapping Inventory: Mapping Directory and Instruction Manual* (GIS Manual) provides users with information regarding the County's current GIS System. The GIS Manual discusses a centralized computer system to house Geographic map and information data. The report outlines system configuration, use, and requirements for County departments, towns, and regional entities to access map data. All map data is located on a "GIS Central Server – Main Server Drive" for remote access and data/file viewing, exchange, and update. Ridgely should replicate a similar process and develop Town policies and guidelines.

As stated in the GIS Manual "The concept of a GIS Central Server system with remote access is to facilitate the viewing, exchange, and updating of map data/information among local governments and our regional providers for the continuous flow of map information on a regular basis to public and private entities." (2) County departments and personnel have access to the Mapping Directory. Caroline County Towns have access after completing and finalizing a "Data-Sharing Agreement" with the County.

### GIS Coordination

GIS for Caroline County is coordinated by the Town Administrator/Manager and PJA. GIS initiatives are coordinated with other organizational entities outside Ridgely including:

- State agencies and entities including the Maryland Departments of Planning, Environment, Natural Resources, Taxation & Assessments, Maryland Numbers Board (Emergency Management), and Housing & Community Development.
- Other municipal jurisdictions.
- Caroline County Local Government.

# IMPLEMENTATION

The following action strategies are designed to assist the Town of Ridgely with the management and continual operation of its E-GIS System:

**RECOMMENDATION #1:** Establish an official Ridgely Information Technologies Committee (IT Committee) composed of the Town Manager, selected department heads, and technical staff.

**RECOMMENDATION #2:** Schedule a meeting of the IT Committee to discuss the Ridgely E-GIS and plan for related strategic actions. The IT Committee should designate a lead coordinator for the scheduling of local meetings and dissemination of IT related information.

**RECOMMENDATION #3:** Develop and implement the initial Ridgely E-GIS with PJA and Salisbury University to provide basic GIS capability for Town staff and services.

- The initial Ridgely E-GIS should focus on constructing a useful and simple system that provides general administrative information/applications, such as planning and zoning. Planning and zoning are basic local government tools/functions that integrate well with existing parcels layers (cadastre). This system can be linked to other critical Town data layers such as resource conservation, heritage resources, soils, community facilities and services, etc. The system also can be linked to Maryland property View – MPV database as well as other important Town documents such as the comprehensive plan, zoning ordinance and subdivision regulations, capital improvement plans etc. (see Appendix A: GIS Data/Database Design Flowchart).

**RECOMMENDATION #4:** Develop a Strategic Technology Plan for the Town. The IT Committee should designate/select a lead department and/or consultant to facilitate the development of the Strategic Technology Plan.

- Assess the Town's current infrastructure thoroughly during the Strategic Plan process including locating utilities, manholes, stormwater systems, water/sewer lines etc. The process also should assess digital infrastructure hardware, software, cell towers, fiber optics (broad-band), and other relay mechanisms to ensure adequate receiving and distribution methods for digital information.
- Assessments will include a detailed description of existing infrastructure and digital infrastructure, future system configuration and centralization, necessary infrastructure enhancements, and system access and security. The Strategic Technology Plan will summarize this information. Assessments should include possibilities for coordination and public access (web-based GIS access as well as security measures).

**RECOMMENDATION #5:** Upgrade the Ridgely E-GIS to provide basic infrastructure data and GIS capability for Town staff and services.

**RECOMMENDATION #6:** Integrate local Ridgely GIS initiatives with regional ones, such as those emanating from Caroline County, the Mid-Shore Regional Council, neighboring Counties and municipalities, and the State of Maryland.

**RECOMMENDATION #7:** Coordinate the Ridgely E-GIS with State, regional, and local entities and agencies to achieve transparency including annual updates and the formation of a regional "Task Force" through the Caroline County Council of Governments COG) to address mutual County/Town interests.

**RECOMMENDATION #8:** Coordinate with the County's E-911 initiative, which is important for public safety (Town geo-coding). Ridgely should coordinate with the Caroline County Department of Emergency Management to integrate its existing system with the County's E-911 system.

- State, regional, local, and municipal coordination is critical for the success of the E911 initiative. Currently, the E911 Photogrammetric Mapping Project is being coordinated at the State and regional levels. Active E911 participants for the preparation of seamless regional data include Caroline County, Cecil County, Dorchester County, Kent County, Queen Anne's County, the Mid-Shore Regional Council, and the Maryland Departments of Natural Resources (DNR), Planning, and Caroline County Environmental Health.
- Municipal participants are critical for the success of the E-911 project. Current addressing in several municipalities is inadequate to accommodate the geo-coding database for E911 (including Ridgely). Address inconsistencies will need to be addressed and future addressing will need to be coordinated to ensure a seamless system and enhance response times for emergency services.
- The formation of a Task Force at the regional level will facilitate the inclusion of town participants with County efforts. The Task Force should be charged with meeting municipalities and introducing the E911 project.

**RECOMMENDATION #9:** Develop additional digital mapping and database layers to be included in the Ridgely E-GIS such as data for the creation and integration of a cadastre layer (tax maps) based on aerial imagery, regional environmental strategies for pollution reduction, and/or preservation and conservation initiatives.

- The full integration of the Ridgely E-GIS with County, regional, and State data is critical for the success. Current systems, such as Maryland Property View (MPV) and the DNR Technology Toolbox, assist local government to perform daily tasks and protect the public

health, safety and welfare of Maryland's citizens. Cost and data sharing initiatives, such as DNR's LIDAR Project, can facilitate communication and coordination. MSGIC, MDP, and the State Highway Administration (SHA) also can assist.

**RECOMMENDATION #10:** Consider employing GIS technical staff, when feasible, and increase GIS education and training for existing staff.

- A Geographic Information System (GIS) specialist for the Town can assist in assuming ownership, operation, and maintenance for the Town's E-GIS. A GIS specialist likely will utilize a range of mapping software and hardware including but not limited to Manifold, Adobe Photoshop; ArcView/ArcGIS; AutoCAD (Computer Aided Drafting/Design); Global Positioning Systems (GPS), and Web-Based Mapping Products. Tasks for a GIS specialist include, but are not limited to, the following:

  1. Operate and Maintain GIS/GPS Software and Hardware for the Town;
  2. Operate and Maintain a Town GIS Central Server and Data;
  3. Manage and Update Ridgely Spatial Databases (includes geocoding for new structures and developments);
  4. Develop and Update GIS Maps for Town Departments;
  5. Manage and Update GIS Databases for Existing Geographical Features; and
  6. Serve as the Town's representative for the Maryland State Geographic Information Committee (MSGIC).

### Conclusion

In conclusion, the primary and immediate goals of Ridgely regarding implementation of the E-GIS include the following:

- Constructing a suitable digital base map and database information systems based on the County's E911 Photogrammetric Mapping Project;
- Create a program for data sharing, exchange, and updating.
- Develop additional digital mapping and database layers to be included in the E-GIS and integrate with existing systems such as MPV/County data; and
- Ensure for the long-term maintenance and distribution of Ridgely GIS data.

In response a series of alternative implementation strategies were developed. These strategies span a range of possible actions for the success of the GIS System and its continued management and maintenance. GIS Systems are a long-term investment and adequate measures will need to be taken to ensure such success:

**Alternative 1: Short-Term Actions for Data Operation & Management**

Provide contracted professional expertise and staffing to ensure that new spatial and tabular data is updated and managed. Consultants also can assist in the training of existing staff to use the Ridgely E-GIS.

**Alternative 2: Intermediary Actions for Data Operation & Management**

Develop a "Digital Map Data Ordinance," which could be developed for new development in the municipal area. This will allow for more cost effective updates to the system over time, as developers will be responsible for assisting in updating the E-GIS:

- Amend the *Ridgely Zoning Ordinance/Subdivision Regulations* to include mandatory collection of digital data by developers, development firms, surveyors, engineers, and other entities for new subdivisions.
- Develop regulations for other data collection. For example, as part of the final plat approval process, development entities would be required to submit digital data on the design and location of all new major and minor developments. Data must be tied to the MD State Plane Coordinate System NAD 83-meters (horizontal) and NAD 88-meters (vertical) in order to integrate it with Maryland Property View and the County E911-System.
- Require GPS during final footer inspection in order to add new structures to the Ridgely E-GIS and the County's E911 system's existing building layer. New structures will need to be geo-coded by Caroline County Emergency Management (added to existing database and tied to the road centerline).

**Alternative 3: Long-Term Actions for Data Operation & Management**

If feasible, consider full-time staff position(s) for GIS data collection, management, and operation. In addition, partial grant funding could be used to augment existing staffing and assist with capital projects. A full-time staff person would be responsible for the following:

1. Collecting data (GPS on new structures – final foundation inspection, etc.);
2. Database management and implementation (updates to database);
3. Additional geo-coding for new structures (tied to road centerline and addressed for E911);
4. Hardware/software infrastructure management (application and maintenance);
5. Infrastructure investment analysis for GASBY; and
6. Regional coordination/cooperation on GIS/E911 initiatives.

# APPENDICES

A listing of critical appendices for construction of the Ridgely E-GIS includes the following:

Appendix A: Ridgely E-GIS – GIS Data/Database Design Flowchart.
Appendix B: Ridgely Zoning Ordinance Analysis (Setbacks, Density, Etc.).
Appendix C: Table of Uses: *Ridgely Zoning Ordinance*.
Appendix D: The 2008 *Ridgely Comprehensive Plan*.

# APPENDIX A: RIDGELY DATABASE DESIGN & MASTER GIS DATA LIST

Appendix A illustrates the proposed database design for the Ridgely Enterprise – Geographic Information System (GIS). This includes the Ridgely E-GIS Master Data List and Ridgely E-GIS Database/GIS Data Design Flowchart. Information includes the following:

1. Master Data List: Ridgely GIS shapefiles prepared during the Town's comprehensive planning process. It lists the entity (title/explanation); spatial type (point, polyline, polygon, other); as well as the shapefile name.
2. Database/GIS Data Design Flowchart: Provides a comprehensive overview of the various data and database links for the Ridgely E-GIS.

### RIDGELY E-GIS: MASTER DATA LIST

| RIDGELY DATA LAYERS – 01/20/09 | | |
|---|---|---|
| **ENTITY** | **SPATIAL TYPE** | **ARCINFO TYPE/NAME** |
| **MARYLAND PROPERTY VIEW – MPV2007 (RIDGELY STUDY AREA)** | | |
| Maryland Property View - Study Area | Point | Vector – ridgely_sa_mpv |
| Maryland Property View – MPV 2007 (Town of Ridgely) | Point | Vector – ridgely_mpv2007 |
| Maryland Property View – Growth Area | Point | Vector – ridgely_ga_mpv |
| Maryland Property View - Greenbelt | Point | Vector – ridgely_gb_mpv |
| Maryland Property View - Agriculture | Point | Vector – ridgely_ag_mpv |
| Maryland Property View – Apartments | Point | Vector – ridgely_apartments_mpv |
| Maryland Property View – Commercial | Point | Vector – ridgely_com_mpv |
| Maryland Property View – Commercial Residential | Point | Vector – ridgely_comres_mpv |
| Maryland Property View - Condominium | Point | Vector – ridgely_condo_mpv |
| Maryland Property View - Exempt | Point | Vector – ridgely_exempt_mpv |
| Maryland Property View –Exempt Commercial | Point | Vector – ridgely_exemptcom_mpv |
| Maryland Property View - Industrial | Point | Vector – ridgely_indust_mpv |
| Maryland Property View – New Development | Point | Vector – ridgely_newdev_mpv |
| Maryland Property View – Old Town | Point | Vector – ridgely_oldtown_mpv |
| Maryland Property View – Residential | Point | Vector – ridgely_res_mpv |
| **ENTITY** | **SPATIAL TYPE** | **ARCINFO TYPE/NAME** |
| **BASE DATA** | | |
| Corporate Boundary | polyline | Vector – ridgely_cb |

| | | |
|---|---|---|
| Ridgely Parcel Layers | polygon | Vector – ridgely_cadastre |
| Ridgely Growth Area | polygon | Vector – ridgely_ga |
| Ridgely Greenbelt | polygon | Vector – ridgely_gb |
| Growth Area Boundary | polyline | Vector – ridgely_ga_bndry |
| Greenbelt Boundary | polyline | Vector – ridgely_gb_bndry |
| **ENTITY** | **SPATIAL TYPE** | **ARCINFO TYPE/NAME** |
| **TRANSPORTATION NETWORK – FUNCTIONAL CLASSIFICATION SYSTEM** | | |
| Other Principal Arterial | polyline | Vector – ridgely_arterial |
| Minor Collector | polyline | Vector – ridgely_mincoll |
| Major Collector | polyline | Vector – ridgely_majcoll |
| Local Roads and Streets | polyline | Vector – ridgely_roads |
| Railroad Lines | polyline | Vector – ridgely_rr |
| Unpaved Roads | polyline | Vector – ridgely_unpaved |
| Municipal Gateway Areas | polyline | Vector – ridgely_munigate |
| Transects | polyline | Vector – ridgely_transect |
| Existing Grid Connections | polyline | Vector – ridgely_gridcon |
| Proposed Bypass | polyline | Vector – ridgely_propbypass |
| Rails to Trails Connection (Adkins Arboretum) | polyline | Vector – ridgely_vctrail |
| **ENTITY** | **SPATIAL TYPE** | **ARCINFO TYPE/NAME** |
| **EXISTING LAND USE** | | |
| Residential | polygon | Vector – ridgely_res |
| Agriculture | polygon | Vector – ridgely_ag |
| Multi-Family Residential | polygon | Vector – ridgely_mf |
| Commercial Residential | polygon | Vector_ridgely_comres |
| Commercial | polygon | Vector – ridgely_com |
| Exempt | polygon | Vector – ridgely_exempt |
| Exempt Commercial | polygon | Vector – ridgely_exemptcom |
| Neighborhood Redevelopment Areas | polygon | Vector – ridgely_redev |
| Industrial | polygon | Vector – ridgely_indust |
| Agricultural Preservation Easements | polygon | Vector – ridgely_gb_age |
| Agricultural Preservation Districts | polygon | Vector – ridgely_gb_agd |
| Private Conservation | polygon | Vector – ridgely_gb_pc |
| Landfill Site | polygon | Vector – ridgely_gb_landfill |
| Wastewater Treatment Plant | polygon | Vector – ridgely_wwtp |
| Rural Residential | polygon | Vector – ridgely_rresid |
| Rural Public | polygon | Vector – ridgely_rpub |
| Rural Conservation | polygon | Vector – ridgely_rac |
| Rural Commercial | polygon | Vector – ridgely_rcom |
| Rural Industrial | polygon | Vector – ridgely_rindust |
| Rural – Transfer of Development Rights Receiving Area (TDR) | polygon | Vector – ridgely_wc_tdr_ra |
| **ENTITY** | **SPATIAL TYPE** | **ARCINFO TYPE/NAME** |
| **FUTURE LAND USE** | | |
| Town Center | polygon | Vector – ridgely_tc |
| Central Business District | Polygon | Vector – ridgely_cbd |
| Neighborhood Conservation | polygon | Vector – ridgely_nc |
| Public/Semi-Public | polygon | Vector_ridgely_pub |
| Highway Commercial | polygon | Vector – ridgely_hc |
| Business Employment | polygon | Vector – ridgely_be |

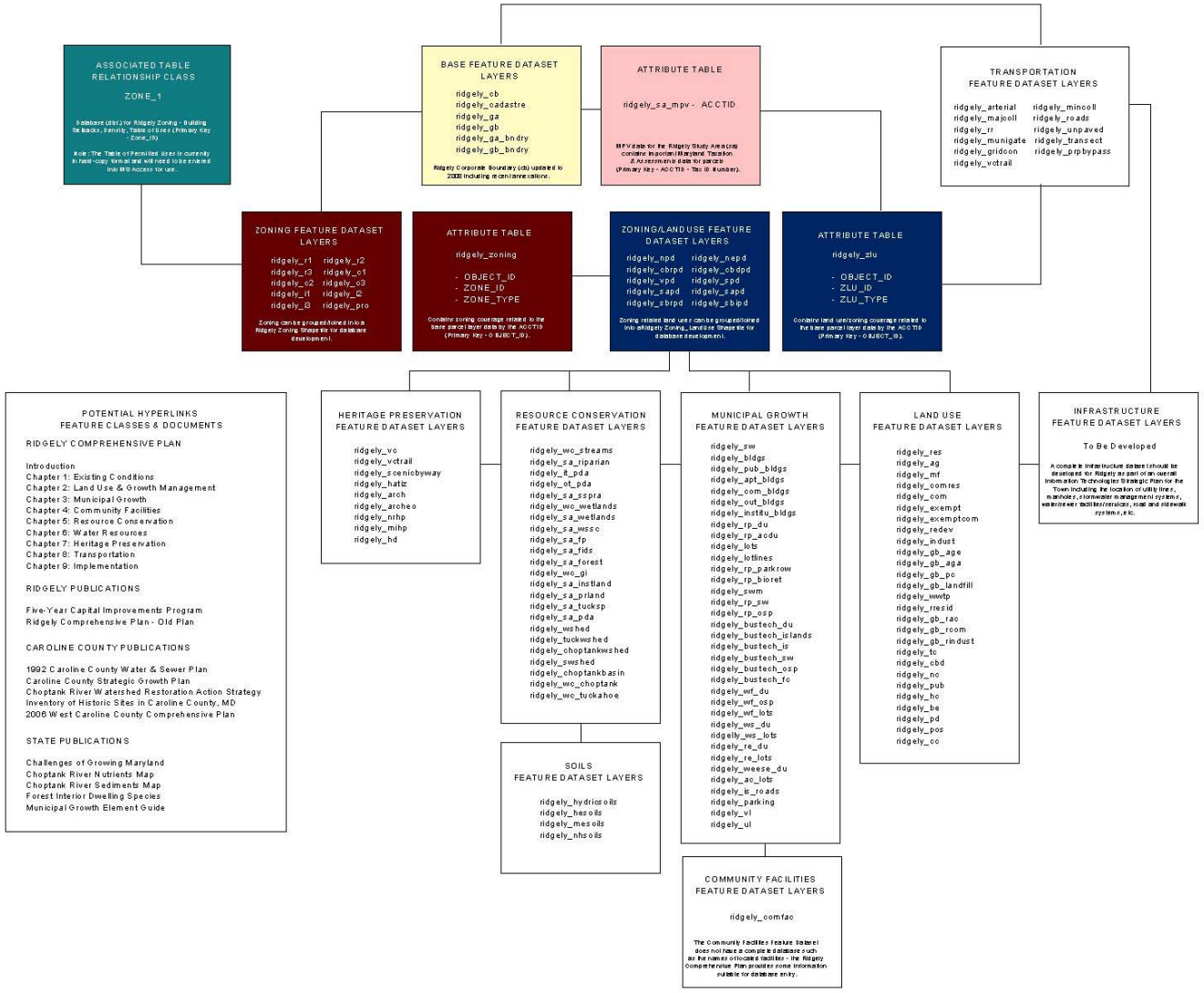
| | | |
|---|---|---|
| Planned Development | polygon | Vector – ridgely_pd |
| Parks/Open Space | polygon | Vector – ridgely_pos |
| Redevelopment Areas | polygon | Vector – ridgely_redev |
| Conservation Corridor | polygon | Vector – ridgely_cc |
| **ENTITY** | **SPATIAL TYPE** | **ARCINFO TYPE/NAME** |
| **MUNICIPAL GROWTH** | | |
| Ridgely Sidewalks | polygon | Vector – ridgely_sw |
| Ridgely Buildings | polygon | Vector – ridgely_bldgs |
| Ridgely Public Buildings | polygon | Vector – ridgely_pub_bldgs |
| Ridgely Apartments | polygon | Vector – ridgely_apt_bldgs |
| Ridgely Commercial Buildings | polygon | Vector – ridgely_com_bldgs |
| Ridgely Out Buildings | polygon | Vector – ridgely_out_bldgs |
| Ridgely Institutional Buildings | polygon | Vector – ridgely_institu_bldgs |
| Ridgely Park Dwelling Units | polygon | Vector – ridgely_rp_du |
| Ridgely Park Accessory Units | polygon | Vector – ridgely_rp_acdu |
| Ridgely Park Lots | polygon | Vector – ridgely_rp_lots |
| Ridgely Park Lot Lines | polyline | Vector – ridgely_rp_lotlines |
| Ridgely Park Streets | polyline | Vector – ridgely_rp_parkrow |
| Ridgely Park Bio-Retention Area | polygon | Vector – ridgely_rp_bioret |
| Ridgely Park Stormwater Management | polygon | Vector – ridgely_rp_swm |
| Ridgely Park Sidewalks | polygon | Vector – ridgely_rp_sw |
| Ridgely Park Open Space | polygon | Vector – ridgely_rp_osp |
| Business Technology Park Commercial Units | polygon | Vector – ridgely_bustech_du |
| Business Technology Park Parking Ilands | polygon | Vector – ridgely_bustech_islands |
| Business Technology Park Impervious Surface | polygon | Vector – ridgely_bustech_is |
| Business Technology Park Sidewalks | polygon | Vector – ridgely_bustech_sw |
| Business Technology Park Open Space | polygon | Vector – ridgely_bustech_osp |
| Business Technology Park Forest Conservation | polygon | Vector – ridgely_bustech_fc |
| Walnut Farms Dwelling Units | polygon | Vector – ridgely_wf_du |
| Walnut Farms Open Space | polygon | Vector – ridgely_wf_osp |
| Walnut Farms Lots | polygon | Vector – ridgely_wf_lots |
| Walnut Street Dwelling Units | polygon | Vector – ridgely_ws_du |
| Walnut Street Lots | polygon | Vector – ridgely_ws_lots |
| Ridgeway Estates Dwelling Units | polygon | Vector – ridgely_re_du |
| Ridgeway Estates Lots | polygon | Vector – ridgely_re_lots |
| Weese Dwelling Units | polygon | Vector – ridgely_weese_du |
| Alis Cove Lots | polygon | Vector – ridgely_ac_lots |
| Ridgely Impervious Surface - Roads | polygon | Vector – ridgely_is_roads |
| Ridgely Parking (Impervious Surface) | polygon | Vector – ridgely_parking |
| Vacant Land | polygon | Vector – ridgely_vl |
| Underutilized Land | polygon | Vector – ridgely_ul |
| **ENTITY** | **SPATIAL TYPE** | **ARCINFO TYPE/NAME** |
| **HERITAGE RESOURCES & TORUISM (RIDGELY STUDY AREA)** | | |
| Visitor Center – Adkins Arboretum | point | Vector – ridgely_vc |
| Rails to Trails - | polyline | Vector – ridgely_vctrail |

| | | |
|---|---|---|
| Adkins Arboertum | | |
| Underground Railroad MD/National Scenic Byway | polyline | Vector – ridgely_scenicbyway |
| Stories of the Chesapeake Heritage Area – Target Investment Zone | polyline | Vector – ridgely_hatiz |
| Archeological Areas | polyline | Vector – ridgely_arch |
| Archeological Areas | polygon | Vector – ridgely_archeo |
| National Register of Historic Places | polygon | Vector – ridgely_nrhp |
| MD Inventory of Historic Places | polygon | Vector – ridgely_mihp |
| Ridgely Historic Area (Potential Historic District) | polygon | Vector – ridgely_hd |
| **ENTITY** | **SPATIAL TYPE** | **ARCINFO TYPE/NAME** |
| **SOILS** | | |
| Hydric Soils | polygon | Vector – ridgely_hydricsoils |
| Highly Erodible Soils | polygon | Vector – ridgely_hesoils |
| Moderately Erodible Soils | polygon | Vector – ridgely_mesoils |
| Not Highly Erodible Soils | polygon | Vector – ridgely_nhesoils |
| **ENTITY** | **SPATIAL TYPE** | **ARCINFO TYPE/NAME** |
| **COMMUNITY FACILITIES** | | |
| **COMMUNITY FACILITIES** | | |
| Ridgely Community Facilities | point | Vector – ridgely_comfacilities |
| **ENTITY** | **SPATIAL TYPE** | **ARCINFO TYPE/NAME** |
| **ZONING** | | |
| R1 - Residential | polygon | Vector – ridgely_r1 |
| R2 - Residential | polygon | Vector – ridgely_r2 |
| R3 - Residential | polygon | Vector – ridgely_r3 |
| C1 - Commercial | polygon | Vector – ridgely_c1 |
| C2 - Commercial | polygon | Vector – ridgely_c2 |
| C3 - Commercial | polygon | Vector – ridgely_c3 |
| I1 - Industrial | polygon | Vector – ridgely_i1 |
| I2 - Industrial | polygon | Vector – ridgely_i2 |
| I3 - Industrial | polygon | Vector – ridgely_i3 |
| Planned Unit Development Overlay Zone | polygon | Vector – ridgely_pro |
| North Planning District | polygon | Vector – ridgely_npd |
| Northeast Planning District | polygon | Vector – ridgely_nepd |
| Cowbarn Road Planning District | polygon | Vector – ridgely_cbrpd |
| Central Business District Planning District | polygon | Vector – ridgely_cbdpd |
| Village Planning District | polygon | Vector – ridgely_vpd |
| South Planning District | polygon | Vector – ridgely_spd |
| Sunrise Avenue Planning District | polygon | Vector – ridgely_sapd |
| Sunset Boulevard Planning Residential District | polygon | Vector – ridgely_sbrpd |
| Sunset Boulevard Planning Industrial District | polygon | Vector – ridgely_sbipd |
| **ENTITY** | **SPATIAL TYPE** | **ARCINFO TYPE/NAME** |
| **RESOURCE CONSERVATION** | | |
| West Caroline County Streams (Ridgely Area) | polyline | Vector – ridgely_wc_streams |
| Ridgely Study Area – Streams | polyline | Vector – ridgely_sa_riparian |

| | | |
|---|---|---|
| Public Drainage Ditches (In-Town) | polyline | Vector – ridgely_it_pda |
| Public Drainage Ditches (Out-Of-Town) | polyline | Vector – ridgely_ot_pda |
| Ridgely Study Area – Sensitive Species Habitat | polygon | Vector – ridgely_sa_sspra |
| West Caroline County Wetlands (Ridgely Area) | polygon | Vector – ridgely_wc_wetlands |
| Ridgely Study Area - Wetlands | polygon | Vector – ridgely_sa_wetlands |
| Ridgely Study Area – Wetlands of Special State Concern | polygon | Vector – ridgely_sa_wssc |
| Ridgely Study Area – Floodplain | polygon | Vector – ridgely_sa_fp |
| Ridgely Study Area – Forest Interior Dwelling Species (FIDS) | polygon | Vector – ridgely_sa_fids |
| Ridgely Study Area – Forested Areas | polygon | Vector – ridgely_sa_forest |
| West Caroline County Green Infrastructure (Ridgely Area) | polygon | Vector – ridgely_wc_gi |
| Ridgely Study Area – Institutional Land | polygon | Vector – ridgely_sa_instland |
| Ridgely Study Area – Parks and Recreation land | polygon | Vector – ridgely_sa_prland |
| Ridgely Study Area – Tuckahoe State Park | polygon | Vector – ridgely_sa_tucksp |
| Ridgely Study Area – Public Drainage | polygon | Vector – ridgely_sa_pda |
| Ridgely Watersheds | polygon | Vector – ridgely_wshed |
| Tuckahoe River Watershed (8 – digit) | polygon | Vector – ridgely_tuckwshed |
| Upper Choptank River Watershed (8 – digit) | polygon | Vector – ridgely_choptankwshed |
| Ridgely Watersheds | polygon | Vector – ridgely_swshed |
| Choptank River Basin | polygon | Vector – ridgely_choptankbasin |

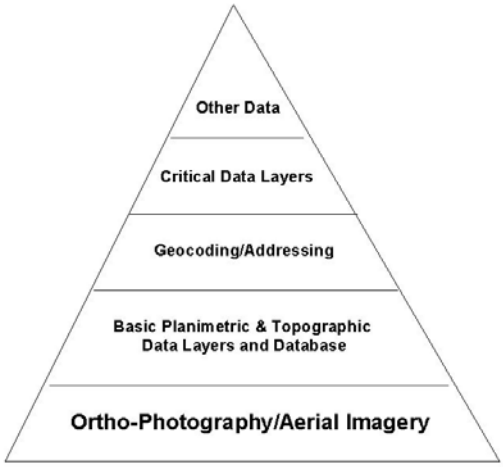
*NOTE: Ridgely raw data was prepared as part of the 2008 *Ridgely Comprehensive Plan* process. Data has not been checked for quality controls (i.e. closed polygons etc.). In addition, some data requires database inputs such as community facilities (point data). Additional layers may be required (see Database/GIS Data Design Flowchart).

## RIDGELY E-GIS: DATABASE/GIS DATA DESIGN FLOWCHART



## RIDGELY E-GIS: OTHER DATA

Specific GIS data for Caroline County was developed in 2003 as part of a county-wide E911 Emergency Management Project. Data included ortho-photography (tiled aerial imagery for the County and compression images, MRSID); basic planimetric vector data, topographic vector data (1 meter contours with spot elevations); and geocoding (addressing for buildings and centerlines).




**GIS Conceptual Design Model**

The figure to the right provides an example of the pyramidal structuring of E911 GIS data for the County and how it is arranged in the current system. Aerial imagery forms the base of the County GIS System and all data layers overlay the aerials. Vector data (points, lines, and areas or polygons) is projected in the Maryland State Plane Coordinate System NAD 83/NAVD 88 meters. This ensures that County data, as developed, is compatible with Maryland State data. All GIS data is maintained by Planning & Codes and housed on its departmental server.

**Ortho-Photography:** Aerial tiles and MRSID aerial composites for Caroline County are available from 2003. Aerial indexes also are provided for viewers:

- Aerial Image Tiles (200 scale data 1" = 1200');
- Aerial Image Tiles for Towns (100 scale data 1" = 600');
- Aerial Image Composites (200 scale data 1" = 200'); and
- Aerial Indexes (by County).

**Planimetric Data:** The following table lists the vector features along with their feature type and requirements for annotation and attribution. These features include basic planimetric layers such as roads, streams, rivers, buildings, etc.

| CAROLINE COUNTY PLANIMETRIC DATA | | | |
|---|---|---|---|
| **Feature** | **Feature Type** | **Attribute** | **Annotation** |
| **Hydrography** | | | |
| River/Stream | Polygon | Feature Code | |
| Rive/Stream Centerlines | Continuous Lines | River/Stream Name<br>Feature Code | River/Stream Name |
| Single Line Streams | Continuous Lines | River/Stream Name<br>Feature Code | River/Stream Name |
| Drainage Connector | Continuous Lines | Feature Code | |

| | | | |
|---|---|---|---|
| Lakes/Ponds | Polygon | Lake/Pond Name<br>Feature Code | Lake/Pond Name |
| Reservoir | Polygon | Reservoir Name<br>Feature Code | Reservoir Name |
| Stormwater Retention Ponds | Closed Polygon | Pond Name<br>Feature Code | Pond Name |
| **Cultural Features** | | | |
| Buildings | Closed Polygon | Feature Code | |
| Roads | Polygon | Feature Code | |
| Street Center Lines | Continuous Lines | Road Name<br>Feature Code | Road Name |
| Side Walk | Continuous Lines | Feature Code | |
| Railroad | Continuous Line | Railroad name<br>Feature Code | Railroad name |
| Drive way | Continuous Lines | Feature Code | |

**Topographic Data:** The following table lists the vector features for specific 1 meter contours with spot elevations as GIS point data. Contours portray the shape of the terrain within specified accuracy standards.

| CAROLINE COUNTY TOPOGRAPHIC FEATURES | |
|---|---|
| **Contours** | **Spot Elevations** |
| Index Contours | Spot Elevations |
| Intermediate Contours | Water Elevations |
| Index Depression Contours | Bridge Elevations |
| Intermediate Depression Contours | |
| Obscured Index Contours | |
| Obscured Intermediate Contours | **DTM** |
| Obscured Index Depression Contours | Masspoints |
| Obscured Intermediate Depression Contours | Breaklines |
| Hidden Contours | Obscured Area Polygons (2D features) |

Every 5$^{th}$ contour is as an index contour. All index contours are distinguishable and labeled with their elevations. Labels are oriented to follow the contours. The distance along a contour line between labels is generally eight inches on plots produced at plot scale (1" = 200').

Elevation values are assigned to contour lines as attributes. Contour lines are coded as “Hidden Contour” when passing through buildings, under bridges, behind text labels, or other artificial breaks. All such breaks provide clean junctures between the contours and the features. Gaps and overruns are not allowed.

Spot elevation data supplements elevation data provided by contours. All spot elevations are labeled with decimal values giving their elevation to the nearest one-tenth of a foot for the required 1” = 200’ scale mapping.

Spot elevations are shown at the following locations:

- At all road/railroad intersections;
- On the road centerline at the center and ends of bridges and similar structures;
- On the road centerline over all culverts;
- At the crest of all closed contours;
- At the lowest point of all closed depression contours, significant saddles, cuts, and depressions; and
- In areas of dense vegetation where the ground is visible.

GIS data for the Town of Ridgely largely utilizes data already developed by Caroline County and the State of Maryland. GIS data developed as part of the comprehensive planning process was structured and formatted similar to the County system to ensure integration. Updated cadastre mapping for Ridgely utilized existing features (right-of-ways/centerlines and aerial imagery from County data) to adjust parcel boundaries, where required. These adjustments were performed in the Ridgely Study Area only to correct mistakes such as inaccurate corporate boundaries, developed properties, etc.

# APPENDIX B: PLANNING & ZONING ANALYSIS FOR GIS DEVELOPMENT

## PLANNING & ZONING ANALYSIS

On September 20, 2007, Peter Johnston & Associates (PJA) performed a preliminary review of the *Ridgely Zoning Ordinance* (the Ordinance). General and specific detailed notes regarding the Ordinance and its provisions, classifications, and format were analyzed and listed. On October 9, 2007, PJA met with representatives of Ridgely to discuss the September 20th Memorandum. Additional information was provided by the Town and the September 20th Memorandum was revised on October 23, 2007.

### Section I: Background – History of Legislative Actions in Ridgely

Numerous legislative items have been passed by the Town of Ridgely from 2002 to the present 2007. These include primarily planning and zoning related actions, which are detailed below:

**Ordinance Number 236 (November 4, 2002)**

**Description:** Amending the *Ridgely Zoning Ordinance* to reduce the minimum lot size in such areas of the R-3 Zone in the Northeast Planning District (NEPD) from 15,000 square feet to 10,000 square feet and reducing the minimum lot width from 90 feet to 80 feet. The Ordinance references an earlier "Ridgely Ordinance Number 198" (dated August 2, 1999) that establishes the R-3 Zone.

**Ordinance Number 241 (April 7, 2003)**

**Description:** Amending the *Ridgely Zoning Ordinance* to add a definition of "Group Home" and deleting references to "Other Minor Institutions" from special exceptions in the R-1, R-2, R-3, and C-2 Zones.

**Ordinance Number 242 (May 5 2003)**

**Description:** Amending the *Ridgely Zoning Ordinance* by increasing permitted uses (Section 12.0) in the I-1 Light Industrial Zone.

**Ordinance Number 249 (August 4, 2003)**

**Description:** Amending the *Ridgely Zoning Ordinance* (Section 5.7), previously adopted on October 7, 2002 in "Ridgely Ordinance Number 235," in regards to the Ridgely Airport and possible zoning classifications. The Ordinance stipulates the commencement of planning for annexation, adoption of zoning, etc.

**Ordinance Number 251 (November 3, 2003)**

**Description:** Rezoning for Stanley L. Hutchinson properties located at 503-505 maple Avenue. Properties are to be rezoned from R-1 to C-1 (Residential to Commercial).

**Ordinance Number 252 (November 3, 2003)**

**Description:** Amendment to the *Ridgely Zoning Ordinance* adding the Airport and Business Technology Industrial Zone (I-3). The Ordinance introduces new language and uses (Section 29.0).

**Ordinance Number 254 (March 4, 2004)**

**Description:** Amendment to the *Ridgely Design Guidelines* to include design standards for the I-3 Zoning District located in the Northeast Planning District (NEPD). Revisions establish standards, procedures, and processes for I-3.

**Ordinance Number 256 (March 1, 2004)**

**Description:** Designation/assigning of zoning for newly annexed areas. Approximately 344.206 acres of land annexed to the Town by resolution with the recommendation that areas be zoned I-3 and R-3 and Zoning Map Amendments be initiated. Properties include the following: "Ridgely Airpark LLC" (Map 17; Parcels 14 and 81, Parcel 29 and lots 1 through 7, and Parcel 162); Tracey Coleman (Map 17; Parcels 12 and 129); and Carolyn Sue Garrett and Deloris Cahill (Map 17; Parcel 11) to be zoned I-3 – All other properties (Map 17, Parcels 32, 33, 35 and Map 17; Parcel 162 Lot 1) to be zoned as R-3.

**Ordinance Number 269 (December 6, 2004)**

**Description:** Adoption of text amendments to the *Ridgely Zoning Ordinance* (Section 23.0) to alter permitted uses for the I-1: Light Industrial Zoning District.

**Ordinance Number 270 (January 3, 2005)**

**Description:** Adoption of Zoning Map Amendment stating that all parcels located in the Sunset Boulevard Planning District, presently zoned I-2, to be rezoned to I-1: Light Industrial.

**Ordinance Number 289 (June 19, 2006)**

**Description:** *Ridgely Zoning Ordinance* amendment establishing procedures and requirements for the consideration and execution of a "Developers Rights and Responsibilities Agreement" (DRRA). Ordinance revisions include standards for DRRA's and procedure/process.

**Ordinance Number 290 (June 19, 2006)**

**Description:** Adoption of amendment to the *Ridgely Zoning Ordinance* for R-3 provisions, permitting traditional neighborhood development (TND) concepts and patterns.

**Ordinance Number 291 (June 19, 2006)**

**Description:** Adoption of amendments to the *Ridgely Subdivision Regulations* with reference to "Ridgely Ordinance Number 1997-o-149" as subsequently amended. The purpose of the amendment is to impose development controls for traditional neighborhood design (TND) by imposing additional improvements and facilities as well as design review and approval.

**Ordinance Number 292 (June 19, 2006)**

**Description:** Designation/assigning of zoning for newly annexed areas. Approximately 47.147 acres of land (Map 17; Parcel 40 and Map 701; Part of Parcel 888) annexed to the Town by resolution with the recommendation that areas be zoned R-3 and Zoning Map Amendment be initiated.

**Ordinance Number 293 (June 19, 2006)**

**Description:** Adoption of text amendments to the *Ridgely Zoning Ordinance* creating standards for traditional neighborhood development (TND) to allow for master planning of large parcels of land in the R-3 "Single Family/Agricultural Zoning District." The revisions allow for flexibility with lot sizing provided no lot is less than 7,500 square feet and overall density does not exceed the density otherwise allowed in the R-3 District. The revisions also establish a procedure/process for review and approval

**Ordinance Number 298 (September 11, 2006)**

**Description:** Amending the *Ridgely Zoning Ordinance* to provide a mechanism for the "Planned Redevelopment Overlay District" (PR) – Floating Zone consistent with regulations (see official Ridgely documentation for standards).

**Ordinance Number 299 (September 11, 2006)**

**Description:** Amending the *Ridgely Zoning Ordinance* to provide for a new section (Section 31.0), Site Plan Requirements in the "Planned Rehabilitation Zone" - marked as Exhibit A(see official Ridgely documentation for standards).

**Ordinance Number 300 (November 6, 2006)**

**Description:** Designation/assigning of zoning for newly annexed areas. Approximately 4.826 acres of land (Map 701; Parcel 824-2) annexed to the Town by resolution with the recommendation that area be zoned R-3 and Zoning Map Amendment be initiated.

**Ordinance Number 302 (April 2, 2007)**

**Description:** Amendment to the *Ridgely Zoning Ordinance* to approve "drive-in" establishments that do not sell or serve alcoholic beverages in the Highway Commercial Zoning District (C-3). The Ordinance revisions establish a new purpose and intent as well as permitted uses, special exception uses, and accessory uses.

**Ordinance Number 303 and 305 (March 5, 2007 and June 4, 2007)**

**Description:** Approval of the Developers Rights and Responsibilities Agreement (DRRA) between the Ridgely Commissioners and Ridgely Investments LLC (Ridgely Park Developers). The original DRRA was developed on May 24, 2007 and approved under "Ridgely Ordinance Number 303" (repealed and re-approved under Ridgely Ordinance Number 305).

## Section II: Planning & Zoning Analysis

**Ridgely Planning Districts:** Ridgely is divided into nine "Planning Districts" or broad land use planning boundaries in which zoning districts are located and classified, including the following:

1. Village Planning District (VPD);
2. Central Business Planning District (CBD: part of the VPD);
3. Northeast Planning District (NEPD);
4. North Planning District (NPD);
5. Sunrise Avenue Planning District (SAPD);
6. Cow Barn Road Planning District (CBRPD);
7. South Planning District (SPD);
8. Sunset Boulevard Industrial Planning District (SBIPD); and
9. Sunset Boulevard Residential Planning District (SBRPD).

**Ridgely Zoning Districts:** Ridgely is divided into nine "Zoning Districts," which are classified under the broader "Planning Districts" listed above. Zoning also includes one Floating Zone for Ridgely Park (Planned Redevelopment District). Zoning districts include the following:

1. R-1 – Single Family Residential District;
2. R-2 – Mixed Residential District;
3. R-3 – Single Family/Agricultural District;
4. C-1 – General Commercial District;
5. C-2 – Central Business District;

6. C-3 – Highway Commercial District;
7. I-1 – Light Industrial District;
8. I-2 – General Industrial District;
9. I-3 – Airport & Business Technology District; and
10. PR - Planned Redevelopment Floating Zone.

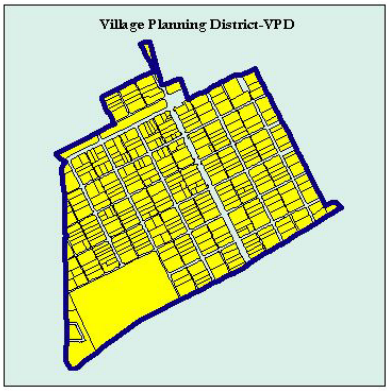
**TABLE 1: LOT SIZE/AREA & BULK REGULATIONS – RIDGELY ZONING ORDINANCE**

| Planning Districts | Zoning Districts | Minimum Lot Size | Front Yard Setback | Side Yard Setback | Rear Yard Setback | Minimum Front/Side Yard Length | Maximum Density |
|---|---|---|---|---|---|---|---|
| **VPD** | **R-1** | 7,500 Square Feet | 25 Feet | 10 Feet | 25 Feet | 75' Wide 100' Deep | 6 DU per Acre |
| **SPD** | **R-1** | 7,500 Square Feet | 25 Feet | 10 Feet | 25 Feet | 75' Wide 100' Deep | 6 DU per Acre |
| **SBRPD** | **R-2** | 7,500 Square Feet | 25 Feet | 10 Feet | 25 Feet | 75' Wide 100' Deep | 6 DU per Acre |
| **NEPD** | **R-3** | 15,000/7,500 Square Feet | 30 Feet | 10 Feet | 35 Feet | 90' Wide 100' Deep | 3 DU per Acre 6 DU per Acre |
| ***NEPD** | **R-3** | 10,000 Square Feet | Unknown | Unknown | Unknown | 90' Wide 80' Deep | 3.5 DU per Acre |
| **NPD** | **R-3** | 15,000 Square Feet | 30 Feet | 10 Feet | 25 Feet | 100' Wide 100' Deep | 3 DU per Acre |
| ***PR (NPD)** | **Floating Zone** | 7,500 Square Feet | PC Review | PC Review | PC Review | 75' Wide 100' Deep | 6 DU per Acre |
| **SAPD** | **R-3** | 7,500 Square Feet | 25 Feet | 10 Feet | 25 Feet | 75' Wide 100' Deep | 6 DU per Acre |
| **CBRPD** | **R-3** | 20,000 Square Feet | 30 Feet | 10 Feet | 25 Feet | 100' Wide 100' Deep | 3 DU per Acre |
| ***VPD** | **C-1** | Unknown | Unknown | Unknown | Unknown | Unknown | Unknown |
| **CBD** | **C-2** | 7,500 Square Feet | 15 Feet | 10 Feet | 15 Feet | 50' Wide 100' Deep | 8 CU per Acre |
| **SAPD** | **C-3** | 20,000 Square Feet | 50 Feet | 10 Feet | 10 Feet | 100' Wide 100' Deep | 3 CU per Acre |
| **SPD** | **C-3** | 20,000 Square Feet | 50 Feet | 10 Feet | 10 Feet | 100' Wide 100' Deep | 3 CU per Acre |
| **SPD** | **I-1** | 20,000 Square Feet | 50 Feet | 10 Feet | 10 Feet | 100' Wide 100' Deep | 3 IU per Acre |
| **SBIPD** | **I-2** | 20,000 Square Feet | 50 Feet | 20 Feet | 25 Feet | 100' Wide 200' Deep | 3 IU per Acre |
| **NEPD** | **I-3** | Unknown | Unknown | Unknown | Unknown | Unknown | Unknown |

*Note: The NEPD District was amended by the 2002 *Ridgely Ordinance Number 236*, which reduced the minimum lot size from 15,000 square feet to 10,000 square feet. It is unknown whether this change applies to all R-3 areas within the NEPD. The NPD District was amended by the 2006 *Ridgely Ordinance Number* 298, which established a "Planned Redevelopment Floating Zone" for the Ridgely Park Project reducing the minimum lot size from 15,000 square feet to 7,500 square feet. The C-1 Zoning District, located within the CBD, is absent from the Ordinance, which only lists C-2 for the CBD.

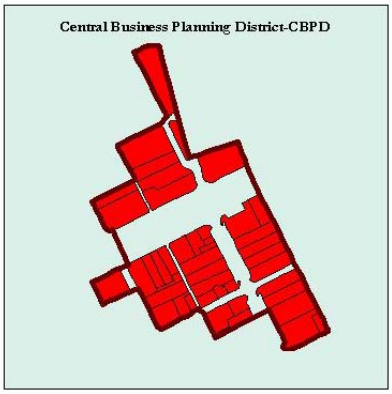
*Note: For R-1, R-2, R-3, C-1, C-2, and C-3, churches, parishes, temples, convents, rectories, and monasteries require a minimum lot size of 15,000 square feet as a permitted use. The NEPD: R-3 Planning/Zoning District contains a minimum lot size divergence from the standard 15,000 square feet to 7,500 square feet for the portion of the district that lies on both sides of the residential portion of North Maple Street. It is unknown at this time how Resolution 236 impacted this divergence.

**<u>Planning District Boundaries and Maps</u>:** As shown on the 2007 Ridgely Planning Districts Map below, detailed district boundaries include the following:

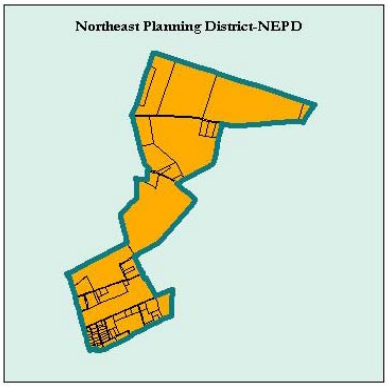



1. <u>Village Planning District</u>: The "Village Planning District" (VPD) is approximately 168 acres and is the core from which other planning districts originate and are attached. It includes the Central Business District (CBD) as well as most of Ridgely's historic structures. It extends from MD Route 480 to Liberty Street and from Sunset Boulevard to Sunrise Avenue. Currently, the VPD is zoned R-1, C-1, and C-2.

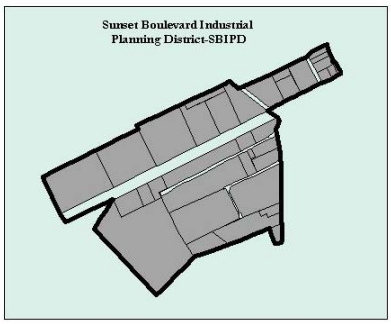
   The growth management strategy for the VPD is to preserve and strengthen single-family residential homes and neighborhood commercial in the CBD. It also includes the concept of extending the historic core's grid system for new development to provide cohesiveness.




2. <u>Central Business Planning District</u>: The "Central Business District" (CBD) is approximately 16 acres and a subset of the VPD, located along Central Avenue from near 2nd Street to Oak Street. It extends along Railroad Avenue and Bell Street to Maryland Avenue and is designed to facilitate low intensity commercial uses. Currently, the CBD is zoned C-2.

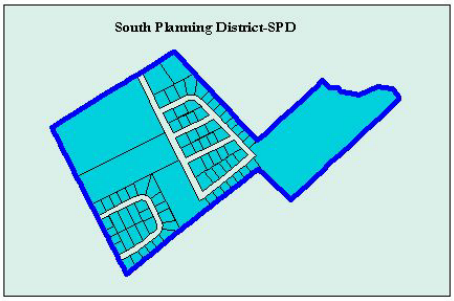



3. <u>Northeast Residential & Industrial Planning District</u>: The "Northeast Planning District" (NEPD) is approximately 500 acres and is located east of North Central Avenue and north of the Railroad line. It includes a mix of agricultural land, residential, governmental services, light industrial, and the airport/business technology zone. Currently, the NEPD is zoned R-3, I-1, and I-3.

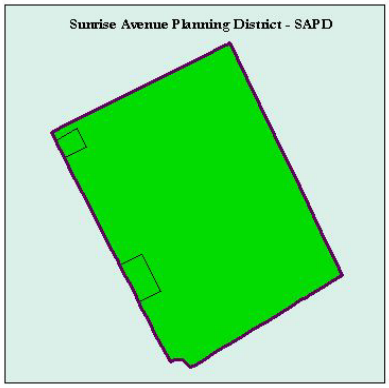



4. <u>Sunset Boulevard Industrial Planning District</u>: "Sunset Boulevard Industrial Planning District" (SBIPD) is approximately 82 acres and is located west of Sunset Boulevard extending to Bell Street. The district includes the industrial area along Bell Street and Sunset Boulevard. Mixed use is encouraged for this area including commercial, industrial, and public community facilities/services. Flexibility is present in regulations to allow for more intensive commercial and industrial uses. Adequate buffers can safeguard land uses. Currently, the SBIPD is zoned I-1 and I-2.

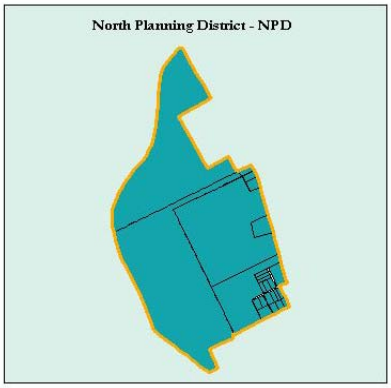
5. South Residential, Commercial, & Industrial Planning District: The "South Planning District" (SPD) is approximately 64 acres and is located south of MD Route 480 and includes a mix of residential homes located in commercial and industrial areas. The district also includes some light industrial and commercial uses. Currently, the SPD is zoned R-1, C-3, and I-1.



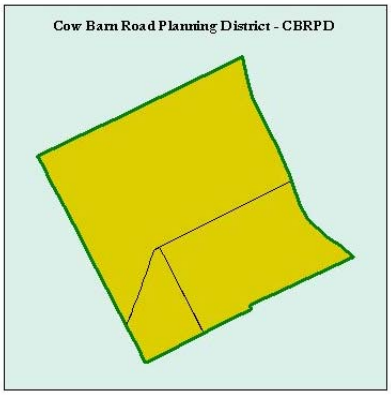

6. Sunrise Avenue Commercial & Residential Planning District: The "Sunrise Avenue Planning District" (SAPD) is approximately 70 acres and extends to the railroad line on the north and MD Route 480 on the south. It is comprised mostly of agricultural land and open space (infill). The planning district is considered a direct extension of the VPD. Commercial (along MD Route 480 – East 6th Street) and residential development is encouraged with appropriate limitations. Currently, the SAPD is zoned R-1 and C-3.



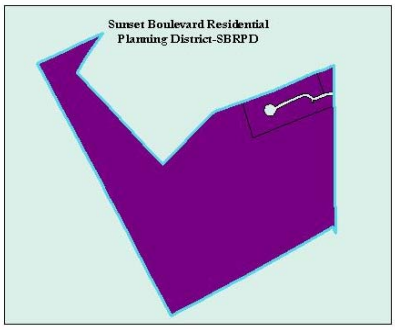

7. North Planning District: The "North Planning District" (NPD) is approximately 165 acres and is located between Cow Barn Road and MD Route 312 (North Central Avenue) and between the northern boundary of Ridgely and Liberty Street. It is comprised mostly of agricultural land and open space (infill). The NPD is considered a direct extension of the VPD and includes the proposed Ridgely Park project, which includes a Planned Redevelopment Floating Zone overlay. Currently, the CBD is zoned R-1, R-3, I-1, and C-2.



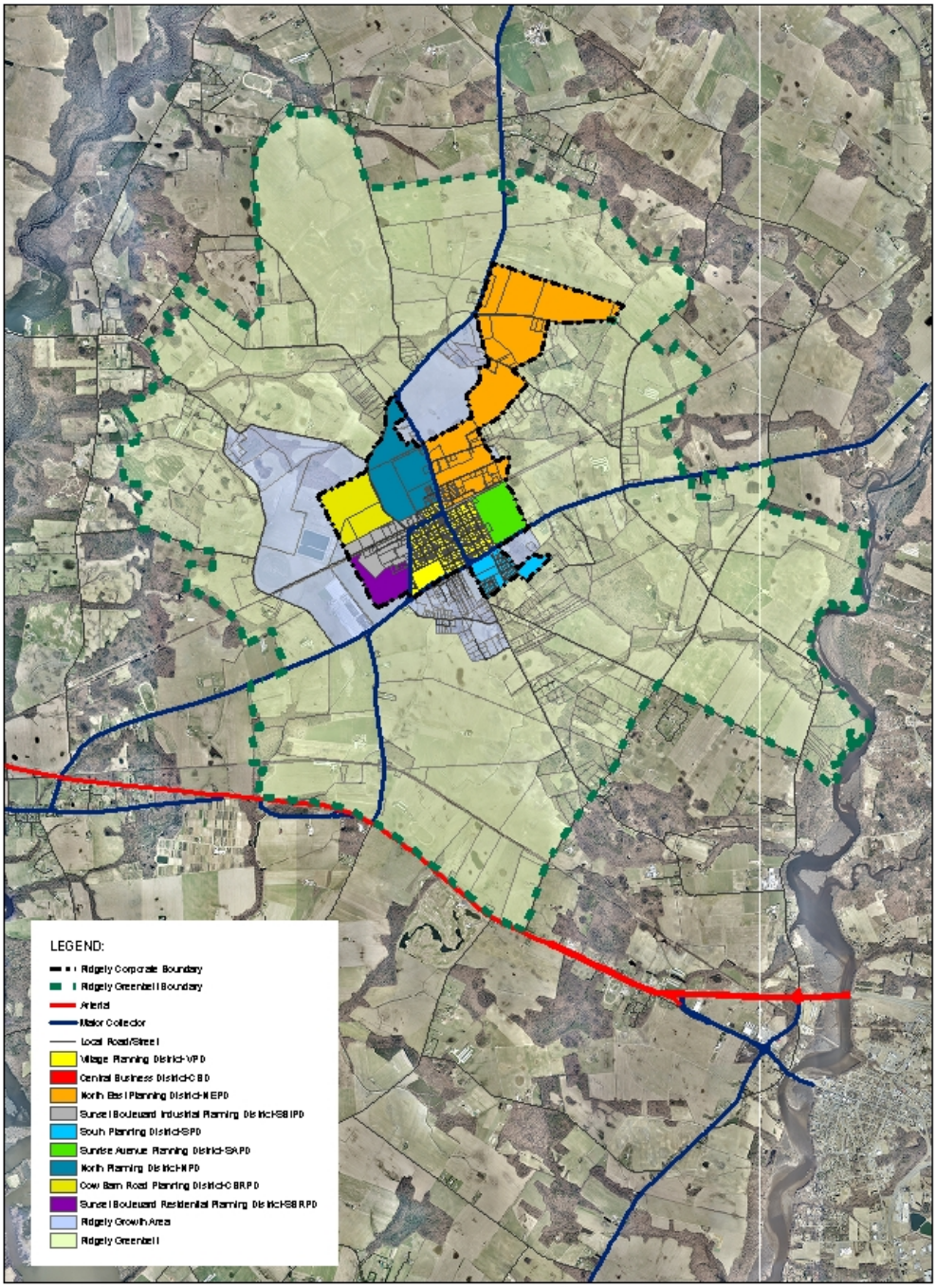

8. Cow Barn Road Planning District: The "Cow Barn Road Planning District" (CBRPD) is approximately 102 acres and is located in the northwest corner of Ridgely and west of Cow Barn Road. Much of this land is used for spray irrigation and public uses. Continued agricultural use is preferred and strip development or large-scale residential development is discouraged along Cow Barn Road. Limited residential development is permitted. Currently, the CBRPD is zoned R-3 and I-2.




9. Sunset Boulevard Residential Planning District: The "Sunset Boulevard Residential Planning District" (SBRPD) is approximately 56 acres and is located along MD Route 480 west of Sunset Boulevard and extends north to the industrial section. This area now contains multi-family housing and open space. Continued multi-family housing is



preferred. The SBRPD is comprised mostly of open space (infill). Currently, the CBD is zoned R-2 and I-2.

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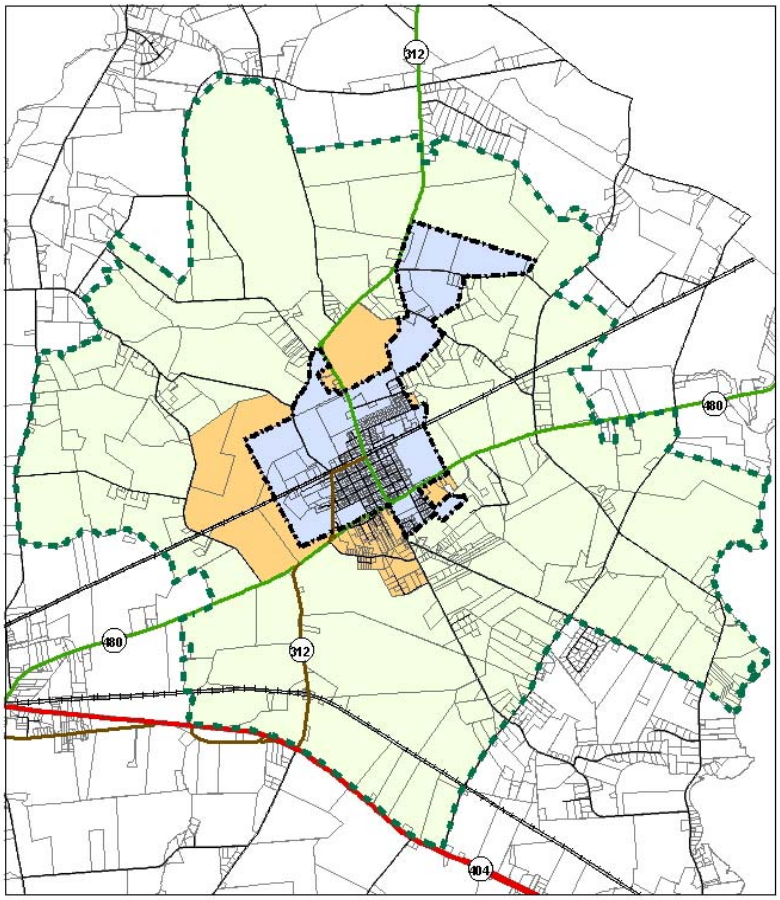
## Ridgely Planning Districts 2007

**Ridgely, Maryland**

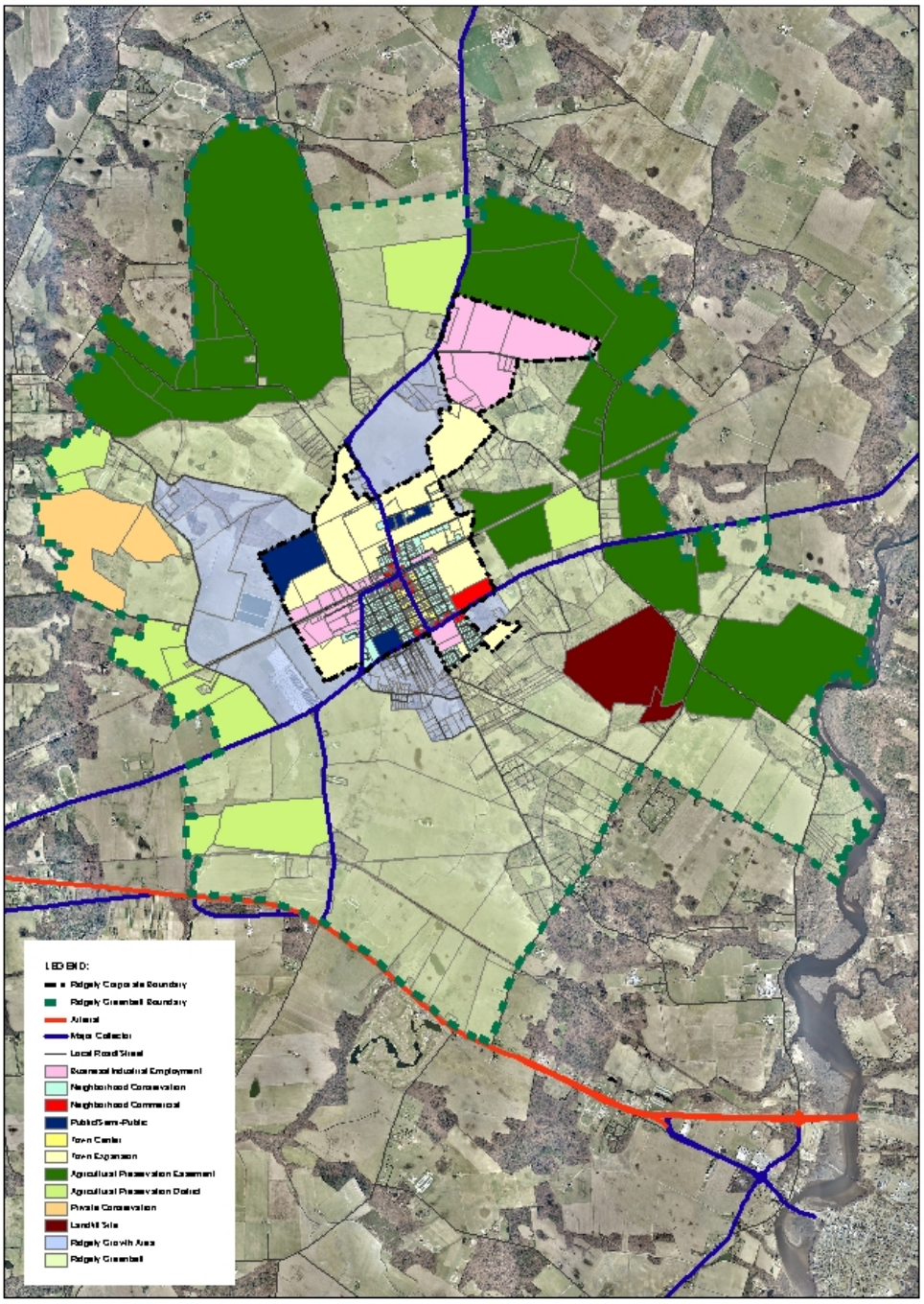
Peter Johnston & Associates
Easton, Maryland

Other future Town Planning Districts include the Ridgely Growth as shown on Ridgely Land Use Map. The Ridgely Greenbelt is comprised of properties located within Caroline County:




1. Ridgely Growth Area: The Ridgely Growth Area will serve as a growth envelope outside existing municipal boundaries (currently County land). This area is indicated for future Town expansion and potential annexation to accommodate new municipal development and infrastructure. The Growth Area includes the Ridgely wastewater treatment site, the rural village of Trinity Boonsboro, and scattered areas for potential new residential development or future spray irrigation sites.

2. Ridgely Greenbelt: The Ridgely Greenbelt (RGB) surrounds the existing Town and Growth Area. The Greenbelt is designed to provide a transitional area from urban/suburban land uses to more rural land uses, including low-density rural-residential and agricultural uses. The Greenbelt is intended to create a buffer around the existing Town to add to aesthetic and scenic value. Currently the Greenbelt has 3,662 acres of preserved land including Agricultural Preservation Easements, Agricultural Preservation Districts, Private Conservation Areas, and the Mid-Shore Regional Landfill.

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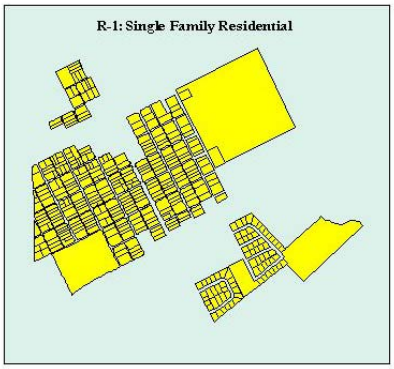
## Ridgely Land Use 2007

**Ridgely, Maryland**

Peter Johnston & Associates
Easton, Maryland

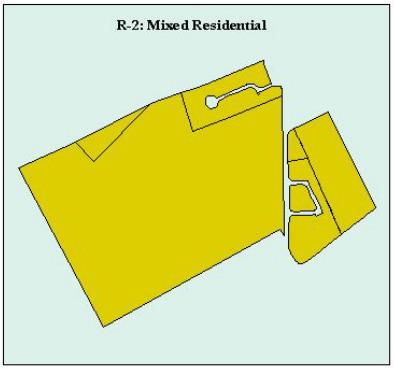
## Section IV: Zoning Districts

**Zoning District Boundaries and Maps:** As shown on the 2007 Ridgely Zoning Districts Map below, detailed district boundaries include the following:



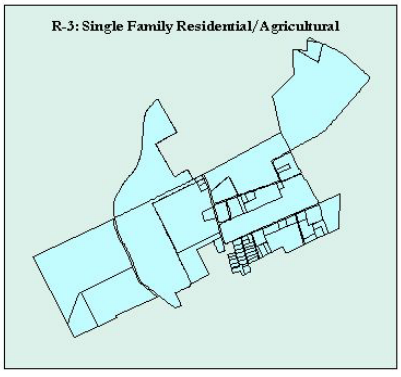

1. R-1: Single Family Residential: The R-1 district is approximately 240 acres and provides for traditional single-family residential uses with a minimum lot size of 7,500 square feet. R-1 also includes public buildings, schools, churches (with a minimum lot size of 15,000 square feet exception), public recreational facilities, and related accessory uses (uses compatible with traditional neighborhood development).

   This area includes the VPD, a large portion of the SAPD, and portions of the NPD and SPD. These areas promote higher density mixed use and the extension of the Town's historic grid system for infill areas.



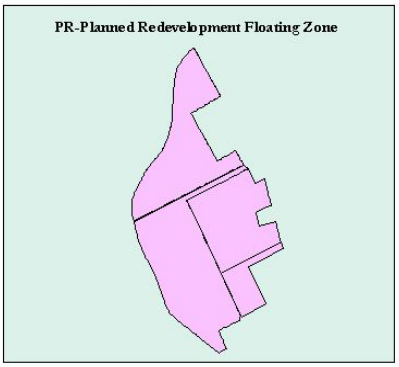

2. R-2: Mixed Residential: The R-2 district is approximately 58 acres and provides for a higher density type of development with a minimum lot size of 7,500 square feet. R-2 includes public buildings, schools, churches (with a minimum lot size of 15,000 square feet exception), public recreational facilities, and related accessory uses (uses compatible with traditional neighborhood development). Historically the Town's R-1 district is high density mixed use in the VPD and has a similar lot area and size requirement as the R-2. The purpose of the district is to promote and accommodate single-family, two-family, and multi-family residences.

   Much of this land is located in the SBRPD, which is undeveloped (infill). A small portion also is located in the VPD. Due to the high acreage of infill (vacant land on large tracts), a Floating Zone is suggested to provide design flexibility.

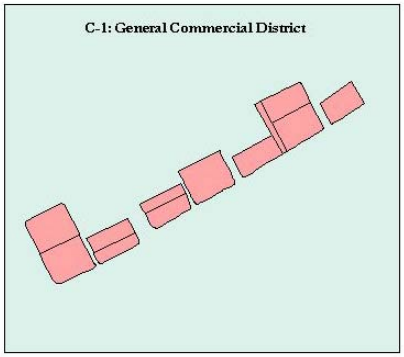



3. R-3: Single Family/Agricultural District: The R-3 district is approximately 475 acres and is designed to provide for single-family residential development of a more spacious character with a minimum lot size of 10,000 square feet. R-3 includes public buildings, schools, churches (with a minimum lot size of 15,000 square feet exception), public recreational facilities, and related accessory uses (uses compatible with traditional neighborhood development). R-3 is located in the NEPD, CBRPD, and NPD areas.

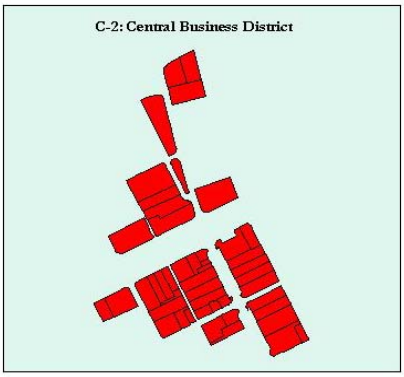
The "2002 Ridgely Ordinance Number 236" reduced the minimum lot size in the R-3 Zone from 15,000 square feet to 10,000 square feet. The "2006 Ridgely Ordinance Number 293" established standards for Traditional Neighborhood Design (TND) standards for R-3. The "2006 Ridgely Ordinance Number 298" established a "Planned Redevelopment Floating Zone" for Ridgely Park.



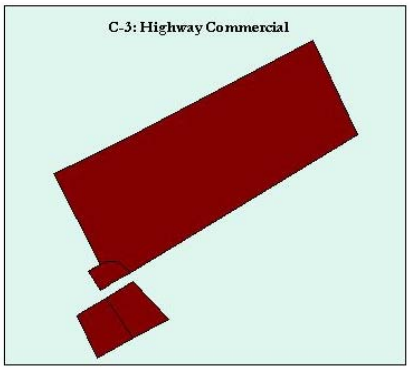

4. C-1: General Commercial: C-1 district is approximately 6 acres and is designed for the placement of small commercial operations. Base zoning lot requirements are not articulated in the *Ridgely Zoning Ordinance*. Residential use is discouraged. C-1 is located in the VPD. The purpose is to provide for a wide variety of business, commercial, and miscellaneous service activities, particularly along major thoroughfares (MD Route 480). It does include some heavier commercial uses.



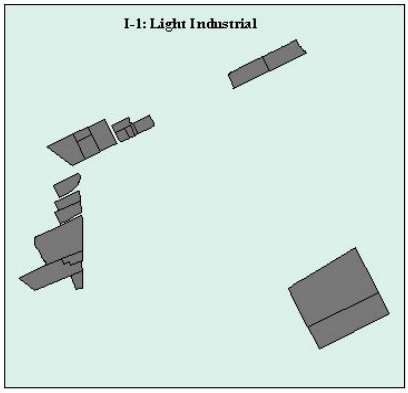

5. C-2 Central Business District: The C-2 district or Central Business District (CBD) is approximately 16 acres and is located within the historic VPD with a minimum lot size of 7,500 square feet. C-2 includes older commercial and retail centers in Ridgely. The preservation of the CBD is an important policy goal of the Town in relation to economic growth. Flexibility is intimated in process to assist in maintain the CBD for the community as a cultural and historic Town asset (primary draw for residents and visitors).



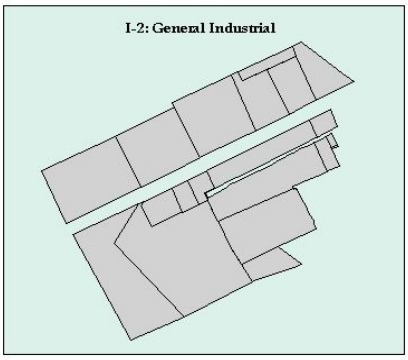

6. C-3 Highway Commercial: The C-3 district is approximately 26 acres and is located along MD 480, the major Town thoroughfare. C-3 has a minimum lot size of 20,000 square feet and is intended to serve larger retail operations and residential use is discouraged. This district's primary purpose is to provide for retail and service establishments for use by the traveling public. C-3 is located in a portion of the SPD, the VPD, and the SAPD.



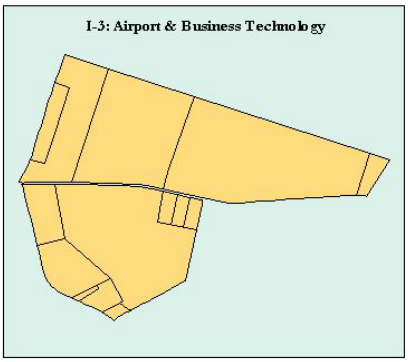
7. I-1 Light Industrial: The I-1 district is approximately 37 acres and is reserved for light industries that generate little noise, odor etc. and that do not require the processing of raw materials into a finished product. The minimum lot size is 20,000 square feet. This district provides for selective/limited warehousing and wholesale operations as well as the manufacturing and fabricating of materials in low buildings. I-1 areas are located in the SBIPD, NEPD, and the SPD.

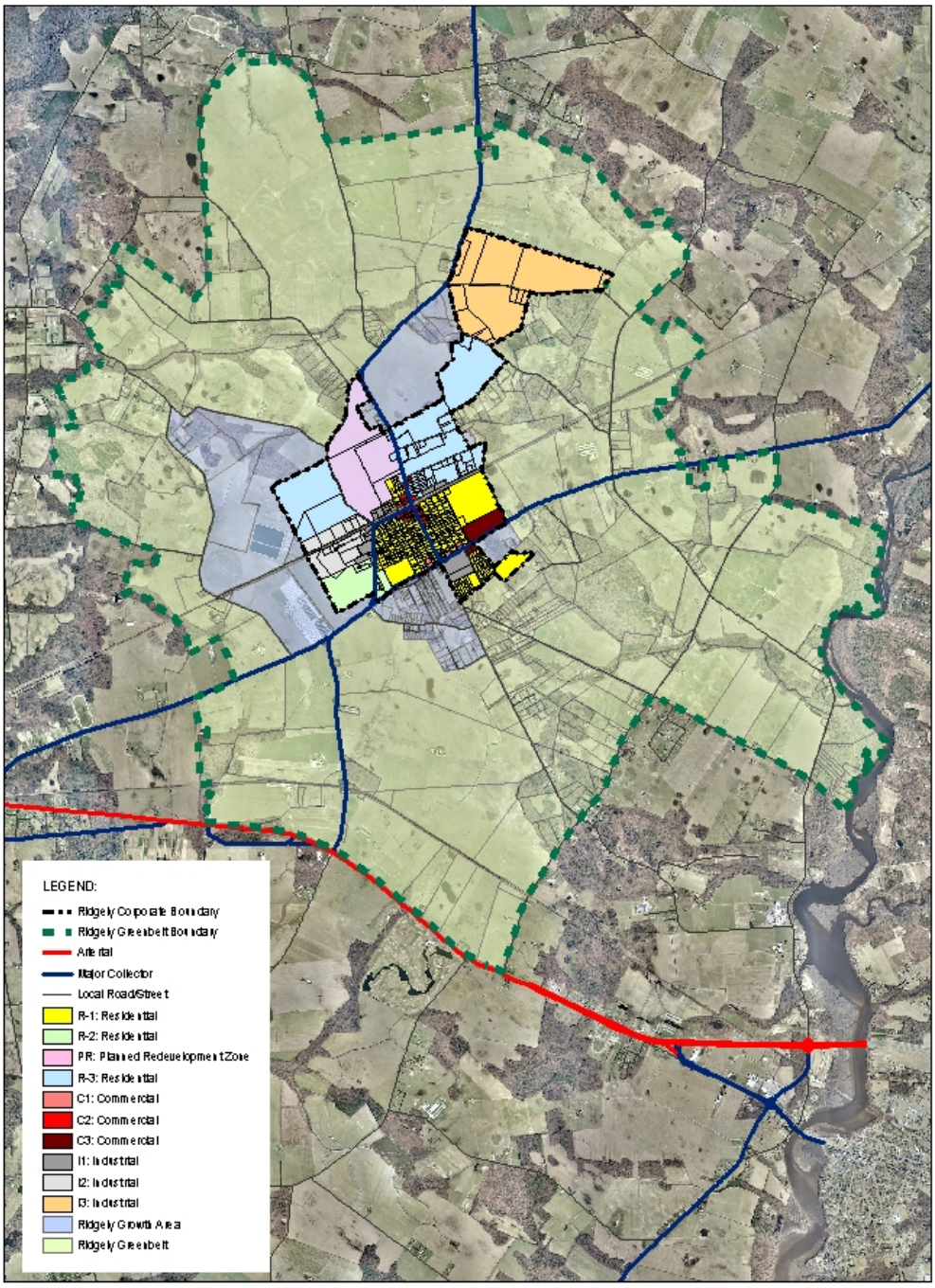



8. I-2 General Industrial: The I-2 district totals approximately 64 acres and is located in the SBIPD. The minimum lot size is 20,000 square feet. I-2 envisions heavier industrial uses than I-1. Much of the I-2 Zone is vacant.




9. I-3 Airport & Business Technology: The I-3 district is approximately 344 acres and includes the Ridgely Airport and Business Technology Park. It is located exclusively in the NEPD. Base zoning lot sizes are not listed in the *Ridgley Zoning Ordinance* and are unavailable. The "2003 Ridgely Ordinance Number 252" established I-3 zoning. The "2004 Ridgely Ordinance Number 254" established design guidelines for the I-3 Zone. The areas that constitute the I-3 Zone have been "Mater Planned" in coordination with Caroline County.






**Ridgely Comprehensive Plan**

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## Ridgely Zoning 2007

**Ridgely, Maryland**

Peter Johnston & Associates
Easton, Maryland

## APPENDIX C: RIDGELY TABLE OF USES – RIDGELY ZONING ORDINANCE

The following table provides a detailed description of uses from the Ridgely Zoning Ordinance. Zoning is a critical day-to-day function for any local government and provides the primary interface mechanism, in coordination, with planning, for public interaction. Most public questions regarding zoning center on "what is allowed" under the Ordinance and other additional requirements. Providing a link to the Table of Uses from the Ridgely E-GIS is important. In addition, other useful data for linking includes setbacks (height, area, bulk requirements), density, etc. as well as the presence of environmentally sensitive areas, some of which are regulated by the State and Federal government such as wetlands.

| TOWN OF RIDGELY, MARYLAND: USE TABLE – RIDGELY ZONING ORDINANCE (* SEE ADDITIONAL NOTES BELOW) | | | | | |
|---|---|---|---|---|---|
| **CLASSIFICATION** | **PERMIITED USE - PU** | **PERMITTED ACCESSORY USE - PAU** | **PERMITTED USE REQUIRING APPROVAL FROM THE PLANNING COMMISSION - PU-PC** | **SPECIAL EXCEPTION USE SUBJECT TO APPROVAL BY BOARD OF APPEALS - SEU** | **ADDITIONAL REGULATIONS - AR** |
| **R-1 – Single Family Residential District** | • Single family dwellings (detached);<br>• Farms and agricultural tillage – no poultry or livestock;<br>• *Churches, parish halls, temples, convents, rectories, monasteries;<br>• Colleges, public/private schools;<br>• *Temporary emergency construction or repair. | • Home occupations;<br>• Accessory buildings but not limited to accessory private garages (not more than 3 autos), granny flats, guest houses, swimming pools, home barbeque grills, accessory storage, accessory off-street parking/loading;<br>• *Temporary Buildings;<br>• Other accessory uses clearly incidental and customary with permitted uses. | • Day care centers;<br>• Family day care centers;<br>• Group homes;<br>• Bed and breakfasts;<br>• Inns;<br>• Private/Public profit or non-profit golf courses. | • Nonprofit or municipal libraries, museums, art galleries;<br>• Public utility installations for sewer, water, gas, electric, and telephone;<br>• Public parks and playgrounds, nonprofit/non-governmental recreation facilities;<br>• Cemeteries;<br>• Elderly housing developments;<br>• One accessory apartment per single-family house;<br>• Rest homes, nursing homes, funeral homes, medical offices, and minor institutions and treatment centers. | Section 14.0: Floating and Overlay Districts<br>Section 15.0: Supplemental Use Regulations<br>Section 16.0: Height, Area, and Bulk Regulations<br>Section 17.0: Parking, Loading, and Unloading Regulations<br>Section 18.0: Signs<br>Section 19.0 Non-conforming Uses |
| **R-2 – Mixed Residential District** | • Single family dwellings (detached);<br>• Farms and agricultural tillage – no poultry or livestock;<br>• *Churches, parish halls, temples, convents, rectories, monasteries;<br>• Colleges, public/private schools;<br>• *Temporary emergency construction or repair ;<br>• Two-family dwellings;<br>• Multi-family dwellings;<br>• Attached and semi-attached single family residences (including townhouses);<br>• Elderly housing developments. | • Home occupations;<br>• Accessory buildings but not limited to accessory private garages (not more than 3 autos), granny flats, guest houses, swimming pools, home barbeque grills, accessory storage, accessory off-street parking/loading;<br>• *Temporary Buildings;<br>• Other accessory uses clearly incidental and customary with permitted uses. | • Day care centers;<br>• Family day care centers;<br>• Group homes;<br>• Bed and breakfasts;<br>• Inns;<br>• Private/Public profit or non-profit golf courses. | • Nonprofit or municipal libraries, museums, art galleries;<br>• Public utility installations for sewer, water, gas, electric, and telephone;<br>• Public parks and playgrounds, nonprofit/non-governmental recreation facilities;<br>• Cemeteries;<br>• Elderly housing developments;<br>• One accessory apartment per single-family house;<br>• Rest homes, nursing homes, funeral homes, medical offices, and minor institutions and treatment centers. | Section 14.0: Floating and Overlay Districts<br>Section 15.0: Supplemental Use Regulations<br>Section 16.0: Height, Area, and Bulk Regulations<br>Section 17.0: Parking, Loading, and Unloading Regulations<br>Section 18.0: Signs<br>Section 19.0 Non-conforming Uses |
| **R-3 – Single Family/Agricultural District** | • Single family dwellings (detached);<br>• Farms and agricultural tillage – no poultry or livestock;<br>• *Churches, parish halls, temples, convents, rectories, monasteries;<br>• Colleges, public/private schools; | • Home occupations;<br>• Accessory buildings but not limited to accessory private garages (not more than 3 autos), granny flats, guest houses, swimming pools, home barbeque grills, accessory storage, | • Bed and breakfasts;<br>• Inns;<br>• Private/Public profit or non-profit golf courses. | • Nonprofit or municipal libraries, museums, art galleries;<br>• Public utility installations for sewer, water, gas, electric, and telephone;<br>• Public parks and playgrounds, nonprofit/non-governmental recreation | Section 14.0: Floating and Overlay Districts<br>Section 15.0: Supplemental Use Regulations<br>Section 16.0: Height, Area, and Bulk Regulations<br>Section 17.0: Parking, Loading, and Unloading Regulations<br>Section 18.0: Signs |

| | | | | | |
|---|---|---|---|---|---|
| | • *Temporary emergency construction or repair. | accessory off-street parking/loading;<br>• *Temporary Buildings;<br>• Other accessory uses clearly incidental and customary with permitted uses. | | facilities;<br>• Cemeteries;<br>• Elderly housing developments;<br>• One accessory apartment per single-family house;<br>• Rest homes, nursing homes, funeral homes, medical offices, and minor institutions and treatment centers. | Section 19.0 Non-conforming Uses |
| **C-1 – General Commercial District** | • Farms and agricultural tillage – no poultry or livestock;<br>• *Churches, parish halls, temples, convents, rectories, monasteries;<br>• Colleges, public/private schools;<br>• *Temporary emergency construction or repair;<br>• *Apartments in multi-story buildings, provided ground floor remains commercial;<br>• *Apartments in single-story buildings provided apartment is accessory apartment for owner or operator and principal portion of building remains commercial;<br>• Display room for merchandise to be sold;<br>• Dressmaking, tailoring, decorating, shoe repair, repair of household appliances and bicycles, dry cleaning and pressing, bakery, and other similar uses in character;<br>• Food storage lockers;<br>• *Hospital or clinic for animals, birds, cats, dogs etc.;<br>• *Material storage yards in connection with retail sales of products where storage is incidental;<br>• Offices and office buildings, including clinics;<br>• Personal use services including barber shops, banks, beauty parlors, photographic or artist studios, messengers, taxicabs, newspaper or telegraphic service stations, dry cleaning receiving stations, restaurants, taverns, undertaking establishments, and other personal | *Only such accessory uses and structures that are clearly incidental and customary to and associated with the list of permitted uses. | • Amusement place, skating rink, swimming pool, dance hall, auditorium or theater, open drive-in theaters;<br>• Automobile parking lots, storage garages;<br>• Bowling alleys and billiard parlors. | • Nonprofit or municipal libraries or museums and art galleries;<br>• Public utility installations for sewer, water, gas, electric, and telephone;<br>• Public parks and playgrounds, nonprofit/non-governmental recreation facilities;<br>• Cemeteries;<br>• Rest homes, nursing homes, funeral homes, medical offices, and minor institutions and treatment centers;<br>• *Automobile establishments subject to certain provisions;<br>• *Motor vehicle dealer (new or used);<br>• *Bottling works, dyeing and cleaning works, laundry, plumbing and heating shops, tire sales and service (but no manufacturing), appliance repairs and general services, and repair shops of similar character. | Section 14.0: Floating and Overlay Districts<br>Section 15.0: Supplemental Use Regulations<br>Section 16.0: Height, Area, and Bulk Regulations<br>Section 17.0: Parking, Loading, and Unloading Regulations<br>Section 18.0: Signs<br>Section 19.0 Non-conforming Uses |

| | | | | | |
|---|---|---|---|---|---|
| | use services of similar character;<br>• Printing, publishing, engraving;<br>• Retail stores, florist shops, green houses in connection with shops;<br>• Self service laundry or dry cleaning;<br>• *Wholesale establishments;<br>• Convenience stores;<br>• Shops – grocery, hardware, drug stores, small scale department stores, specialty shops;<br>• Funeral homes;<br>• Clubs and lodges;<br>• Banks (drive-in and other);<br>• Restaurants;<br>• Public/semi-public structures;<br>• Child and family day care centers. | | | | |
| **C-2 – Central Business District** | • Single family dwellings (detached);<br>• Farms and agricultural tillage – no poultry or livestock;<br>• *Churches, parish halls, temples, convents, rectories, monasteries;<br>• Colleges, public/private schools;<br>• *Temporary emergency construction or repair;<br>• *Apartments in multi-story buildings, provided ground floor remains commercial;<br>• *Apartments in single-story buildings provided apartment is accessory apartment for owner or operator and principal portion of building remains commercial.<br>• Display room for merchandise to be sold;<br>• Dressmaking, tailoring, decorating, shoe repair, repair of household appliances and bicycles, dry cleaning and pressing, bakery, and other similar uses in character;<br>• Food storage lockers;<br>• *Hospital or clinic for animals, birds, cats, dogs etc.;<br>• Bed and breakfasts, hotels, motels, motor hotels, and inns.<br>• *Material storage yards in connection with retail sales of products where storage is | *Only such accessory uses and structures that are clearly incidental and customary to and associated with the list of permitted uses. | • Amusement place, skating rink, swimming pool, dance hall, auditorium or theater, except open drive-in theaters;<br>• Bowling alleys and billiard parlors. | • Nonprofit or municipal libraries or museums and art galleries;<br>• Public utility installations for sewer, water, gas, electric, and telephone;<br>• Public parks and playgrounds, nonprofit/non-governmental recreation facilities;<br>• Cemeteries;<br>• Elderly housing developments;<br>• *One accessory apartment – per single family house;<br>• Rest homes, nursing homes, funeral homes, medical offices, and minor institutions and treatment centers;<br>• *Automobile establishments subject to certain provisions; | Section 14.0: Floating and Overlay Districts<br>Section 15.0: Supplemental Use Regulations<br>Section 16.0: Height, Area, and Bulk Regulations<br>Section 17.0: Parking, Loading, and Unloading Regulations<br>Section 18.0: Signs<br>Section 19.0 Non-conforming Uses |

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|---|---|---|---|---|---|
| | incidental;<br>• Offices and office buildings, including clinics;<br>• Personal use services including barber shops, banks, beauty parlors, photographic or artist studios, messengers, taxicabs, newspaper or telegraphic service stations, dry cleaning receiving stations, restaurants, taverns, undertaking establishments, and other personal use services of similar character;<br>• Printing, publishing, engraving;<br>• Retail stores, florist shops, green houses in connection with shops;<br>• Self service laundry or dry cleaning;<br>• *Wholesale establishments;<br>• Convenience stores;<br>• Shops – grocery, hardware, drug stores, small scale department stores, specialty shops;<br>• Funeral homes;<br>• Clubs and lodges;<br>• Banks (drive-in and other);<br>• Restaurants;<br>• Public/semi-public structures;<br>• Child and family day care centers. | | | | |
| **C-3 – Highway Commercial District** | • Farms and agricultural tillage – no poultry or livestock;<br>• *Churches, parish halls, temples, convents, rectories, monasteries;<br>• Colleges, public/private schools;<br>• Display room for merchandise to be sold;<br>• Dressmaking, tailoring, decorating, shoe repair, repair of household appliances and bicycles, dry cleaning and pressing, bakery, and other similar uses in character;<br>• Food storage lockers;<br>• *Hospital or clinic for animals, birds, cats, dogs etc.;<br>• Hotels, motels, motor hotels, and inns.<br>• *Material storage yards in connection with retail sales of products where storage is | *Only such accessory uses and structures that are clearly incidental and customary to and associated with the list of permitted uses. | N/A | • Building materials sales and lumberyards including incidental mill work;<br>• Public utility installations for sewer, water, gas, electric, and telephone. | Section 14.0: Floating and Overlay Districts<br>Section 15.0: Supplemental Use Regulations<br>Section 16.0: Height, Area, and Bulk Regulations<br>Section 17.0: Parking, Loading, and Unloading Regulations<br>Section 18.0: Signs<br>Section 19.0 Non-conforming Uses |

| | | | | | |
|---|---|---|---|---|---|
| | incidental;<br>• Offices and office buildings, including clinics;<br>• Personal use services including barber shops, banks, beauty parlors, photographic or artist studios, messengers, taxicabs, newspaper or telegraphic service stations, dry cleaning receiving stations, restaurants, taverns, undertaking establishments, and other personal use services of similar character;<br>• Printing, publishing, engraving;<br>• Retail stores, florist shops, green houses in connection with shops;<br>• Self service laundry or dry cleaning;<br>• *Wholesale establishments;<br>• Convenience stores;<br>• Shops – grocery, hardware, drug stores, small scale department stores, specialty shops;<br>• Funeral homes;<br>• Clubs and lodges;<br>• Banks (drive-in and other);<br>• Restaurants;<br>• Public/semi-public structures;<br>• Boat and marine sales dealerships;<br>• Auction houses or sales barns, excluding livestock sales;<br>• Roadside stands and farmers' markets;<br>• Agricultural equipment and machinery sales, service, or repairs;<br>• Wholesale establishment or warehouse;<br>• Automobile service establishments;<br>• Motor vehicle sales (new or used);<br>• Carwash facilities. | | | | |
| **I-1 – Light Industrial District** | • Bottling or distribution stations for beverages;<br>• Printing, publishing, binding, packaging, storage, and warehousing;<br>• Warehousing and mini-storage facilities;<br>• Light manufacturing activities which do not result in adverse noise, | • Retails sales products manufactured or processed on the premises;<br>• Other accessory uses and structures clearly incidental and customary to and associated with permitted uses. | N/A | • Any industrial or manufacturing uses which in the opinion of the Town Administrator could potentially have adverse noise, vibration, odor, dust, and air/water pollution impacts;<br>• Child day care centers;<br>• Day and family care centers. | Section 14.0: Floating and Overlay Districts<br>Section 15.0: Supplemental Use Regulations<br>Section 16.0: Height, Area, and Bulk Regulations<br>Section 17.0: Parking, Loading, and Unloading Regulations<br>Section 18.0: Signs<br>Section 19.0 Non-conforming Uses |

| | | | | | |
|---|---|---|---|---|---|
| | vibration, odor, dust, or smoke impacts;<br>• Public utility installations;<br>• *Building materials sales and lumberyards, including incidental mill work and the sales of rock, sand, gravel, and the like as an incidental part of the main business;<br>• Building contractor yard for storage of materials and equipment;<br>• Trucking and freight stations, terminals and storage yards;<br>• Warehousing, storage, and distribution facilities for agricultural products including livestock. | | | | |
| **I-2 – General Industrial District** | • Government buildings and public buildings such as fire stations;<br>• Bottling or distribution stations for beverages;<br>• Printing, publishing, binding, packaging, storage, and warehousing;<br>• Warehousing and mini-storage facilities;<br>• Light manufacturing activities which do not result in adverse noise, vibration, odor, dust, or smoke impacts;<br>• Public utility installations;<br>• *Building materials sales and lumberyards, including incidental mill work and the sales of rock, sand, gravel, and the like as an incidental part of the main business;<br>• Building contractor yard for storage of materials and equipment;<br>• Trucking and freight stations, terminals and storage yards;<br>• Warehousing, storage, and distribution facilities for agricultural products including livestock. | • Retails sales products manufactured or processed on the premises;<br>• Other accessory uses and structures clearly incidental and customary to and associated with permitted uses. | N/A | • Any industrial or manufacturing uses which in the opinion of the Town Administrator could potentially have adverse noise, vibration, odor, dust, and air/water pollution impacts;<br>• Child day care centers;<br>• Day and family care centers. | Section 14.0: Floating and Overlay Districts<br>Section 15.0: Supplemental Use Regulations<br>Section 16.0: Height, Area, and Bulk Regulations<br>Section 17.0: Parking, Loading, and Unloading Regulations<br>Section 18.0: Signs<br>Section 19.0 Non-conforming Uses |
| **Overlay and Floating Zones)** | *See Official *Ridgely Zoning Ordinance and Zoning Map* | *See Official *Ridgely Zoning Ordinance and Zoning Map* | *See Official *Ridgely Zoning Ordinance and Zoning Map* | *See Official *Ridgely Zoning Ordinance and Zoning Map* | *See Official *Ridgely Zoning Ordinance and Zoning Map* |

*NOTE: The "Table of Uses" for Ridgely, Maryland is a guidance document only to assist Town staff. It is not designed to supplement the official *Ridgely Zoning Ordinance and Zoning Map*, which contains detailed information regarding uses and other additional requirements and regulations. For adequate reference, please refer to the official *Ridgely Zoning Ordinance and Zoning Map* prior to issuing decisions, verdicts, permits, etc. or contact the Town's Zoning Administrator for assistance.

# THE TOWN OF RIDGELY
# 2008 COMPREHENSIVE PLAN

**Ridgely, Maryland**
**November 2008 Draft**

Prepared by Peter Johnston & Associates, LLC
In Coordination with the Ridgely Planning Commission

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# Introduction Introduction

The *2008 Ridgely Comprehensive Land Use Plan* (Comprehensive Plan) includes revisions to the 1997 *Ridgely Comprehensive Plan* as well as additions to meet applicable State laws. While this Plan is intended to describe growth policies for the Town, there are aspects of growth that relate to neighboring areas outside municipal boundaries. Therefore, abstracts from plans developed by Caroline County, Maryland also are included.

**PURPOSE OF THE PLAN**

The "Purpose" of the Comprehensive Plan is to provide a series of goals, objectives, and practical implementation recommendations to mange and direct growth and development in Ridgely.

## BACKGROUND

The Comprehensive Plan is the effort of the Ridgely Planning Commission and Town Commissioners to ensure that the municipality's positive traits are preserved and enhanced for residents and visitors alike. This Plan serves as a guide for making decisions regarding land use and growth management. The Comprehensive Plan review and update has been a group effort on behalf of the citizens of Ridgely and its government. The Plan is not intended to be a static document. It should be reviewed and updated periodically (every five or six years) to reflect new development trends, shifts in the economy, or changes in the community's goals and objectives.

## VISION STATEMENT

*"Ridgely will provide appropriate opportunities for employment within the community, while preserving the Village of Ridgely as an attractive rural community that encourages growth and development appropriate both in scale and scope with the existing community."*

Comprehensive planning and land-use regulation in Ridgely is an activity that the citizens of Town have undertaken and encourage because they value the type of community that Ridgely represents. The citizens of Ridgely wish to preserve that community for themselves and for their children. They also want to encourage others to come into their community to share their pleasure and responsibilities as citizens.

Central to the current appearance and quality of life benefits is the concept of the historic "Village of Ridgely." This includes a strong belief in the village atmosphere of the Town as the value of living in a small rural community surrounded by scenic agriculture and historic sites and structures. Accordingly, this Plan has been prepared to help ensure that the "Village of Ridgely" continues to prosper and remains a viable entity within the larger bounds of the Town's corporate limits.

In order to fulfill the Vision Statement, a set of goals, objectives, and recommendations have been developed to guide and manage Ridgely in a manner appropriate with the vision for the community. These goals are based on the desire to maintain the community and promote orderly growth. They also are based on the visions for growth management as developed by the State of Maryland, which encourages the revitalization of traditional communities such as Ridgely, while encouraging appropriate new development.

## WHAT WILL RIDGELY LOOK LIKE IN 2020?

The Comprehensive Plan is the future vision of Ridgely, in the context of its past, present, and potential future. The Plan contains practical and realistic recommendations for bringing the Town's vision into reality. The ideas behind the Plan are a distillation of the community's desires. The Comprehensive Plan seeks to create a better fit with development codes and the realities of "what's on the ground" to create more flexibility. The effect is to produce a simple plan, regulations, and processes to address land use and growth management.

What Ridgely will look like in the future depends on the community's vision as expressed in the Plan. It also depends on how effective that vision is translated into the regulatory process (implementation). It is the goal of this planning process to provide recommendations that begin to address the Town's implementation program. This includes the sufficiency of existing regulations, processes, and procedures. It also includes staffing and funding limitations, infrastructure, administration, and resource management.

The Comprehensive Plan will assist to prioritize strategies and actions to capitalize on structural strengths, mitigate conflicts, and develop effective regulations and procedures. A comprehensive plan is only as good as the ability to implement its goals and objectives. The vision of this Comprehensive Plan is to promote growth consistent with the traditions and history of the Town of Ridgely, Maryland.

## DEVELOPING THE RIDGELY COMPREHENSIVE PLAN

The purpose of the Comprehensive Plan is to provide a series of goals, objectives, and recommendations to manage and direct growth and development in Ridgely. The Comprehensive Plan is the result of Planning Commission and Town Commissioner efforts to understand the current condition of the Town, its historical growth patterns, and recent developments. These have all combined to create its present appearance and condition.

Once adopted, it becomes the basis for the preparation of specific policies, programs, and legislation, such as zoning and subdivision regulations, to implement the policies set forth in the Plan. Developing a Comprehensive Plan is the first step in a process that defines Town policies for future legislative action, including and most importantly, the development of laws. As a policy document, it is general in nature "a big picture process:" It encompasses the entire geographic area of the Town, including all functional elements that bear upon its physical development, such as

transportation, land use, and community facilities. The Comprehensive Plan also summarizes Ridgely's policies but does not establish detailed regulations. As a policy manual, the Comprehensive Plan reflects the laws and regulations of the State of Maryland and its various regulatory agencies. In addition, growth near Ridgely is heavily influenced by decisions made by the local government of Caroline County, Maryland and the general and specific topography and geography of the region.

## COMPONENTS OF A GROWTH MANAGEMENT PROGRAM

The Comprehensive Plan provides the basic framework and direction for all components of what may be considered the Town's planning program. The Comprehensive Plan is not a "stand-alone" document but is supported and, in turn, supports related planning and zoning program documents such as the following:

- Ridgely Zoning Ordinance;
- Ridgely Subdivision Regulations;
- Ridgely Capital Improvements Plan & Budget-CIP;
- Ridgely Water & Sewer Facilities Plans; and
- Ridgely Design Guidelines.

## MARYLAND PLANNING LAWS AND POLICIES

### ARTICLE 66B – PLANNING & ZONING ENABLING ACT

*Article 66B of the Annotated Code of Maryland* is the Planning and Zoning enabling legislation from which the Town of Ridgely derives its powers to regulate land use. Section 3.05 of the Article sets forth the minimum requirements for a comprehensive plan which shall include, among other things:

- A statement of goals and objectives, principles, policies, and standards;
- A land use plan element;
- A transportation plan element;
- A community facilities plan element;
- A mineral resources plan element, if current geological information is available;
- An element that addresses land development regulations to implement the plan;
- An element containing the planning commission's recommendations for land development regulations to implement the plan; and
- Other elements deemed appropriate, such as a community renewal section, housing, conservation, natural resources, heritage preservation, etc. at the discretion of the commission.

The context for planning in the Town of Ridgely must account for the growth management policies established by the State of Maryland in the Planning and Zoning Act. These policies or State "visions" include the following:

**MARYLAND ARTICLE 66B**

Article 66B of the Annotated Code of Maryland: *Planning & Zoning Enabling Act* is the State's preeminent planning law, providing jurisdictions power over local land use and growth management decisions.

1. Development is concentrated in suitable areas;
2. Sensitive areas are protected;
3. In rural areas, growth is directed to existing population centers and resources are protected;
4. Stewardship of the Chesapeake Bay and the land is a universal ethic;
5. Conservation of resources, including a reduction in resource consumption;
6. Economic growth is encouraged and regulatory mechanisms are streamlined;
7. Adequate public facilities and infrastructure under the control of the county or municipal corporation are available or planned in areas where growth is to occur; and
8. Funding mechanisms are addressed to achieve these "Visions."

As the State's pre-eminent growth management law, Article 66B requires that county and municipal plans be coordinated. Each county and municipality within Maryland is required to update their comprehensive land use plans and implementing provisions every six (6) years. This Comprehensive Plan has been prepared to meet the State's eight visions.

### MARYLAND ECONOMIC GROWTH, RESOURCE PROTECTION & PLANNING ACT OF 1992

The *Maryland Economic Growth, Resource Protection and Planning Act of 1992* added the requirement that a comprehensive plan must contain a Sensitive Areas Element, which describes how the jurisdiction will protect the following:

- Streams and stream buffers;
- 100-year floodplains;
- Endangered species habitats;
- Nontidal wetland;
- Steep slopes; and
- Other sensitive areas a jurisdiction wants to protect from the adverse impacts of development.

## NEIGHBORHOOD CONSERVATION & SMART GROWTH AREAS ACT OF 1997

In 1997, the Maryland General Assembly enacted the *Neighborhood Conservation and Smart Growth Areas Act* (Smart Growth). The intent of the legislation is to marshal the State's financial resources to support growth in Maryland's communities and limit development in agricultural and other resource conservation areas. At the heart of the Smart Growth concept are the "Priority Funding Areas" (PFA's), which represent local growth areas for targeted State funding. PFA's include municipalities, rural villages, communities, industrial areas, and planned growth areas to be served by public water and sewerage.

**PRIORITY FUNDING AREAS – PFA'S**

Lands within "Growth Areas" may be designated as a PFA provided sewer service is planned in a 10 year period and included in the *Caroline County Water & Sewerage Plan*, provided such designation is a long-term and planned development policy reflected in the Town's Comprehensive Plan.

The 8th "Vision" of Article 66B creates consistency between the Planning and Zoning Enabling Act and Smart Growth by requiring adequate public infrastructure for State funding. Plans must show designated "Growth Areas" including areas planned for annexation by municipalities. Lands within local growth boundaries may be designated as a Priority Funding Area (PFA) provided sewer service is planned in a 10-Year Water and Sewerage Plan and provided such designation is a long-term and planned development policy that promotes efficient land use and public infrastructure. Plans must include areas considered as PFA's, such as planned water and sewerage service areas, residential development areas, industrial development areas, economic development areas, and parks.

## MARYLAND STATE FINANCE AND PROCUREMENT ARTICLE

Maryland has procedures to ensure that public infrastructure improvements are consistent with growth policies, as defined in the law. The Planning and Zoning Enabling Act stipulates that a local government "may not approve a local construction project involving the use of State funds, grants, loans, loan guaranties, or insurance, unless the project is consistent with the State's "Visions."

The Maryland State Finance and Procurement Article links the concept of Priority Funding Areas to State financial assistance funding for infrastructure and other related projects. Under Title 5; Subtitle 7B-03 of the State Finance and Procurement Article, funding for growth-related projects will be provided by the State "…only if the project serves to maintain the character of the community and does not serve to increase the growth capacity of the community except for limited peripheral or in-fill development."[1] The law continues by stating that "…if an existing community receives a public or community sewer system, an area beyond the periphery of the developed

[1] *State Finance & Procurement Article*; Title 5, Subtitle 7B-03.

portion of the existing community may be designated as a priority funding area, if the development has a permitted average density of at least 3.5 units per acre and is served by a public or community sewer system."[2]

Ridgely's corporate boundaries as of 1997 are considered a State "Certified" Priority Funding Area, according to Maryland Department of Planning data. In addition, the newly annexed properties that constitute the Ridgely Airport and Business Technology Park also are considered "Certified" Priority Funding Areas by the State. Under Title 5; Subtitle 7B-03, "An area, other than an existing community (Town etc.), may be designated as a priority funding area if the area is within a locally designated growth area of the local government and is planned to be served under the approved 10-year water and sewer plan."

### MARYLAND HOUSE BILL 1141

In 2006, the Maryland State Legislature passed House Bill 1141 (HB 1141), which provides for Amendments to Article 66B: "Planning & Zoning Enabling Act" and Article 23A: "Municipal Annexation Act" of the Annotated Code of Maryland. Amendments include provisions for the inclusion of a "Water Resources Element" and "Municipal Growth Element" in local comprehensive plans.

**HOUSE BILL 1141**

HB 1141 requires a "Municipal Growth Element" and a "Water Resources Element" for all comprehensive plans. HB 1141 strongly encourages inter-jurisdictional coordination and cooperation with the County and State for effective growth management.

Municipal and County coordination was a much debated topic in the 2006 Maryland General Assembly session. HB 1141 establishes additional substantive and procedural requirements for municipalities preparing comprehensive plans. This includes inter-governmental coordination for land use and growth management planning.

Information developed under the provisions of HB 1141 will be reviewed and evaluated by State agencies including the Maryland Departments of the Environment, Natural Resources, and Planning. Some provisions of the Bill are not effective until October 2009. Substantive procedural requirements include the following:

- The Town must include in its Comprehensive Plan a "Municipal Growth Element" that specifies where Ridgely intends to grow, if at all, outside its existing corporate limits. It also must discuss how the Town intends to address services, infrastructure, and environmental protection needs for the Growth Area.

[2] Ibid.

- The Town must develop the "Municipal Growth Element" in coordination with Caroline County. Prior to approving a Growth Element, the Town must provide a copy to the County, accept comments from the County, meet and confer with the County, and, on request from either entity, engage in mediation to facilitate the Growth Element.

- The Town and County must include in their respective comprehensive plans a "Water Resource Plan Element" that identifies drinking water and other water resources to meet current and future demands. It also must identify suitable water and land areas to receive stormwater and wastewater derived from development.

- In order for land annexed after September 2006 to qualify for State assistance as a Priority Funding Area-PFA, the Town must complete an analysis of land capacity available for development. This includes infill and redevelopment. It also includes an analysis of land as needed to satisfy demand for development.

- House Bill 1141 gives affected local governments until October 1, 2009 to update their comprehensive plans to include the Water Resources Element, now required by existing law. There is the possibility of one to two six month extensions for good cause. Local governments that have not updated their plans by that time may not change the zoning classification of a property until their updates are complete.

- The Town must develop and share with other planning agencies an "Annexation Plan" that is consistent with its Growth Element in the Comprehensive Plan.

HB 1141 requires the Maryland Department of the Environment-MDE to provide technical assistance to local governments regarding the development of a Water Resources Element. The Maryland Department of Planning-MDP also is required to provide technical assistance to a municipality regarding the "Municipal Growth Element." MDP encourages municipalities and counties to participate in joint planning processes and agreements.

HB1141 changes the current "5-Year Rule." In the past, the "5-Year Rule" would allow a County to delay municipal zoning on a newly annexed area. Under HB 1141, if land uses under a proposed municipal zoning for an annexed area are substantially different from the land uses specified for the area in a county comprehensive plan, mitigation may be required (if the county fails to approve the change). The new standard under HB 1141 will be to determine whether a substantial difference exists between the land uses and densities permitted under proposed town zoning and the land uses for an annexed area, including densities, permitted under the current county zoning. The mandates of HB 1141 indicate a strong need to coordinate new growth closely with the County and State.

# COMPREHENSIVE PLANNING FOR RIDGELY

Comprehensive planning and land-use regulation in Ridgely takes its authority from Article 66B of the Annotated Code of Maryland, as discussed above, and from the Charter of Ridgely. Both documents enable the Town Commission to create plans, prepare zoning regulations, and control the Town's growth and development.

Although, the universal opinion in Ridgely has been to preserve the scale and amenities of the village, Town residents have also demonstrated that they are interested in orderly growth and development on an appropriate scale. Much of the land in Ridgely is open space or agricultural land. The retention of this land for agricultural use, along with the agricultural land surrounding municipal boundaries is important. However when that land is developed and changed from its current use, the goal is for that land to be converted to residential use or for recreational or cultural use to the benefit of Ridgely. This is especially important for agricultural land and open space that immediately surrounds the Town but is located and managed by Caroline County and not by the Town of Ridgely.

Laws, regulations, and policies set by the State of Maryland are designed to encourage residential growth around existing communities that have sufficient infrastructure to service new development. Ridgely is one of those communities with sufficient water and sewer capacity to accommodate new development. The planned increases for Ridgely and its population constitute "good planning," which has been encouraged by both Caroline County and the State of Maryland.

It is important that Ridgely influences and exercises control over the type of development that may occur around its borders. The most important mechanism that Ridgely has to influence events and building in its immediate environs is to strictly and properly control its water and sewer capacity. This will ensure that areas are provided Town water and sewer service, which will be compatible with the growth policies developed as a result of this Plan.

### THE PURPOSE OF THE RIDGELY COMPREHENSIVE PLAN

Ridgely recognizes the reality of growth concluding that "standing still or going backward are not real options." In this regard, a proactive approach was chosen, while also highlighting the need to preserve the Town's distinctive character and resources. As the Town grows, demands for its services and assistance also will grow. The Comprehensive Plan recognizes this reality and incorporates a number of actions for the Town Commission and for the Planning Commission to undertake in the near future. Among these initiatives are:

1. Develop a capital improvements plan to ensure that Ridgely needs and infrastructure are adequately maintained and capable of supporting the Town's requirements;
2. Initiate comprehensive rezoning of the entire community, based upon the contents of this Plan.
3. Develop subdivision regulations for future growth that will allow for the orderly development of open space within the Town and protect the Village of Ridgely;
4. Continue to encourage the revitalization of the older residential neighborhoods and the Central Business District (CBD);
5. Ensure the preservation and rehabilitation of the Town's many older and historic buildings, in accordance with Design Standards.
6. Provide opportunities for new industrial and commercial growth in appropriate areas;
7. Maintain design standards and goals for all new nonresidential construction and alteration;
8. Provide recreational opportunities for all segments of Ridgely's population; and
9. Ensure the cooperation among all levels of government that directly impacts on the lives of the residents of Ridgely.

The 2008 *Ridgely Comprehensive Plan* includes many suggestions and recommendations for action on the part of the Planning Commission, the Town Commission, as well as the citizens of Ridgely. As with any plan, it is only as good as its implementation on the part of the government and its citizens. If the goals of this Plan are to succeed, the Town must incorporate the recommendations of the Plan into actions; either by ordinance or by resolution. Among the Town's priorities is the review and update of the *Ridgely Zoning Ordinance*, *Ridgely Subdivision Regulations*, and *Ridgely Design Guidelines* to ensure the protection of the "Village of Ridgely" through the creation of effective controls for the growth and revitalization of the community.

# Chapter 1 Existing Conditions

"Existing Conditions" describes past and present demographic trends and patterns for the Town of Ridgely in Caroline County, Maryland. This includes social demographics, such as population growth and housing characteristics. It also includes economic demographics such as income and poverty characteristics.

## POPULATION GROWTH

The population of Ridgely remained fairly stable throughout the 20th Century until the 1990s, when it began to increase sharply. The Town's earlier growth remained insubstantial from decade to decade prior to 1990, sometimes only varying by 50 people or less. However, between 1990 and 2000, the U.S. Census recorded an approximate 31% increase in population, bringing the total from 1,034 to 1,352 residents as shown in Table 1-1. This increase was largely due to new development and housing construction in the Town.

**TABLE 1-1: COUNTY & MUNICIPAL POPULATION PROJECTIONS**

| Classification | 1990 Population | 2000 Population | % Change 1990-2000 | 2005 Population | % Change 2000-2005 | 2006 Population* | % Change 2005-2006 |
|---|---|---|---|---|---|---|---|
| **Caroline County** | **27,035** | **29,772** | **10.1%** | **31,805** | **6.8%** | **32,617** | **2.6%** |
| Denton | 2,977 | 2,960 | -0.6% | 3,280 | 10.8% | 3,552 | 8.3% |
| Federalsburg | 2,365 | 2,620 | 10.8% | 2,635 | 0.6% | 2,649 | 0.5% |
| Goldsboro | 185 | 216 | 16.8% | 210 | -2.8% | 209 | -0.5% |
| Greensboro | 1,441 | 1,632 | 13.3% | 1,951 | 19.5% | 1,958 | 0.4% |
| Henderson | 66 | 118 | 78.8% | 121 | 2.5% | 122 | 0.8% |
| Hillsboro | 164 | 163 | -0.6% | 158 | -3.1% | 158 | 0.0% |
| Marydel | 143 | 147 | 2.8% | 143 | -2.7% | 143 | 0.0% |
| Preston | 437 | 566 | 29.5% | 582 | 2.8% | 644 | 10.7% |
| **Ridgely** | **1,034** | **1,352** | **30.8%** | **1,364** | **0.9%** | **1,485** | **8.9%** |

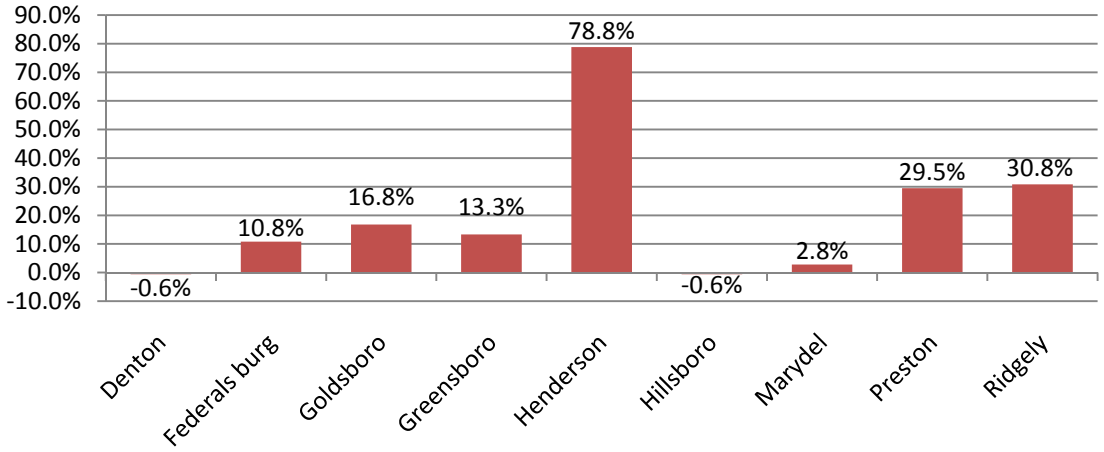
*Maryland Department of Planning Estimate

Sources: 1990 and 2000 U.S. Census; MD Department of Planning 2006 Municipal Population Estimates

As shown in Figure 1-1 below, a comparison of the 1990-2000 population increase in municipalities for Caroline County reveals a significant increase in a number of towns, most notably Henderson, Preston, and Ridgely, where the population grew by 30%. Maryland Department of Planning (MDP) municipal population estimates reflect an average annual growth rate for Ridgely of 1.5% between 2000 and 2006.

While the growth of Ridgely during the 1990s seemed to be part of a County-wide trend for municipalities at the time, the additional growth estimated by MDP for 2005-2006 is only evident in Denton, Preston, and Ridgely, which indicates that these towns are still experiencing significant growth.

**FIGURE 1-1: Population Change 1990-2000 Caroline County Municipalities**




As shown in Table 1-2, percentages of growth derived from MDP's annual population estimates for Ridgely for the period from July 1, 2000 to July 1, 2006 vary from a low of -1.2% for 2003 -2004 to a high of 8.9% from 2005 - 2006. Based on these MDP estimates, the average annual percentage of growth for the Town of Ridgely for that period was 1.5%. This was the fourth highest growth rate of the County's nine municipalities.

**TABLE 1-2: ANNUAL MUNICIPAL GROWTH 2000 – 2006 (CAROLINE COUNTY MUNICIPALITIES)**

| Classification | 2000-2001 | 2001-2002 | 2002-2003 | 2003-2004 | 2004-2005 | 2005-2006 | Avg. Annual Growth |
|---|---|---|---|---|---|---|---|
| Denton | -0.2% | 0.6% | 0.8% | 3.1% | 4.1% | 8.3% | 2.8% |
| Federalsburg | -0.7% | -0.3% | 0.8% | -1.0% | 0.7% | 0.5% | 0.0% |
| Goldsboro | -0.9% | -0.5% | 0.0% | -1.4% | 0.0% | -0.5% | -0.5% |
| Greensboro | -0.1% | 0.7% | 3.9% | 2.4% | 11.0% | 0.4% | 3.0% |
| Henderson | 0.0% | 0.8% | 0.8% | 0.0% | 0.8% | 0.8% | 0.6% |
| Hillsboro | -1.2% | 0.0% | 0.0% | -1.9% | 0.0% | 0.0% | -0.5% |
| Marydel | -0.7% | -0.7% | 0.0% | -1.4% | 0.0% | 0.0% | -0.5% |
| Preston | -0.4% | 0.7% | 1.9% | -1.2% | 1.7% | 10.7% | 2.2% |
| **Ridgely** | **-0.7%** | **0.3%** | **0.7%** | **-1.2%** | **1.0%** | **8.9%** | **1.5%** |

Source: Maryland Department of Planning Municipal Population Estimates

# POPULATION CHARACTERISTICS

## AGE & GENDER

As shown in Table 1-3, the median age in Ridgely is 32.6 years of age, the approximate middle of the range of median ages for Caroline County municipalities. There are more people between the ages of 25 and 44 years old (the prime workforce age range) and under 18 (school-age children) in Ridgely than there are in any other age groups. Ridgely has one of the lowest percentages of people aged 65 and older in the County (10.8%). Women outnumber men in the Town by a little more than 10 percent.

**TABLE 1-3: AGE COMPARISONS**

| Classification | Total Pop. | Percent of total population | | | | | Median age (years) | Males per 100 females | |
|---|---|---|---|---|---|---|---|---|---|
| | | Under 18 years | 18 to 24 years | 25 to 44 years | 45 to 64 years | 65 yrs & over | | All ages | 18 yrs and over |
| Denton | 2,960 | 23.3 | 8.3 | 26.8 | 19.6 | 22 | 38.9 | 87.3 | 80.4 |
| Federalsburg | 2,620 | 30.8 | 9.7 | 26 | 19.4 | 14.2 | 33.2 | 81.8 | 74.9 |
| Goldsboro | 216 | 31.5 | 5.6 | 31 | 21.3 | 10.6 | 32 | 98.2 | 102.7 |
| Greensboro | 1,632 | 32.4 | 9.4 | 29.4 | 16.5 | 12.3 | 31.1 | 85 | 80.8 |
| Henderson | 118 | 31.4 | 11 | 31.4 | 17.8 | 8.5 | 31 | 96.7 | 92.9 |
| Hillsboro | 163 | 20.9 | 9.8 | 33.1 | 23.3 | 12.9 | 36.8 | 94 | 87 |
| Marydel | 147 | 28.6 | 12.2 | 31.3 | 18.4 | 9.5 | 31.5 | 116.2 | 133.3 |
| Preston | 566 | 25.3 | 4.9 | 38.2 | 17.1 | 14.5 | 35.6 | 101.4 | 93.2 |
| **Ridgely** | **1,352** | **30.4** | **8.1** | **31.1** | **19.6** | **10.8** | **32.6** | **89.6** | **87.1** |

*Source: 2000 U.S. Census

## HOUSEHOLDS

As shown in Table 1-4, approximately, 68% of the 513 households in Ridgely are family households. Of those, about 40% have children under 18 living in the home. Half of all family households are married couples with families; 15% of family households are headed by females with no husband in the home. Of non-family households, 27% are householders living alone, and about 11% of those are people aged 65 and older. The average household size in Ridgely is 2.63 people; the average family household is 3.21 people.

| TABLE 1-4: COMPARISONS OF HOUSEHOLDS & FAMILIES | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|
| | | Percent of total households | | | | | | | Average Pop. per- | |
| | | Family households | | | | Nonfamily households | | | | |
| | | | | Type of family | | | Householder living alone | | | |
| Classification | Total house-holds | Total | With own children under 18 yrs | Married couple family | Female householder no husband present | Total | Total | 65 yrs and over | House-hold | Family |
| Denton | 1,140 | 61% | 31% | 38% | 18% | 39% | 34% | 15% | | |
| Federalsburg | 1,045 | 68% | 37% | 38% | 25% | 32% | 27% | 14% | 25% | 30% |
| Goldsboro | 77 | 77% | 38% | 55% | 13% | 23% | 21% | 78% | 28% | 32% |
| Greensboro | 616 | 66% | 41% | 42% | 20% | 34% | 29% | 14% | 26% | 33% |
| Henderson | 42 | 69% | 41% | 41% | 24% | 31% | 21% | 48% | 28% | 33% |
| Hillsboro | 71 | 63% | 30% | 52% | 85% | 37% | 30% | 11% | 23% | 27% |
| Marydel | 47 | 70% | 38% | 49% | 17% | 30% | 26% | 85% | 30% | 34% |
| Preston | 225 | 75% | 32% | 62% | 98% | 25% | 20% | 71% | 25% | 29% |
| **Ridgely** | **513** | **68%** | **40%** | **50%** | **15%** | **32%** | **27%** | **11%** | **26%** | **32%** |

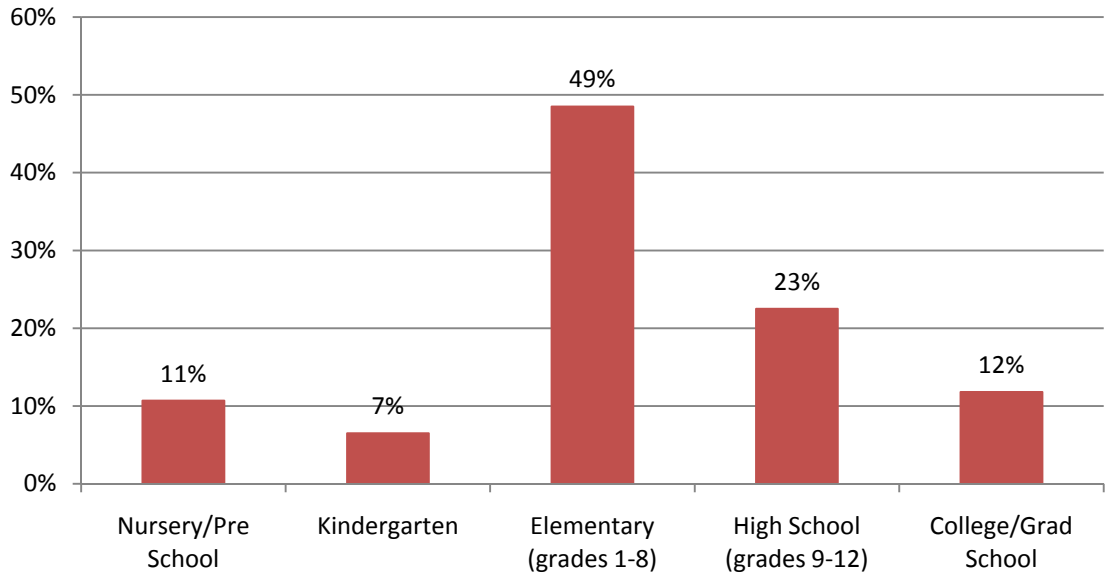
*Source: 2000 U.S. Census

Note: The U.S. Census defines a family as a householder and one or more other people living in the same household who are related to the householder by birth, marriage, or adoption. All people in a household who are related to the householder are regarded as members of his or her family. A household can contain only one family for purposes of census tabulations. Not all households contain families since a household may be a group of unrelated people or one person living alone. Families are classified by type as either a ''married-couple family'' or an ''other family'' according to the presence of a spouse. ''Other family'' is further broken out according to the sex of the householder. The data on family type are based on answers to questions on sex and relationship that were asked on a 100-percent basis. A married-couple family is a family in which the householder and his or her spouse are enumerated as members of the same household.

## EDUCATION

As indicated in Figure 1-2, one quarter (1/4) of the population of Ridgely (338 people, aged 3 years and older) attends school. Nearly half of them (49%) are enrolled in elementary school. Children attending high school account for 23% of all enrollments; the percentages of students attending nursery/preschool (11%) and students attending college/graduate school (12%) are almost equal. Kindergartners comprise the remainder of school enrollments.

**FIGURE 1-2: School Enrollment**




As shown in Table 1-5, 9% of the population aged 25 years and older has less than a ninth grade education. Nearly 70% of this age group has at least a high school diploma. Among 25 to 34 year olds in Ridgely, about 7% have a bachelor's degree or higher. Of the nine municipalities in Caroline County, only five have a percentage of 25 to 34 year olds who hold college degrees.

**TABLE 1-5: SCHOOL ENROLLMENT & EDUCATIONAL ATTAINMENT**

| Classification | Population 16 to 19 yrs - % not enrolled in school and not a high school graduate | Population 18 to 24 yrs--% enrolled in college or graduate school | Population 25 years and over | | | Population 25 to 34 yrs - Percent with bachelor's degree or higher |
|---|---|---|---|---|---|---|
| | | | Percent with less than a 9th grade education | Percent high school graduate or higher | Percent with bachelor's degree or higher | |
| Denton | 9.8 | 13.4 | 8.9 | 22.3 | 17.4 | 22.3 |
| Federalsburg | 10.5 | 10.2 | 11.1 | 2.6 | 5.2 | 2.6 |
| Goldsboro | 75 | 13.3 | 10.8 | 0 | 0.6 | 0 |
| Greensboro | 3 | 12.7 | 8.5 | 8.2 | 9.2 | 8.2 |
| Henderson | 40 | 0 | 5.4 | 0 | 2.7 | 0 |
| Hillsboro | 0 | 18.8 | 2.7 | 0 | 9 | 0 |
| Marydel | 0 | 20 | 30.1 | 0 | 0 | 0 |
| Preston | 23.8 | 18.5 | 2.9 | 21.8 | 19.2 | 21.8 |
| **Ridgely** | **8.1** | **15.8** | **8.7** | **8.6** | **10.4** | **8.6** |

*Source: 2000 U.S. Census

## EMPLOYMENT

As shown in Table 1-6, about 70% of the population aged 16 and older is in Ridgely's labor force. Females account for 60% of the total labor force, and of those women, about 68% have children under the age of six. The average commute time for workers is 32.3 minutes. About 16% of the workforce commutes to work in carpools. No one uses public transportation as a means of commuting. A little more than half of all workers commute to jobs outside of Caroline County.

**TABLE 1-6: COMPARISON OF EMPLOYMENT STATUS & COMMUTING TO WORK**

| | Population 16 years and over % in labor force | | | | Own children % with all parents in family in labor force | | Workers 16 years and over | | | |
|---|---|---|---|---|---|---|---|---|---|---|
| | | Female | | | | | | | | |
| Classification | Total | Total | With own children under 6 years | Civilian labor force Percent un employed | Under 6 years | 6 to 17 years | % in carpools | % using public trans. | Who did not work at home- Mean travel time to work (minutes) | % worked outside county of residence |
| Denton | 53.4 | 53.6 | 82.9 | 4.3 | 78 | 79.9 | | | | |
| Federalsburg | 59.1 | 52.8 | 72.1 | 5.2 | 71.6 | 71.6 | 22.4 | 0.5 | 25 | 44 |
| Goldsboro | 71.6 | 58.4 | 94.4 | 0 | 96.8 | 65.8 | 10.7 | 1.7 | 42.5 | 69.4 |
| Greensboro | 64.9 | 60.7 | 74.5 | 6.6 | 67.2 | 71.9 | 19.4 | 0.3 | 29.2 | 55.6 |
| Henderson | 66.3 | 52.9 | 50 | 6.3 | 66.7 | 88.9 | 13.6 | 0 | 29.7 | 50.8 |
| Hillsboro | 73.7 | 62.3 | 80 | 4.2 | 66.7 | 70.6 | 21.7 | 0 | 28.5 | 78.3 |
| Marydel | 60 | 56.1 | 66.7 | 5.8 | 70.6 | 53.3 | 0 | 0 | 25.8 | 79.1 |
| Preston | 72.3 | 65.9 | 64.1 | 2.3 | 73.1 | 70.8 | 11.6 | 0 | 28.2 | 64.3 |
| **Ridgely** | **68.5** | **60** | **67.7** | **8.7** | **59.4** | **70.5** | **15.7** | **0** | **32.3** | **52.2** |

*Source: 2000 U. S. Census

As shown in Table 1-7, nearly a quarter (24.7%) of Ridgely's workforce is employed in sales and office occupations. The next largest percentage of the workforce (23.4%) is employed in production, transportation, or material moving occupations. Equal percentages of workers (17.1%) are employed in management/professional occupations and construction/extraction/maintenance occupations. Some 16% of the labor force is employed by local, state, or federal government, the third highest percentage of government workers of all Caroline County municipalities. Less than 2% of the working population is employed in the agricultural/forestry/fishing/hunting industries. As of 2000, Ridgely had the highest unemployment rate of all Caroline County municipalities at nearly 9%.

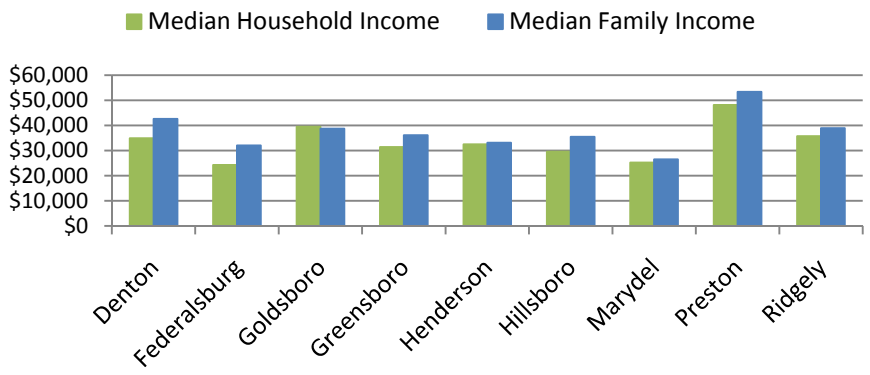
| TABLE 1-7: OCCUPATION, INDUSTRY, & CLASS OF WORKER | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|
| | Percent distribution by occupation | | | | | | % in selected industries | | |
| Classification | Management professional, & related | Service occupations | Sales & office occupations | Farming, fishing & forestry occupations | Construction, extraction, & maintenance occupations | Production, transportation & material moving occupations | Agriculture, forestry, fishing & hunting | Manufacturing | % gov't workers - local state, federal |
| Denton | 35.5 | 18.6 | 24.4 | 0.5 | 9.4 | 11.5 | 0.5 | 12.1 | 20.7 |
| Federalsburg | 11 | 15.8 | 31.1 | 0.8 | 11.9 | 29.5 | 2.1 | 23.5 | 12.4 |
| Goldsboro | 13.7 | 16.8 | 19.8 | 0 | 25.2 | 24.4 | 2.3 | 15.3 | 7.6 |
| Greensboro | 19.5 | 17.4 | 24 | 1.3 | 16.5 | 21.2 | 0.7 | 15.8 | 14.5 |
| Henderson | 13.6 | 23.7 | 16.9 | 0 | 16.9 | 28.8 | 0 | 10.2 | 3.4 |
| Hillsboro | 12 | 17.4 | 31.5 | 0 | 14.1 | 25 | 0 | 4.3 | 3.3 |
| Marydel | 10.2 | 20.4 | 20.4 | 0 | 14.3 | 34.7 | 4.1 | 26.5 | 2 |
| Preston | 28 | 11.5 | 35.8 | 0 | 8.4 | 16.2 | 1 | 8.8 | 17.9 |
| **Ridgely** | **17.1** | **16** | **24.7** | **1.6** | **17.1** | **23.4** | **1.6** | **12.3** | **16** |
| *Source: 2000 U. S. Census | | | | | | | | | |

# INCOME & POVERTY

## INCOME & POVERTY INDEX

In 1999, Ridgely's "Median Household Income" was the second highest of all Caroline County municipalities at $35,750. "Median Family Income" was the third highest of all County municipalities at $38,929. Ridgely ranked in the middle of all County municipalities for per capita income, which was approximately $15,581. Although women outnumbered men in the workforce, men out-earned women by about 38%.

**FIGURE 1-3: Income Characteristics**



Although Ridgely's median income is higher than most Caroline County municipalities, evidence exists that a sizeable portion of the population is experiencing some level of economic hardship. Nearly half of the students who attended Ridgely Elementary School (44%) and Lockerman Middle School (45%) are eligible for the school's free lunch program, compared to the State average of 32%.

**TABLE 1-8: RIDGELY HOUSEHOLD EARNING BELOW MEDIAN INCOME**

| 1999 Income | Percentage |
|---|---|
| Less than $35,000 | 49% |
| $35,000 to $49,999 | 21.7% |
| $50,000 to $74,999 | 18.2% |
| $75,000 to $99,999 | 5% |
| $100,000 to $149,999 | 4.6% |
| $150,000 to $199,999 | 1.5% |

*Source: 2000 U.S. Census

As shown in Table 1-8, according to the 2000 U.S. Census, nearly half (49%) of all households in Ridgely earned less than the Town's median income in 1999 ($35,750) and a little over 11% of the total population of Ridgely is living below the poverty level. This is slightly more than the percentage of people, some 10.2%, living below the poverty level in the County (see Comparison of Income & Poverty Table below).

As shown in Table 1-9, among families, almost 8% are living on incomes below the poverty level, compared to 9% for the County. Of the population in Ridgely, for whom poverty status was determined, 15% were over the age of 65 and 12% were under the age of 18. Both of these age groups rely more heavily on public assistance programs for food, housing, and healthcare because age prevents a large percentage of them from earning incomes (see U.S. Census 1999 Poverty Thresholds Table below).

**TABLE 1-9: U.S. CENSUS 1999 POVERTY THRESHOLDS – ANNUAL INCOME**

| Size of Family Unit | Poverty Threshold | Size of Family Unit | Poverty Threshold |
|---|---|---|---|
| One Person (unrelated individual) | $8,501 | Four people | $17,029 |
| Under 65 yrs old | $8,667 | Five people | $20,127 |
| 65 yrs and older | $7,990 | Six people | $22,727 |
| Two People | $10,869 | Seven people | $25,912 |
| Householder under 65 | $11,214 | Eight people | $28,967 |
| Householder 65 and older | $10,075 | Nine people or more | $34,417 |
| Three people | $13,290 | N/A | N/A |

Source: 2000 U.S. Census

The U. S. Department of Housing and Urban Development (HUD) defines "very low-income" families as those earning 50% of the median family income for an area. "Low-income," as defined by HUD, is 80% of the median family income for an area. The 2000 median family income for Ridgely was $38,929. Of the 351 family households in Ridgely, 9% met the HUD definition of very low income and an additional 9% met the definition of low income.

Poverty and low income affect more than 20% of all people living in Ridgely and almost 20% of all families. As a result, these individuals and families are dependent to some extent on federal, state, or local assistance to meet the costs of housing, energy costs, health care, and food. The Department of Social Services in Caroline County provides most of the programs available to Ridgely residents including home energy cost assistance, food stamps, emergency food and housing assistance, Section 8 housing,

and welfare-to-work programs. In 1999, according to the U.S. Census, only 23 of Ridgely's 517 households (approximately 5%) were receiving public assistance income.

**TABLE 1-10: COMPARISON OF INCOME & POVERTY**

| | Median income in 1999 (dollars) | | Per capita income in 1999 | Median earnings in 1999 of full-time, year-round workers | | Income in 1999 below poverty level | | | |
|---|---|---|---|---|---|---|---|---|---|
| | | | | | | Percent of population for whom poverty status is determined | | | |
| Classification | House-holds | Families | | Male | Female | All ages | Related children under 18 yrs | 65 yrs and over | Percent of families |
| Denton | $34,936 | $42,583 | $18,631 | $27,475 | $20,504 | 8.1 | 7.4 | 7.6 | 6.6 |
| Federalsburg | $24,266 | $32,059 | $13,878 | $28,438 | $21,296 | 25.3 | 35.2 | 18.2 | 21 |
| Goldsboro | $39,500 | $38,750 | $14,548 | $27,083 | $23,750 | 9.6 | 21.7 | 0 | 5.1 |
| Greensboro | $31,397 | $36,083 | $13,787 | $27,092 | $20,729 | 16.5 | 21.6 | 17.1 | 15.6 |
| Henderson | $32,500 | $33,125 | $11,678 | $30,625 | $21,875 | 14.2 | 15.2 | 16.7 | 16.1 |
| Hillsboro | $29,583 | $35,500 | $16,318 | $29,167 | $20,000 | 9.5 | 0 | 11.1 | 0 |
| Marydel | $25,250 | $26,500 | $12,379 | $22,083 | $12,083 | 16.5 | 24.2 | 0 | 20.8 |
| Preston | $48,125 | $53,365 | $20,617 | $37,083 | $23,182 | 4.9 | 7.9 | 5.2 | 3.6 |
| **Ridgely** | **$35,750** | **$38,929** | **$15,581** | **$27,356** | **$19,844** | **11.3** | **12.4** | **14.6** | **7.8** |

*Source: 2000 U.S. Census

## HOUSING

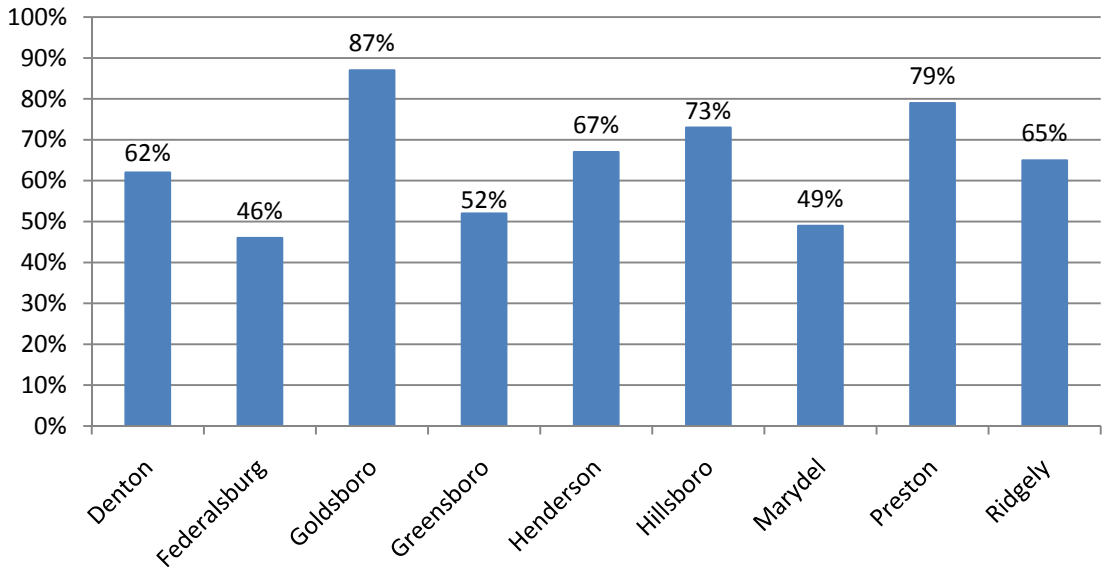
According to the 2000 U.S. Census, Ridgely and Preston are the only municipalities in the County that have no mobile homes in their housing stock. Five of Ridgely's housing units did not have complete plumbing facilities. Nearly a third (32%) of Ridgely's housing stock was built before 1939. Some 29% were built between 1990 and 2000. The median number of rooms in all Ridgely housing units was 5.4.

Compared to other County municipalities and to the County itself, Ridgely has a significantly higher number of single family homes as a percentage of total housing stock. Approximately 65% of the residents of Ridgely own their own homes. The average household size of these home-owner occupied units is 2.57 persons. The average household size of renter-occupied units is 2.88 persons.

Of the 549 units that comprised Ridgely's housing stock in 2000:

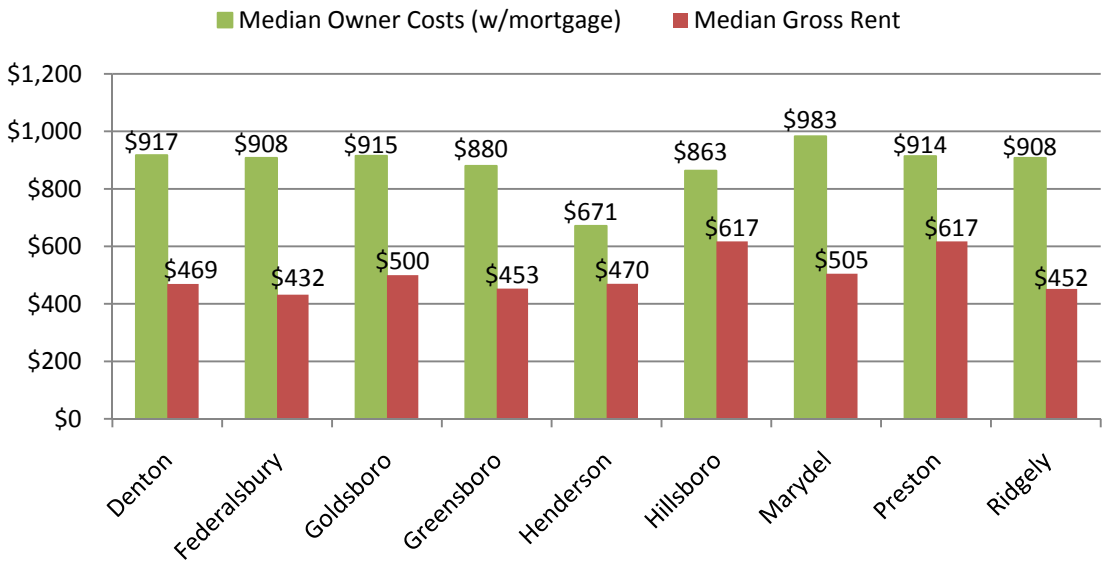
- 422 (77%) were single family homes;
- 30 (6%) were duplexes;
- 64 (12%) were 3-4 unit multi-family dwellings;
- 27 (5%) were 5-9 unit multi-family dwellings;
- 6 (1%) were 10-19 unit multi-family dwellings;
- 1 (0.2%) was a 20 unit multi-family dwelling; and
- None were mobile homes.

**FIGURE 1-4: Percentage of Residents Who Own Their Homes**



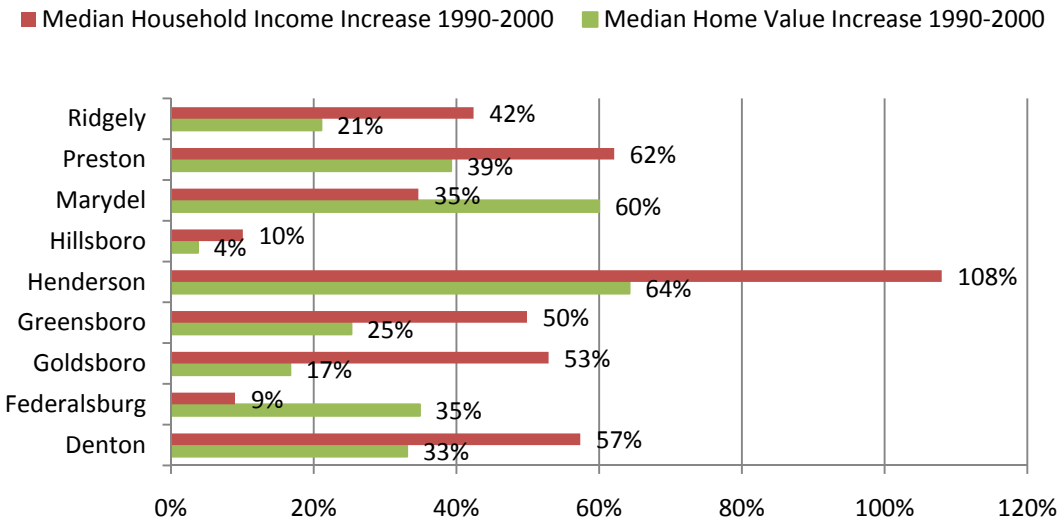

Median monthly owner cost (w/mortgage), for housing in Ridgely, is double the Town's median gross rent. This disparity between owner and renter housing costs is true in all Caroline County municipalities, ranging from a very wide gap in Federalsburg, where owner costs are more than double renter costs, to a somewhat narrower gap in Hillsboro, where owner costs are 40% higher than renter costs. Ridgely's owner/renter housing cost gap is second only to Federalsburg's.

**FIGURE 1-5: Owner Costs & Gross Rents**




Between the 1990 and the 2000 U.S. Census, median household income in Ridgely increased by 42%, while median home value increased by only half that much (21%). This trend existed in most of the towns in the County, where new residential development has occurred at a slower pace than other areas of the Eastern Shore. Data collected on housing affordability indicates a significant percentage of Ridgely's population, including renters and homeowners, cannot afford the cost of housing.

**FIGURE 1-6: Household & Home Income Increase**




| TABLE 1-11: 1999 MONTHLY OWNER COSTS - % OF HOUSEHOLD INCOME | |
|---|---|
| **Costs** | **Percent of Households** |
| 30 to 34 percent of income | 7.1% |
| 35 percent or more of income | 19.3% |
| **1999 GROSS RENT AS A % OF HOUSEHOLD INCOME** | |
| **Costs** | **Percent of Households** |
| 30 to 34 percent of income | 6.7% |
| 35 percent or more of income | 18.4% |
| Source: U.S. Census | |

While the decade between 1990 and 2000 saw a sizeable increase in median household income in Ridgely, there are still a large percentage of households struggling to meet housing costs. The availability of affordably priced homes and rental housing is key to serving the needs of both first-time home buyers and low to median income households, who make up 68% of the Town's population. A look at the statistics on owner and renter costs, as percentages of household income, reveals that a significant percentage of households, not just low-income households, struggle to meet housing costs.

The U. S. Department of Housing and Urban Development (HUD) defines "very low-income" families as those earning 50% of the median family income for an area. "Low-income," as defined by HUD, is 80% of the median family income for an area. The 2000 median family income for Ridgely was $38,929. Of the 351 family households in Ridgely, 9% met the HUD definition of very low income and an additional 9% met the definition of low income. Poverty and low income affect more than 20% of all people living in Ridgely and almost 20% of all families.

HUD also defines affordable housing as housing that costs 30% or less of the worker's wage. HUD determines that a household has a "housing cost burden" if it spends 30% or more of its income on housing. A household has a "severe housing cost burden" if it spends 50% or more of its income on housing. The housing cost burden combines renter and owner occupied housing statistics.

Owner housing costs consist of payments for mortgages, deeds of trust, contracts to purchase, or similar debts on the property; real estate taxes; fire, hazard, and flood insurance on the property; utilities; and fuels. Where applicable, owner costs also include monthly condominium fees. Renter calculations use gross rent, which is the contract rent plus the estimated average monthly cost of utilities (electricity, gas, water and sewer) and fuels (oil, coal, kerosene, wood, etc.). Household income is the total pre-tax income of the householder and all other individuals at least 15 years old in the household.

Using the HUD definition of affordable housing, more than a quarter (26.4%) of the homeowners and 25% of the renter households in Ridgely are cost burdened. This means, they are spending 30% or more of their income on housing. Including renters and homeowners, more than half of all households in the Town are experiencing housing cost burdens. This means that more than half of the households in Ridgely cannot afford -- using the HUD definition of affordability – the housing they currently occupy.
To appreciate the full impact of this data, bear in mind that household incomes include incomes from multiple wage earners, people working two jobs, income subsidies, etc. The problem of housing affordability in Ridgely is not just a problem affecting the poorest families; it also impacts working families with secure jobs and multiple incomes.

## ECONOMICS

As of 2000, Ridgely had the highest unemployment rate of all Caroline County municipalities, at nearly 9%. Currently, efforts are under way to lower the number of unemployed in Caroline County, which will likely have a positive effect on the unemployment rate in Ridgely.

In 2004, “One Maryland” provided $1.5 million to Caroline County for the acquisition of land and the development of the Mid-Shore Regional Business and Technology Park to be located in Ridgely. In July of 2007, the Maryland Board of Public Works approved an additional $1 million in funding for site development. The business park, a cooperative effort between the federal Economic Development Administration (DBED), the State of Maryland, Caroline County, and the Town of Ridgely, is an integral part of the County’s strategy for attracting technology companies that provide higher wage jobs. The most recent funding, made possible through DBED’s Maryland Economic Development Assistance Fund (MEDAF), consists of a $1 million loan, which will be used in conjunction with federal funds for infrastructure improvements including water and sewer to the site.

The business park will be constructed in multiple phases. Phase I will create office and retail/commercial space, a parking area and approximately 25 developed acres. The overall site layout has been designed to create a campus-like setting. The ultimate goal is to accommodate 500,000 square feet of office/commercial space. The park is located approximately one half mile north of Ridgely, adjacent to the Ridgely Airport, which is also being expanded (3,500 foot paved runway being lengthened to 5,000 feet) as part of the plan to attract technology companies to the area.

In addition to participating in the development of the business park, the Town is spearheading its own economic development/revitalization program, which includes attracting tenants to a new shopping center and the relocation of several new businesses to the Town. Existing businesses, such as the Ridgely Pharmacy on Bell Street, are also participating in the program by renovating and redeveloping older structures in the Town. The effort is being led by the Ridgely Economic Development Commission (EDC), formed in early 2007. The Ridgely EDC is working with State and County economic development experts on how to operate and provide economic development assistance to new businesses coming into the Town, and has established the beginning of a Ridgely EDC Local Revolving Loan Program to assist local start-up business efforts.

# Chapter 2 Land Use & Growth Management

The "Land Use Plan" is a primary component of the 2008 *Ridgely Comprehensive Plan*, describing preferred land use characteristics. It defines land use planning areas that provide a basis for decisions concerning the location and capacity of public facilities and transportation system improvements. It also reflects community perceptions concerning such things as quality of life and community character.

The Land Use Plan begins with a discussion of existing land use, a major determinant of future land use patterns. Following is a description of land use "Planning Areas," which represent the mix of expected land use types and their geographic locations in Ridgely. These Planning Areas provide the policy basis for development regulations, discussed in the "Implementation Chapter."

The Land Use Plan has been developed with consideration for capacity limitations and potential impacts of land use policies on the fiscal and physical resources of the Town and surrounding areas. It is a continuation of the planning and refinement of the Town's thoughts about how land should be treated. Intended as a policy tool for sound fiscal and environmental planning, the Land Use Plan directs growth and development to areas with existing or planned infrastructure and accounts for the need to manage the impacts of growth and development on existing Town residents, water quality, resources, and environmentally sensitive areas.

**GOAL & OBJECTIVES**

**GOAL:**

Preserve the small town atmosphere and qualities that make Ridgely a desirable place to live and work.

**OBJECTIVES:**

Preserve Town character and residential neighborhoods and ensure that new development is consistent with existing character.

Improve property values and the climate for new investment and reinvestment by addressing key infrastructure issues, such as water and sewer, roads and streets, and other capital projects.

Protect sensitive environmental areas and landmark historic sites and structures.

Encourage the restoration, rehabilitation, and adaptive reuse of existing buildings.

Expand the tax base by encouraging appropriate infill and redevelopment of vacant and underutilized properties.

Encourage development of new well designed and properly located commercial and industrial facilities and promote the maintenance and revitalization of existing commercial and industrial uses.

Maintain and create desirable residential environments based on "Smart Neighborhood" principles.

Ensure new development is consistent with overall growth objectives by adopting appropriate development codes/standards and ensuring that all new development is appropriate in scale and size.

Improve coordination between Ridgely and Caroline County to promote inter-jurisdictional coordination and cooperation, as required by State law.

Ensure that residents and businesses have adequate public services and facilities to protect the health, safety, and welfare for an attractive live/work environment.

## BACKGROUND

The purpose of the Comprehensive Plan is to provide a series of goals and objectives to manage and direct growth and development in Ridgely, Maryland. To some degree, Ridgely's objectives for economic development, natural resource protection, mobility, community facilities, housing, and community character are all reflected in the Land Use Plan. The fundamental land use policy framework outlined in this Chapter will help determine the Town's growth and development patterns as well as the quality of life for existing and future residents.

The Comprehensive Plan is the result of citizen input and discussion on the current condition of Ridgely. It reflects the community's desire to maintain its village atmosphere, while allowing for controlled growth and development. As a policy manual, the Comprehensive Plan is designed to be a guide. It is used in conjunction with associated documents such as the *Town of Ridgely Zoning Ordinance, Subdivision Regulations*, *Design Guidelines* and other municipal rules and regulations passed by the Town Commission. In addition to these locally based guidelines and regulations, growth and development within the municipal boundaries of Ridgely also are guided by the laws and regulations of the State of Maryland and, to a lesser extent, Caroline County.

Although Ridgely is a well-established community, there are significant amounts of open space within its municipal borders. At some point in time, Ridgley expects that farmland within the Town's municipal boundaries will be converted to lots for residential development. The timing of that conversion will be dependent on the availability of water and sewer, other necessary infrastructure, as well as market demand for housing.

## EXISTING LAND USE

Shown on Map 2-1 below, the 2006 Maryland Property View (MPV), as prepared by the Maryland Departments of Planning (MDP) and Taxation & Assessments, provides several land use categories for State data in Ridgely. According to the MPV, the corporate limits of Ridgely encompass approximately 1,193 total acres. Two (2) land use categories, "Residential and Agriculture," account for 71% of the existing land use in the Town.

| TABLE 2-1: RIDGELY EXISTING LAND USE (MPV 2006) | | |
|---|---|---|
| **Land Use Category** | **Acres** | **Percent of Total** |
| Residential | 301 | 25.2% |
| Multi-Family | 2 | 0.2% |
| Commercial/Residential | 1 | 0.1% |
| Commercial | 54 | 4.5% |
| Industrial | 47 | 3.9% |
| Exempt | 21 | 1.8% |
| Exempt/Commercial | 159 | 13.3% |
| Agriculture | 550 | 46.1% |
| Roads/Infrastructure | 58 | 4.9% |
| **TOTAL** | **1,193** | **100.0%** |
| Peter Johnston & Associates | | |

### 1) Residential Uses

As of 2008, most of Ridgely's residential units are located in the "Old Town" portion of the municipality, totaling 301 acres. Old Town Ridgely is located on both sides of Central Avenue (MD Rt. 312) and is bounded by Railroad Street to the north, Sunset Boulevard to the west, Sunrise Avenue to the east, and MD Rt. 480 to the south. The average lot size in Old Town is approximately a quarter of an acre. As a measure of efficiency, most of the Town's residential units have been accommodated on approximately 25% of the municipality's total land area.

Newer residential development in the Town, such as Lister Estates and modern developments located to the north and south of Old Town have a slightly larger average lot size. "Multi-Family Residential" uses occupy only 2 acres of land, located in Old Town Ridgely. This includes condominiums and apartments.

### 2) Commercial & Industrial

Commercial land uses total approximately 54 acres or 5% of Ridgely's total area. Industrial uses total 47 acres, approximately 4% of Ridgely's total land area. Commercial-Residential land uses total only 1 acre. Commercial uses include the historic Central Business District (CBD). In addition, concentrated commercial and industrial land uses are located along MD Rt. 480 to the south of Old Town, Railroad Street, as well as along Sunset Boulevard, Cow Barn Road, and First Street (extended). This includes Hanover Foods, a local canning company, which utilizes a land application site within the Town for the dispersion of effluent generated from industrial operations.

### 3) Institutional Uses

"Exempt and Exempt Commercial" uses are the third largest land use category at 180 acres or 15% of the Town. These land uses are typically public or semi-public entities, such as non-profits and government institutions etc. that have a unique tax status in the State. Public institutions, exempt and exempt-commercial land uses, include the Ridgely Airport and portions of the Business Technology Park site, Town Hall, the Fire Department, the Police Station, the Public Works garage, Fire Department and many local churches.

In addition, other lands are utilized for public use in Ridgely including parks, streets, roads, right-of-ways, rail road lines, collection systems, pump stations, and the wastewater treatment site and spray irrigation lands. The largest institutional use is the Ridgely Elementary School, a Caroline County Board of Education property, which is located on 15 acres adjacent to Central Avenue. The educational site contains public recreation facilities including ball fields and a tot lot.

Parks and open space are abundant in Ridgely. Currently, there are three (3) parks located in the Town: 1) the Ridgely Athletic Complex; 2) Martin Sutton Memorial Park; 3) and Railroad Park. The Athletic Complex is a 35 acre site with facilities developed in 1999. Martin Sutton Park is a 24 acre neighborhood park that includes recreation facilities for baseball, softball, basketball, volleyball, soccer, tennis, and picnicking. It also includes trails for walking, jogging, and cycling. Railroad Park is the smallest park in Ridgley at one-third an acre. It is located along the old railroad line, which is now being formed as a "Rails-to Trails Greenway." The Greenway eventually will connect to Tuckahoe State Park and Adkins Arboretum. Tuckahoe is a 3,800 acre State Park located near Ridgely. It includes a 60 acre lake for boating and fishing as well as picnic areas and a tot lot. Adkins Arboretum is located in the State Park.

### 4) Agricultural Uses

As of 2008, several parcels indicated as agricultural land uses in the 2006 MPV are being processed for potential new development. As shown in Figure 2-1 (in orange), this includes the Ridgely Park project, a planned mixed use community, and the Ridgely Business & Technology Park site, a joint Caroline County and Ridgely economic development initiative.

Remaining agricultural land within the Town totals approximately 340 acres, shown in teal green. Potential development areas, currently being used for agriculture, are vacant farmland within the Town. These areas constitute large infill properties.

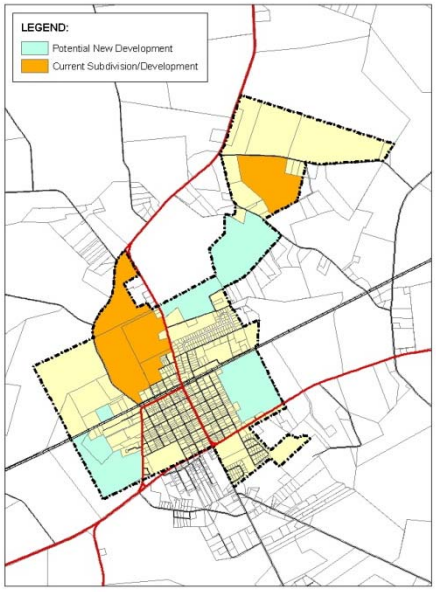
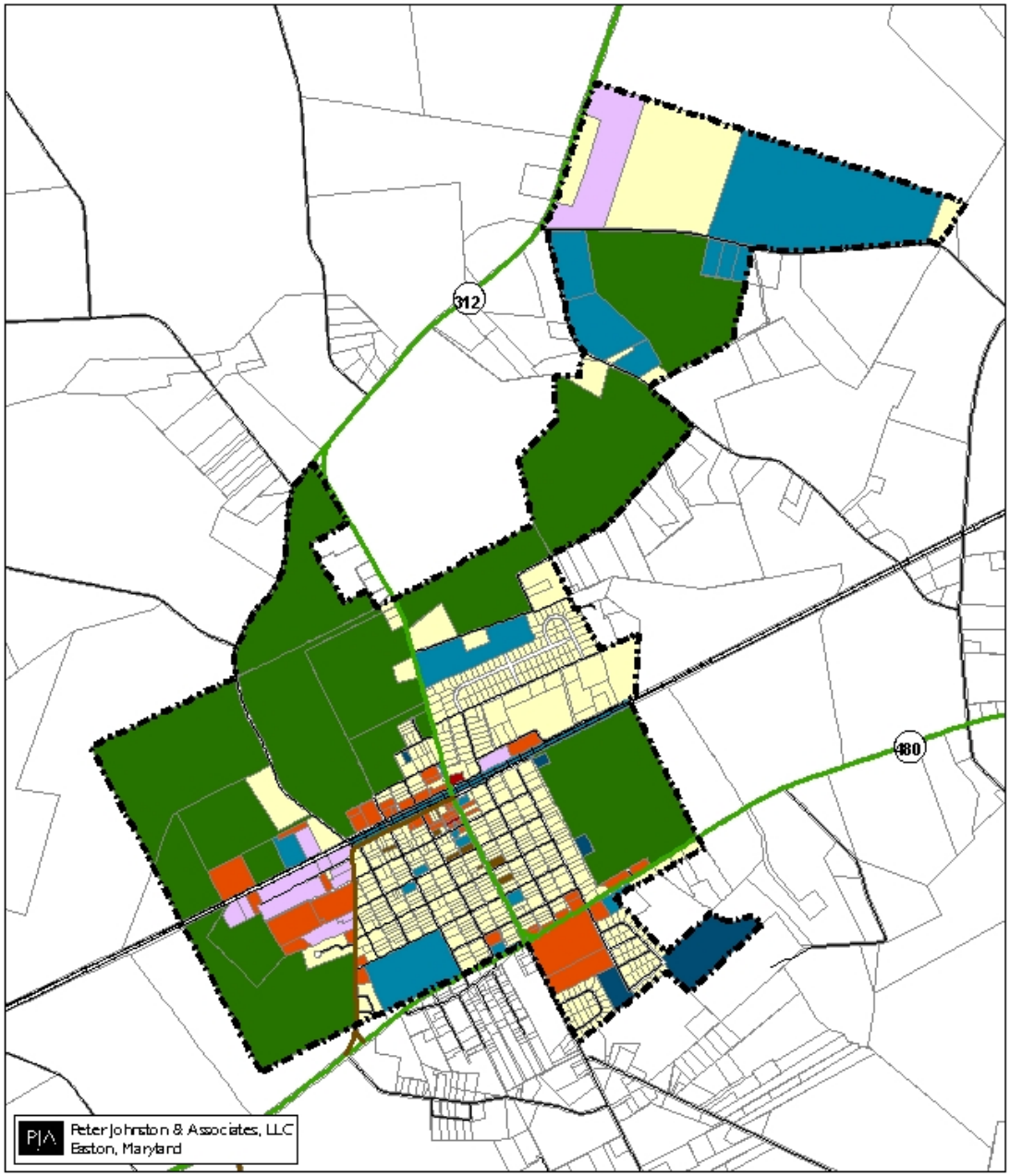



**FIGURE 2-1:** Ridgely Land Use 2006 MPV; Planned Development & Potential Future Development Areas.




## MAP 2-1: EXISTING LAND USE

**LEGEND:**

- Ridgely Corporate Boundary
- Major Collector
- Minor Collector
- Local Road/Street
- Railroad Line
- Residential
- Multi-Family Residential
- Commercial Residential
- Commercial
- Industrial
- Exempt
- Exempt Commercial
- Agriculture

EXISTING LAND USE - 2006 MARYLAND PROPERTY VIEW

1) Residential - 301 Acres
2) Multi-Family Residential - 2 Acres
3) Commercial Residential - 1 Acre
4) Commercial - 54 Acres
5) Industrial - 47 Acres
6) Exempt - 20 Acres
7) Exempt Commercial - 159 Acres
8) Agriculture - 549 Acres

TOTAL ACREAGE = 1,133 ACRES

0 0.125 0.25 0.5 0.75 1 Miles

## THE RIDGELY LAND USE PLAN

The village scale and character of Ridgely (Old Town) is that part of the historic community that developed along the railroad tracks and Central Avenue during the later part of the 19th Century and the early part of the 20th Century. The existing architectural and landscape character of the Old Town is an important and valuable asset. Beyond the need to effectively manage new growth and development outside of the existing Old Town, there is a need to manage the use of the existing building stock and the available buildable lots within the Old Town. Therefore, appropriate growth management techniques in the Town Center, Central Business District, and Neighborhood Conservation Planning Areas are vital. This includes the concepts of adaptive reuse, context sensitive infill and redevelopment, and design guidance.

This Comprehensive Plan seeks to encourage the preservation of the existing architecture and village scale of Ridgely. To accomplish the goals of the Plan, and the wishes and desires of the citizens of Ridgely, growth of the community should not be harmful to the use and the patterns that have been long established. Central to the management of growth is the concept of the village and preserving its character and integrity. Accordingly, this Comprehensive Plan is to be used by the Town Commission, the Planning Commission, private property owners, developers, and citizens to ensure that the values and goals within it are expressed, while this Plan is in effect.

### FUTURE LAND USES

As shown on Map 2-2, the Town of Ridgely has been divided into eight (8) primary planning areas as well as three (3) secondary, but equally important, planning areas. Secondary planning areas overlay the Primary Planning Areas, providing further detail regarding land use. These are administrative areas and will enable the Planning Commission and the Town Commission to develop regulations and encouragements to properly manage growth and protect the environment. It is expected that each Planning Area will contain similar building types and functions by design. However, there will be some variation in uses within each area.

| TABLE 2-2: RIDGELY FUTURE LAND USE | | |
|---|---|---|
| **Primary Land Use Categories** | **Acres** | **Percent of Total** |
| 1) Town Center - TC | 25 | 2.1% |
| 2) Central Business District - CBD | 27 | 2.3% |
| 3) Neighborhood Conservation - NC | 183 | 15.3% |
| 4) Highway Commercial - HC | 28 | 2.3% |
| 5) Business Employment – BE | 304 | 25.5% |
| 6) Public/Semi-Public - PS | 174 | 14.6% |
| 7) Planned Development - PD | 401 | 33.6% |
| 8) Roads/Infrastructure | 58 | 4.9% |
| **TOTAL** | **1,193** | **100.0%** |
| ***Secondary Land Use Categories** | **Acres** | **Percent of Total** |
| 1) Neighborhood Redevelopment Areas | 56 | 24.7% |
| 2) Parks & Open Space | 120 | 52.9% |
| 3) Conservation Corridor | 51 | 22.5% |
| **TOTAL** | **227** | **100.0%** |

Peter Johnston & Associates

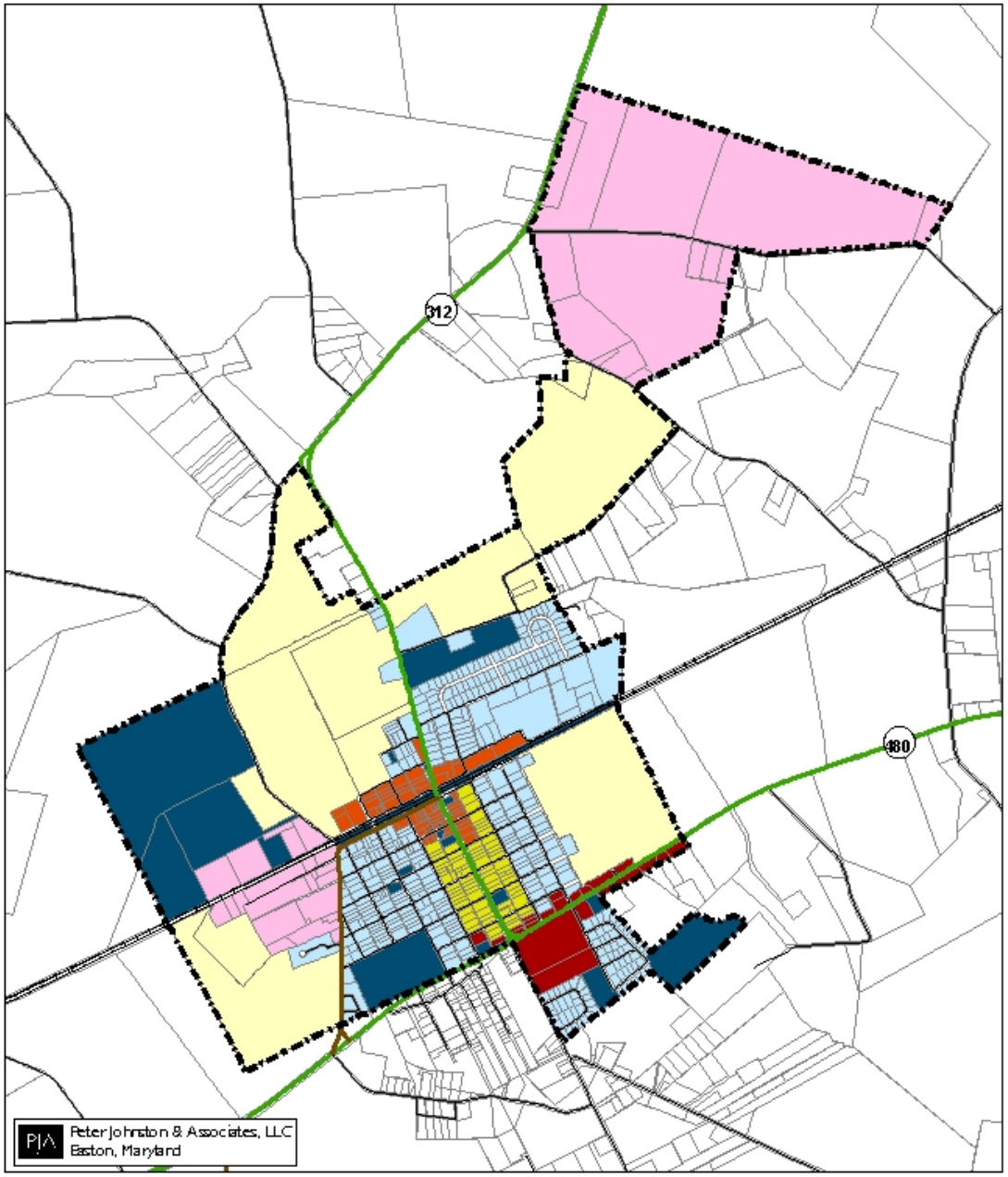
*Note: Secondary Planning Areas are overlays to existing Primary Planning Areas.

## PRIMARY PLANNING AREAS

Ridgely Primary Planning Areas include the following:

1. Town Center;
2. Central Business District;
3. Neighborhood Conservation;
4. Highway Commercial;
5. Business Employment;
6. Public/Semi-Public;
7. Planned Development; and
8. Roads/Infrastructure.

Primary Planning Areas represent the base and preferred land uses for each area. These areas were designed to provide flexibility to the Ridgely Planning Commission and Town Commissioners to address natural, social, and economic changes occurring in the Town. Regulatory updates should ensure that Town ordinances assist in achieving the underlying policy principles expressed in the Ridgely Land Use Plan for each Planning Area.




## MAP 2-2: LAND USE PLAN

**LEGEND:**

- Ridgely Corporate Boundary
- Other Principal Arterial
- Major Collector
- Minor Collector
- Local Road/Street
- Railroad Line
- Public & Semi-Public
- Town Center
- Central Business District
- Neighborhood Conservation
- Highway Commercial
- Business Employment
- Planned Development

RIDGELY PRIMARY LAND USE PLANNING AREAS

1) Town Center - 25 Acres
2) Central Business District - 27 Acres
3) Neighborhood Conservation - 183 Acres
4) Highway Commercial - 28 Acres
5) Business Employment - 304 Acres
6) Public/Semi-Public - 174 Acres
7) Planned Development - 401 Acres

TOTAL ACREAGE = 1,133 ACRES

0 0.125 0.25 0.5 0.75 1 Miles

### 1) Town Center Planning Area (TC)

The historic Town Center Planning Area (TC) is located in the heart of Ridgely. Many of the Town's "Landmark Historic Sites and Structures" are located in this Planning Area (see the Heritage Preservation Chapter). It is Ridgely's intent to promote the Town Center as the primary location for community activity and to strengthen its role as a major determinant of the Town's identity.

**Description:** The Town Center encompasses approximately 25 acres, located along Central Avenue (Main Street – MD Rt. 312). It includes a mix of residential, public, and semi-public uses. Residential buildings are mostly older frame buildings that predate 1940 and many were constructed in the 19th and early 20th Centuries. Originally built as single-family homes, a significant number have been converted to multi-family housing. The larger homes along Central Avenue were among the first divided into apartments but multi-family dwellings can be found throughout the Planning Area. There is very little open space within the Town Center.

**Objectives:** Ridgely's land use objectives for the Town Center Planning Area are to:

- Maintain the existing character of this residential neighborhood.
- Allow for appropriate infill and redevelopment that reflects the site development and architectural characteristics of the Planning Area.
- Require the scale and appearance of new residential structures to strongly reflect the small town rural and historic atmosphere of Ridgely.
- Direct Town revitalization efforts to the downtown area.
- Create a pedestrian friendly environment with adequate public parking to support nearby local businesses, residents, and civic uses.
- Encourage the preservation of Landmark Historic Sites and Structures.

The Town will accomplish the objectives of the Comprehensive Plan by encouraging an appropriate mix of residential and public/semi-public uses of a scale and intensity consistent with the Planning Area's historic character. Development standards should encourage infill and redevelopment of vacant and underutilized sites to maintain an attractive diversity but at the same time ensure compatibility with adjacent land uses, particularly architectural design. This includes utilizing the concept of context sensitive infill and redevelopment. Infill and redevelopment standards will be prepared mindful of the need to find an appropriate balance between historic preservation and sustainable energy and environmental protection policies.

### 2) Central Business District Planning Area (CBD)

The Central Business District Planning Area (CBD) is Ridgely's traditional and historic business district. It defines an area critical to the economic health and prosperity of the Town. In addition, it is a primary attraction for visitors and tourists, providing an important economic component of the Town's tax base. The objective for this Planning Area is to maintain and enhance the area as a pedestrian oriented shopping and service district with a mix of residential and low-intensity service oriented commercial uses.

The CBD plays an important role in the community including the following:

- ❖ Provides an employment center;
- ❖ Strongly influences the Town's image and identity;
- ❖ Represents an important part of the historic core of the community;
- ❖ Provides key visitor attractions; and
- ❖ Provides public space where residents and visitors can congregate or be part of parades, special events, and celebrations that reinforce a sense of community.

**Description:** The Central Business District is approximately 27 acres and is located along Central Avenue from near 2nd Street to Oak Street. It extends along Railroad Avenue and Bell Street to Maryland Avenue. It is designed to accommodate residential uses and facilitate low intensity service based commercial uses. Located adjacent to the Town Center, it contains small service-scale commercial land uses such as restaurants and small professional businesses. The Town Hall, Police Station, and Town Commons (Railroad Park) are located in this Planning Area.

**Objectives:** Ridgely's land use objectives for the Central Business District Planning Area are to:

- Focus business development in the centralized downtown area.
- Allow for appropriate infill and redevelopment that reflects the site development and architectural characteristics of the Planning Area.
- Require the scale and appearance of businesses to strongly reflect the small town rural and historic atmosphere of Ridgely.
- Direct Town revitalization efforts to the CBD.
- Create a pedestrian friendly environment with adequate public parking to support local businesses and civic uses.
- Encourage the preservation of Landmark Historic Sites and Structures.

The Town will accomplish the objectives of the Comprehensive Plan by encouraging an appropriate mix of residential, neighborhood-commercial, and public/semi-public uses of a scale and intensity consistent with the existing historic character of the CBD. Much like a traditional main street, this includes the promotion of multi-use structures, whereby commercial uses are permitted on the first floor and residential units are permitted on second and third floors.

### 3) Neighborhood Conservation Planning Area (NC)

The Neighborhood Conservation Planning Area (NC) is located in portions of Ridgely, where single-family residential development patterns are generally established or where services and facilities will be adequate for the anticipated population. Secondary historic sites and structures are located in parts of this Planning Area. Historic preservation in Neighborhood Conservation areas is equally important as it is in the Town Center. The Neighborhood Conservation Planning Area promotes localized community activities and is a major component of the Town's identity.

**Description:** The Neighborhood Conservation Planning Area encompasses approximately 183 acres and constitutes existing residential neighborhoods. These neighborhoods are characterized primarily by detached single-family dwellings. It also includes recently approved subdivisions such as Lister Estates, near the Ridgely Elementary School. Ridgely wants to protect existing stable residential neighborhoods. This includes maintaining property values and intact neighborhoods, while also encouraging context sensitive infill and redevelopment that can take advantage of existing public investment in infrastructure.

**Objectives:** Ridgely's land use objectives for the Neighborhood Conservation Planning Area are to:

- Maintain the existing character of these residential neighborhoods.
- Maintain property values and stability.
- Ensure appropriate transportation and pedestrian linkages to other parts of Town.
- Allow for appropriate infill and redevelopment that reflects the site development and architectural characteristics of the Planning Area.
- Encourage the preservation of Landmark Historic Sites and Structures.

### 4) Highway Commercial Planning Area (HC)

The Highway Commercial Planning Area (HC) is not considered a traditional highway commercial service area but a specific destination use. This includes business employment and/or access oriented services, such as banking. It contains existing businesses. However, several vacant and underutilized properties are located in this Planning Area.

**Description:** The Highway Commercial Planning Area encompasses approximately 28 acres. This Planning Area is characterized by existing commercial service providers and employment uses. It is located along MD Route 480, a primary arterial for the Town, with commercial uses on both sides of the highway. It also intersects with Maryland Route 312 (Central Avenue), Maple Avenue, and Sunrise Avenue.

**Objectives:** Ridgely's land use objectives for the Highway Commercial Planning Area are to:

- Support and promote economic development and business/employment uses in Ridgely.
- Ensure safety and minimize land use conflicts with neighboring residential areas.
- Ensure appropriate transportation linkages as well as good access and circulation.
- Encourage appropriate infill and redevelopment of commercial sites.
- Streamline the development review process and create flexible regulatory mechanisms to promote economic development.
- Develop design standards/guidelines for landscaping (buffers), lighting, signage, and architecture.

### 5) Business Employment Planning Area (BE)

The Business Employment Planning Area (BE) consists of traditional commercial and industrial operations that have historically existed in Ridgely. These traditional industries are located along West Bell Street and near the intersection of Cow Barn Road. Another larger Business Employment Area, located to the north of

Town, is the Ridgely Airport and Business Technology Park sites. This area represents an opportunity for the Town to capitalize on significant local, state, and federal investment for planned commercial/industrial development.

**Description**: The Business Employment Planning Area consists of approximately 303 acres. It is located along West Bell Street, west of Sunset Boulevard, and near the intersection with Cow Barn Road. The Planning Area includes the industrial area along West Bell Street and Sunset Boulevard. Mixed use is encouraged for this area including commercial, industrial, and public community facilities/services. In addition, a large portion of this Planning Area is located along MD. Rt. 312, intersecting Seward and Hog Lot Roads in Caroline County. This area includes the Ridgely Airport and the joint Caroline County and Ridgely Business Technology Park. The Business Technology Park is situated on a 92 acre site adjacent to the Airport. It is a planned commercial/industrial development site.

**Objectives:** Ridgely''s objectives for the Business Employment Planning Area are to:

- Expand local employment opportunities so that Town residents may live and work in Ridgely.
- Increase the Town's commercial and industrial assessable tax base.
- Work with Caroline County, the State of Maryland, and the federal government to achieve economic development objectives by providing commercial and industrial land.

**6) Public/Semi-Public Planning Area (PS)**

Public and Semi-Public (PS) properties are dispersed throughout Ridgely. These properties include the following:

- Caroline County Humane Society;
- Ridgely Elementary School;
- Ridgely Town Hall and other structures owned by the Town;
- Lands owned by the Ridgely Volunteer Fire Department and other non-profit community organizations;
- Portions of the Town's wastewater treatment site (lands for spray irrigation);
- The railroad right-of-way (greenway trail system);
- Several local parks;
- Town churches;
- Environmentally sensitive lands and scattered vacant lots.

Other public land that is not included in this Planning Area is State, County, and Town road networks, street rights-of-way, sidewalks, and parking areas. These areas are characterized as infrastructure under the Secondary Planning Area category discussed below.

**Description:** The Public/Semi-Public Planning Area totals approximately 169 acres. Properties are used for either the enjoyment of Ridgely residents, infrastructure purposes, or the protection of sensitive areas. This includes properties located along Cow Barn Road, Bell Street, and Railroad Street. It also includes properties located along MD Rt. 480, Central Avenue, and Ridge Avenue. Characteristics include:

- ❖ The Greenway trail segments in Town (railroad lands);
- ❖ Lands used for private or public wastewater spray application (Hanover Foods/Town of Ridgely);
- ❖ Stormwater management areas and other open spaces;
- ❖ Parks and recreation sites; and
- ❖ Sensitive environmental areas owned by the public.

**Objectives:** Ridgely's land use objectives for the Town Expansion Planning Area are to:

- Ensure the public health, safety, and welfare.
- Provide public areas and access for active and passive recreation.
- Protect sensitive environmental areas.
- Ensure publically owned lands are used in a manner that best serves the needs of Ridgely residents.

**7) Planned Development Planning Area (PD)**

The Planned Development Planning Area (PD) includes lands that are candidate sites for planned development or redevelopment (i.e. those properties large enough to support planned development/redevelopment). This includes various large parcels throughout Town, some of which are currently used for agricultural purposes.

**Description:** The Planned Development Planning Area is approximately 400 acres, located in various key regions of the Town. These areas are located at the fringe areas of Ridgely but are connected to the Town Center and Neighborhood Conservation Areas. The Planning Area represents the largest infill areas within the existing Town. The Planning Area contains fairly extensive developable and unconstrained land. Once developed, this Planning Area has the potential to greatly impact the existing character of the Town. Development of these properties will substantially increase the number of dwelling units and population in Ridgely. In addition, impacts on Town services and facilities are substantial.

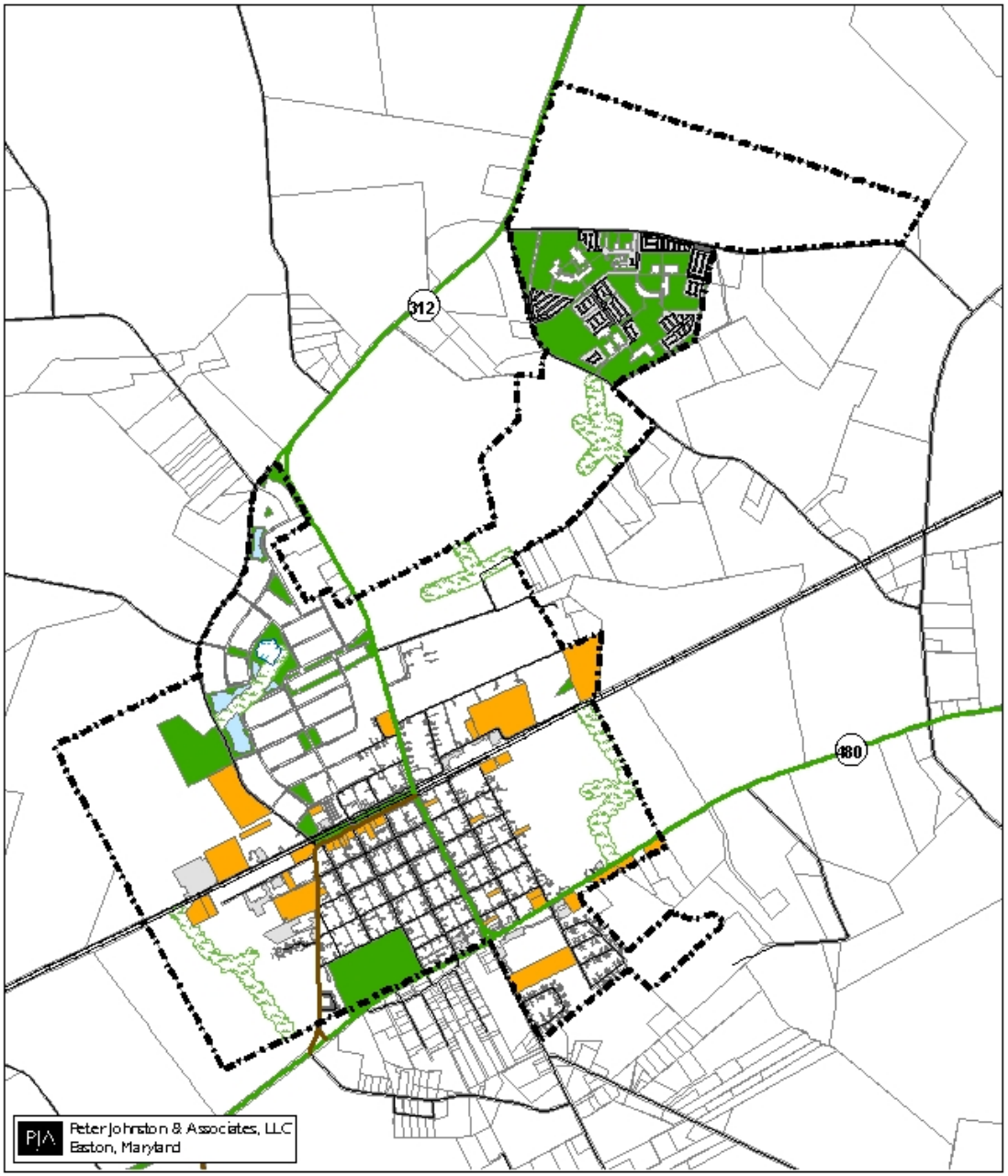
**Objectives:** Ridgely's land use objectives for the Planned Development Planning Area are to:

- Maintain the existing character of the Town by ensuring that design is compatible with surrounding historic residential neighborhoods.
- Require the scale and appearance of new residential structures to strongly reflect the small town rural and historic atmosphere of Ridgely.
- Require the scale and appearance of new commercial structures to strongly reflect the small town rural and historic atmosphere of Ridgely.
- Create connectivity for transportation and pedestrian linkages.
- Create a pedestrian friendly environment with adequate public parking to support nearby local businesses, residents, and civic uses.
- Encourage the preservation of Landmark Historic Sites and Structures.

### 8) Roads & Infrastructure

Roads and infrastructure totals approximately 58 acres of land for transportation networks, including both automobile and pedestrian traffic. These areas include those public lands owned by the State of Maryland, Caroline County, or the Town of Ridgely.

Infrastructure provides a blueprint of the Town's present circulation and access system. Planning for these areas includes coordinating with the Caroline County Department of Public Works, the Maryland Department of Transportation (MDOT), and the Maryland State Highway Administration (SHA). Town regulations should be reviewed to ensure that adequate rights-of-way are provided by new development.




## MAP 2-3: LAND USE PLAN SECONDARY PLANNING AREAS

**LEGEND:**

- Ridgely Corporate Boundary
- Other Principal Arterial
- Major Collector
- Minor Collector
- Local Road/Street
- Railroad Line
- Neighborhood Redevelopment
- Conservation Corridor
- Parks & Open Space
- Roads, Sidewalks, & Parking

RIDGELY SECONDARY LAND USE PLANNING AREAS

1) Neighborhood Redevelopment Areas - 56 Acres
2) Parks & Open Space - 120 Acres
3) Conservation Corridor - 51 Acres

TOTAL ACREAGE = 227 ACRES

N
W
E
S

0 0.125 0.25 0.5 0.75 1 Miles

## SECONDARY PLANNING AREAS

Ridgely Secondary Planning Areas include the following:

1. Neighborhood Redevelopment Areas;
2. Parks and Open Space;
3. Conservation Corridor; and
4. Infrastructure.

"Secondary Planning Areas" overlay the Primary Planning Areas and provide further detail regarding preferred land uses. These areas represent public amenities or provide for specific public purposes such as environmental protections, transportation, community meeting and gathering places, passive and active recreation, and the enhancement of the Town's urban fabric or setting.

### 1) Neighborhood Redevelopment Planning Area (NRP)

The Neighborhood Redevelopment Planning Area (NRP) totals 56 acres and includes smaller vacant and underutilized properties throughout Town that are candidate sites for infill and redevelopment, depending on the availability of public infrastructure such as water and sewer. This Planning Area also includes targeted areas for neighborhood revitalization efforts. The purpose for this Planning Area is to protect existing residential property values, while at the same time identifying areas where the Town will promote more extensive infill and redevelopment projects. Development regulations and standards should be most flexible in this Planning Area so as to encourage appropriate infill and redevelopment.

### 2) Parks & Open Space Planning Area (POS)

The Parks and Open Space Planning Area (POS) is approximately 120 acres. It includes the Ridgely Athletic Complex; Martin Sutton Memorial Park; and Railroad Park. It also includes the "Rails-to Trails Greenway" and other smaller open space areas within the Town. The Town's objective for these lands is to ensure they are used in manners that best serve the needs of Ridgely residents.

### 3) Conservation Planning Area (CP)

The Conservation Planning Area (CP) is approximately 51 acres of land in dispersed areas of the Town. These are stream corridors, which are categorized as drainage ditches. "Public Tax Drainage Ditches" provide drainage and flood control, significantly impacting water quality in the region. Currently, ditches are managed by a Public Drainage Association, which is regulated by Article 25 of the Maryland Drainage Law. PDA's are assisted by the Caroline County Soil Conservation District, Maryland Department of Agriculture, and Department of Natural Resources. Ditches are inspected annually and after severe storm events.

In 2000, the Maryland Public Drainage Taskforce, in its report to the Chesapeake Bay Cabinet, issued recommendations for public drainage systems for development and watershed planning. The recommendations include developing site-specific plans to slow the rate of water flow, improve habitat, and apply best management practices (BMPs). Recommendations also include the development of regulatory policies that direct the burden of costs required for altering public drainage (e.g., structural and non-structural stormwater features located up-stream or downstream of development) to the developers of property to be drained.[1]

The Town's objectives for the Conservation Corridor are to:

- Protect and restore sensitive and natural resource areas, such as contiguous and interior forests, environmentally sensitive areas, and intact stream buffers;
- Maintain existing forest cover (no net less loss policy for forest); and
- Where necessary, enhance stream and wetland buffers for their value as water quality protection measures.

This Planning Area forms a 100' buffer around primary drainage ways in the Town. When considering the development potential of a site, Conservation Areas should not be treated in the same way as other areas. Areas with little or no sensitive environmental features or habitat value, and that are not part of significant drainage corridors, have a greater capacity to support development with less impacts to the local environment. The development process should reflect the notion of "carrying capacity", that is the level of development a site can support given natural resource limits. Total Maximum Daily Loads (TMDL's), discussed in the Water Resources Element, are an example of the measures of "carrying capacity" for the region's waterways. Conservation Areas are indicators of the carrying capacity for portions of the Town.

Town Development regulations should reflect a site's inherent limitations prior to development. For this reason Conservation Areas should be eliminated or significantly discounted for the purposes of calculating allowable development (e.g., density or floor area). Mandatory buffer requirements and enhancement for Conservation Areas are recommended. Other sensitive areas in Ridgely including wetlands, hydric soils, and sensitive species habitats, must be protected.

[1] *Moving Water,* A Report to the Chesapeake Bay Cabinet by the Public Drainage Task Force, Washington College and the Institute for Governmental Service UMCP, October 2000.

# IMPLEMENTATION RECOMMENDATIONS

Descriptions and other details regarding implementation are contained in Chapter 9 of this Comprehensive Plan.

**FIGURE 2-2:** The "Town Center" of Ridgely is an important asset both economically and socially. It contains a mix of land uses that includes public, commercial, and residential spaces, promoting a cohesive and self-contained community.

## GENERAL RECOMMENDATIONS

**RECOMMENDATION #1:** Ensure that Ridgely's plans and ordinances conform with the recommendations of the Comprehensive Plan.

**RECOMMENDATION #2:** Ensure that all development and redevelopment is compatible with the existing character of Ridgely and encourage the revitalization and continued improvement of the Town with a special emphasis on the Town Center, Central Business District, and Neighborhood Conservation areas. To accomplish this goal, the Town Commissioners should specifically identify future revitalization areas. In addition, the Town should review the Zoning Ordinance, Zoning Map, and Subdivision Regulations to integrate safeguards for community character.

**RECOMMENDATION #3:** Promote sensitive area protection and ensure that development employs best management practices to minimize adverse impacts on water quality and habitat.

**RECOMMENDATION #4:** Promote inter-jurisdictional coordination and future cooperative planning and zoning efforts with Caroline County:

- Work with the Caroline County Council of Governments (COG), which provides Ridgely a forum to discuss issues and opportunities with County officials. In addition, the County and Ridgely Planning Commissions should meet annually or periodically to discuss planning issues of mutual interest.
- Encourage Caroline County to refer plans of proposed development, zoning changes, and subdivisions located within two miles of the Town to Ridgely officials for review and comment.
- Work with Caroline County to ensure the adequacy of public facilities provided and that any new development adjacent to Ridgely minimizes impacts on the rural character surrounding the community.

**RECOMMENDATION #5:** Encourage the continuation of agricultural uses adjacent to Ridgely to maintain the rural character of the community, where appropriate.

**RECOMMENDATION #6:** Encourage the redevelopment and re-use of vacant buildings insuring compatibility with surrounding residential neighborhoods.

**RECOMMENDATION #7:** Encourage "Community Character Policies" that include the following design principles:

- Establish architectural guidelines as well as yard setbacks, bulk standards, and height restrictions to retain or promote desirable community character;
- Retain or create site designs for a pedestrian-friendly community, which shall be encouraged and facilitated;
- Insure development retains the pattern, scale, and character of the surrounding neighborhood;
- Insure the review of development proposals to place priority on the protection of historic and culturally significant buildings, monuments, and spaces contributing to the Town's character; and
- Maintain connections to the rural landscape by encouraging the protection of farms and forested areas outside the Town boundary in the Ridgely Greenbelt.

**RECOMMENDATION #8:** Continue to prepare a Planning Commission Annual Report in accordance with Section 3.09 of Article 66B to monitor plan implementation.

**RECOMMENDATION #9:** Consider detailed planning initiatives prior to regulatory updates and revisions, such as a strategic revitalization plan for Ridgely, to more clearly define Town goals and solicit broader public involvement in the development of action strategies to address community needs and desires.

**RECOMMENDATION #10:** Review, update, and revise Ridgely's Design Guidelines, Zoning Ordinance, and Subdivision Regulations consistent with the Comprehensive Plan.

## SPECIFIC RECOMMENDATIONS

### Zoning Ordinance and Subdivision Regulations

**RECOMMENDATION #1:** Update the Town's regulations consistent with the recommendations of this Comprehensive Plan including creating new zoning provisions to implement the Land Use Plan and adopting a new official zoning map, which include the digitization of the Ridgely Zoning Map in the Town's Geographic Information System-GIS.

**RECOMMENDATION #2:** Review, update, and revise (if required) special planning districts such as overlay and floating zones to encourage and facilitate context sensitive infill and redevelopment with an emphasis on appropriate design.

**RECOMMENDATION #3:** Establish development standards and guidance for infill, redevelopment, and new development that ensures compliance with the Town's design guidelines.

**RECOMMENDATION #4:** Promote the upkeep and maintenance of existing buildings by adopting and enforcing a building code, livability code, nuisance ordinance, and related items to improve and maintain the Town.

**RECOMMENDATION #5:** Ensure that the approval of land subdivision, rezoning, special exceptions, variances, and capital expenditures are consistent with the Ridgely Comprehensive Plan.

**RECOMMENDATION #6:** Revise current development review processes. For other than permitted uses requiring a building permit, require all applicants to first submit a concept plan, including proposed building types and typical building elevations. Periodically update the development review and approval process to ensure that reviews can be carried out in a timely fashion and ensure appropriate decisions are made with regard to plan review and approvals required for projects.

**RECOMMENDATION #7:** Where possible, streamline current regulations and create flexible processes/procedures to promote investment and reinvestment in existing properties and promote context sensitive design for infill and redevelopment.

**RECOMMENDATION #8:** Establish development standards that are consistent with the existing lot and development pattern in surrounding neighborhoods and encourage the adaptive reuse of existing buildings.

**RECOMMENDATION #9:** Adopt or update zoning review fees that cover the cost of Town review, including the cost of any professional assistance the Planning Commission or Town Commissioners may need to adequately evaluate the merits of a proposed development.

**RECOMMENDATION #10:** Update the *Ridgely Design Guidelines* and the *Ridgely Zoning Ordinance* based on the following basic design principles:

- Neighborhoods are compact, identifiable, and their boundaries are visually discernible;
- Neighborhoods are linear (cross-roads or grid patterned), with variations to enhance views and landmarks;
- Neighborhoods are visually coherent and character is established through consistent rules of organization and architecture;
- Street corridors are visually bounded and intimate in feeling. Street trees, sidewalks, and front yard design elements create visual layers and contribute to the intimacy of streetscape;
- Street blocks help describe component neighborhoods, suggesting the role of the street as a channel for neighborly interaction;
- Neighborhoods accommodate a mix of uses, where appropriate, even at the “town” scale;
- Parking is accommodated through a mix of on-street and unobtrusive off-street strategies. Large-scale parking lots are avoided, and older lots are redesigned into smaller landscaped segments;
- Most important, neighborhoods and their setting convey a strong “sense of place”;
- Landmark historic sites and structures are protected.

**RECOMMENDATION #11:** Establish protection standards for “Sensitive Areas.”

**RECOMMENDATION #12**: Ensure appropriate provisions to address flooding and stormwater management and encourage the use of innovative low impact stormwater management techniques, when feasible.

**RECOMMENDATION #13:** Eliminate the conversion of single-family homes to multi-family units by adopting a strong land use plan and implementing regulations that clearly differentiate housing types and densities.

**RECOMMENDATION #14:** Update the Planned Unit Development and Neighborhood Revitalization provisions of the Zoning Ordinance to reflect infrastructure limitations and to enhance process, procedure, and design.

**RECOMMENDATION #15:** For the Ridgely Zoning Ordinance: develop a Table of Permitted Uses and Subdivision Checklist; examine height, area, and bulk requirements to create consistency with the Comprehensive Plan; improve sensitive areas protection and landscaping standards; and include reference tables for lot size and setback requirements.

**RECOMMENDATION #16:** Update the Town's Subdivision Regulations consistent with the recommendations of this Comprehensive Plan.

**RECOMMENDATION #17:** Work with Caroline County to encourage strong land use controls on rural lands adjacent to Ridgely within the Growth Area and coordinate with the County in the review of development proposals near the Town.

# Chapter 3 Municipal Growth

The purpose of the Ridgely Comprehensive Plan's "Municipal Growth Element" is to examine the interrelationships among land use, population growth, impacts on public facilities and services, and water and sewer issues associated with the Town's projected growth. With a better understanding of the multi-dimensional impacts of land use and population change Ridgely officials will have a stronger basis for setting land use and growth management policies in the future.

**GOAL & OBJECTIVES**

**GOAL:**

Determine the future pattern of growth and development in Ridgely and address associated impacts on facilities, services, and infrastructure.

**OBJECTIVES:**

Perform a detailed impact analysis of new growth and development on Town services, facilities, and infrastructure.

Address potential impacts of growth and development in the Town's Capital Improvements Program (CIP), which should be updated annually.

Initiate a Master Planning Program for Town infill (Planned Development Areas) and growth areas to define Town expectations for new development.

Improve inter-jurisdictional initiatives with Caroline County to coordinate growth and development for effective growth management.

Update Town policies, processes, and regulations to address infill and redevelopment issues and opportunities including updating the Town's design guidelines.

## BACKGROUND

Ridgely is located on Maryland's Eastern Shore in the western portion of Caroline County, Maryland. Caroline County borders Dorchester, Queen Anne's, and Talbot Counties in Maryland. Caroline County also borders Kent and Sussex Counties in Delaware.

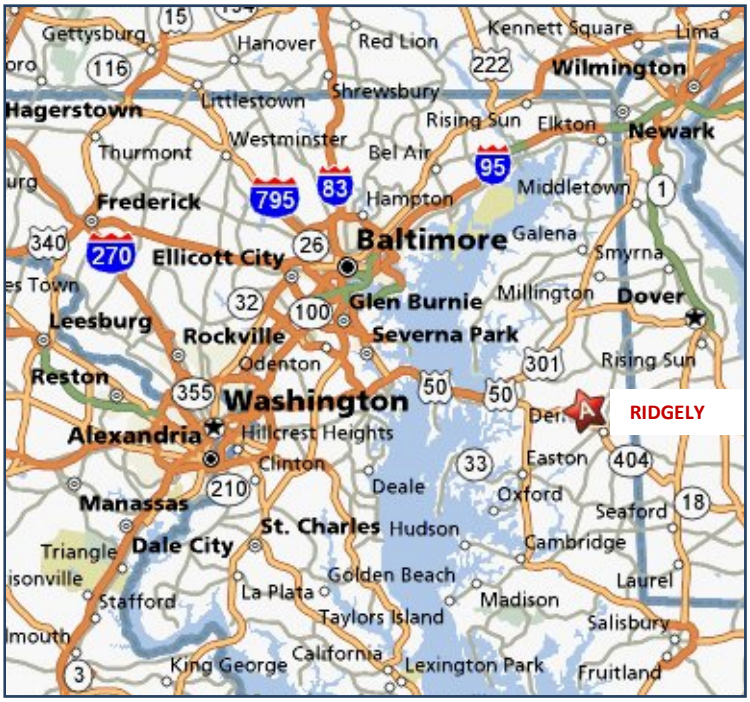
### LOCATION & CHARACTERISTICS

Ridgely is a small town in an ideal rural setting with picturesque farms and plentiful heritage and natural resources. The Upper Choptank River and Tuckahoe Creek are the nearest tributaries, located two and three miles for the Town respectively.

Major arterials for the region include Maryland Route 404 (MD Rt. 404 – Shore Highway), U.S. Route 50, and U.S. Route 13 in Delaware. Ridgely is primarily served by MD Rt. 404 and U.S. Rt. 50. State roads, which link to these primary arterials, include Maryland Routes 480 and 312. Urban areas near Ridgely are Dover, Delaware; Annapolis, Maryland; Baltimore City, Maryland; and the District of Columbia (Washington DC). Other nearby metropolitan areas includes Wilmington, Delaware; Philadelphia, Pennsylvania; and New York, New York. The nearest metropolitan areas are Annapolis, Maryland and Dover, Delaware.

Approximate travel times and distances to nearby large metropolitan centers are as follows:

- Dover, Delaware is 47 minutes and 31 miles;
- Annapolis, Maryland is 51 minutes and 41 miles;
- Baltimore City, Maryland is 1 hour and 19 minutes and 67 miles;
- Washington DC is 1 hour and 26 minutes and 70 miles;
- Wilmington, Delaware is 1 hour and 26 minutes and 71 miles;
- Philadelphia, Pennsylvania is 2 hours and 102 miles; and
- New York, New York is 3 hours and 26 minutes and 188 miles.




**Source: MapQuest**

## LAND USE PLANNING

The Ridgely Study Area is listed as a designated Growth Area for Caroline County (Map 3-1) in the "draft" *West Caroline County Comprehensive Plan*. Ridgely is located in a Caroline County agricultural preservation corridor. Predominant land uses include agriculture, forestry, low density residential development, and surface mining (sand and gravel).

The future Caroline County Landfill site is located approximately one third of a mile from the Town (see Figure 3-2). Scattered low density rural residential development is found to the north and south of Town (see Figure 3-3). Ridgely is a designated Priority Funding Area (PFA) in the State of Maryland.

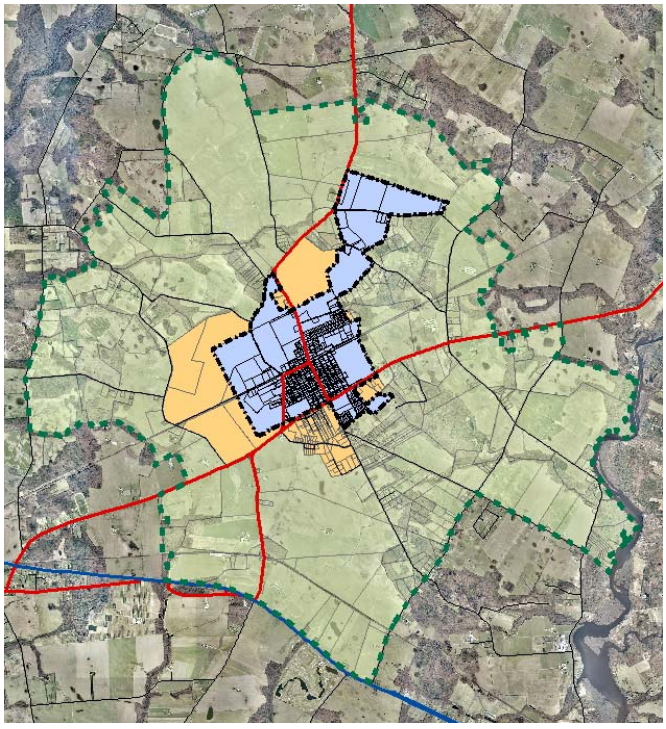


**FIGURE 3-1:** Figure 3-1 depicts the Ridgely Study Area, as analyzed in the 2008 *Ridgely Comprehensive Plan*, including the Town and its Growth Area and Greenbelt.

The recently completed West County Plan was prepared by the Caroline County Department of Planning & Codes Administration in coordination with the West Caroline County Ad Hoc Committee, the Towns of Denton, Hillsboro, and Ridgely, and the Caroline County Planning Commission. According to the draft West County Plan, the predominant future land use planned for the study area surrounding Ridgely (see Map 3-1) includes the following six (6) land use planning areas:

1. Inter-Jurisdictional Growth Area;
2. Greenbelt (including Preservation/Conservation Land);
3. Rural Residential;
4. Commercial;
5. Institutional; and
6. Industrial.

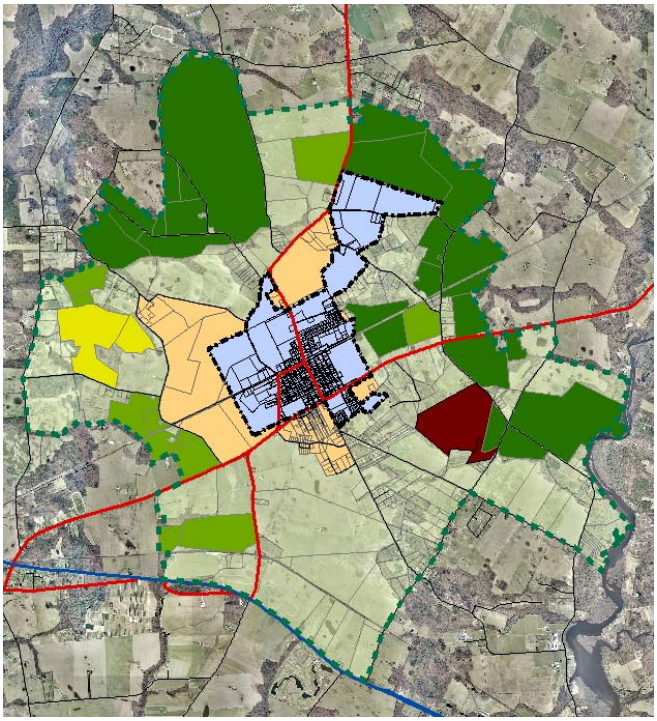


**FIGURE 3-2:** Figure 3-2 depicts land uses from the *West Caroline County Comprehensive Plan*, prepared by Caroline County, for the Ridgely region. It includes preservation and conservation lands (green/yellow); the Ridgely Growth Area (orange); and the future Landfill site (dark red).

**Inter-Jurisdictional Growth Area:** "Inter-jurisdictional Growth Areas" are planning areas located around municipalities and "are designed to provide Urban Growth Boundaries (UGB's) for towns."[1] The Ridgely Growth Area is 916 acres. These are growth areas negotiated with Town representatives during the preparation of the West County Plan.

Growth Areas are designated regions for major capital improvements and may "constitute future PFA's…in compliance with State laws."[2] This planning area acknowledges the need for improved County and Town coordination for growth management with the understanding that towns are the most appropriate areas to provide public infrastructure to accommodate development.

**Greenbelt:** The "Greenbelt" surrounding the Town is approximately 8,001 acres. The Greenbelt is intended to provide a "ring of protected lands to define an urban/rural edge."[3] Planned land uses in the Greenbelt include agricultural, open space, surface mining, natural resource utilization, and low density rural residential. Land within the Greenbelt is categorized as a Caroline County "Priority Agricultural Preservation Area" by the Caroline Department of Planning & Codes Administration. Preservation and conservation funding for agriculture and natural resources will be concentrated in County Greenbelts. Approximately 3,443 acres are currently preserved in the Ridgely Greenbelt as of 2006.

[1] 2007 "Draft" *West Caroline County Comprehensive Plan*. Prepared by the Caroline County Department of Planning & Codes Administration, the Caroline County Planning Commission, and the West County Comprehensive Plan Ad Hoc Committee. 12.
[2] Ibid, 12.
[3] Ibid, 13.

**Rural Residential:** "Rural Residential" includes existing low density residential uses lots that have resulted from prior subdivision activity.

**Commercial:** "Commercial" areas include existing commercial uses. The West County Plan calls for the elimination of the County's "Highway Commercial" zoning district. In addition, the Plan calls for limiting intense commercial uses in rural areas, with the exception of those uses that directly support agriculture and/or natural resource industries.[4]

**Institutional:** Institutional uses include Tuckahoe State Park (Maryland Department of Natural Resources), Adkins Arboretum, and the Ridgely wastewater treatment and spray irrigation site, which is currently located in the County.

**Industrial:** The West County Plan includes scattered existing industrial sites located in rural areas of the County. The future Caroline County Landfill Site, located near Ridgely, is designated as an industrial area in the West County Plan. The largest County industrial area near Ridgely is a nursery located adjacent to the existing Town within the defined Ridgely Inter-Jurisdictional Growth Area (Phyto-Ecology).

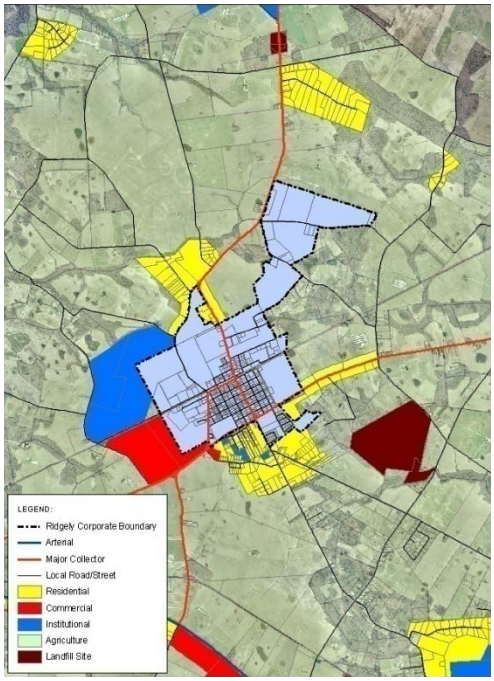
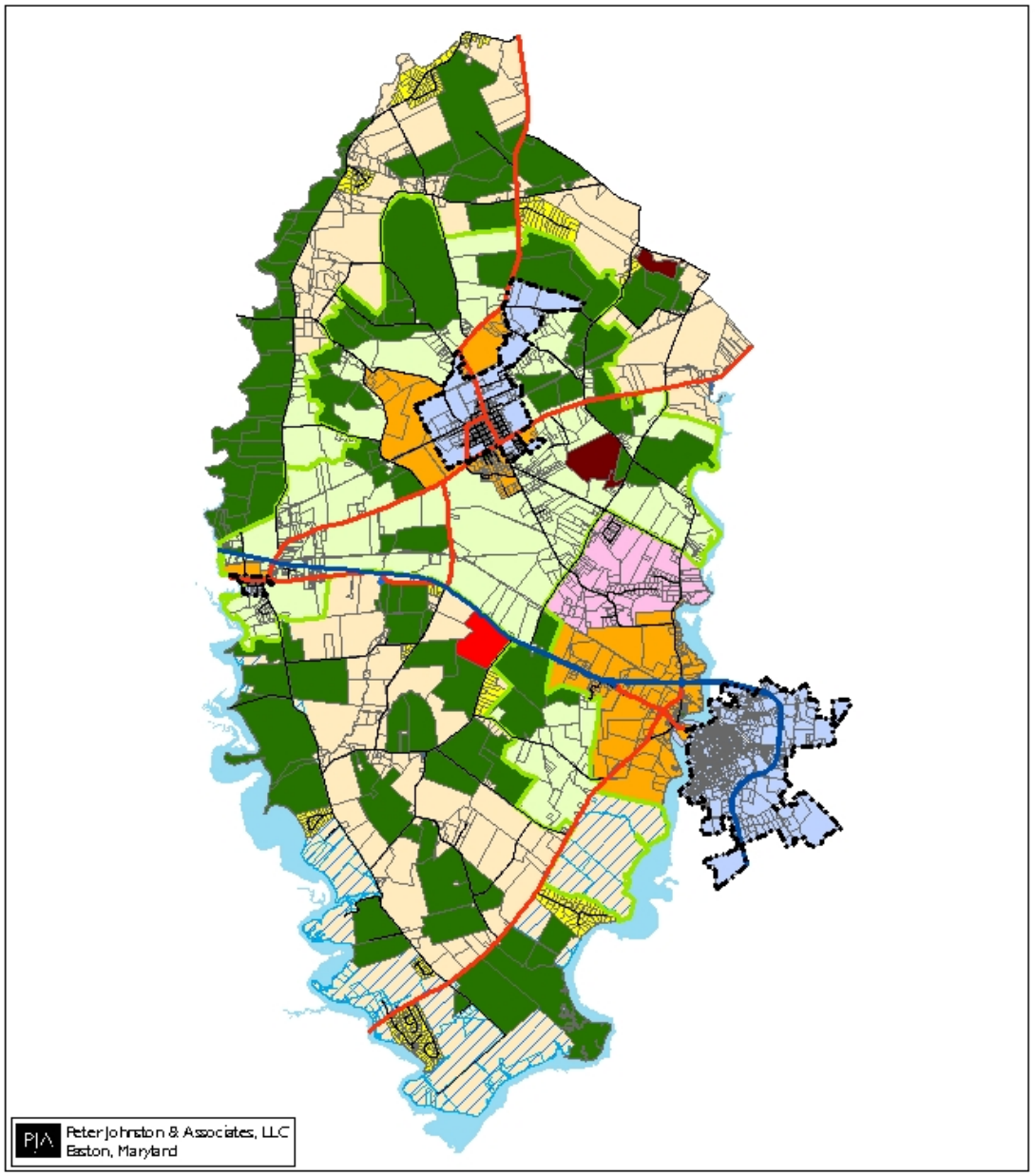



**FIGURE 3-3:** Figure 3-3 depicts Caroline County zoning districts in the Ridgely region.

[4] Ibid.




## MAP 3-1: LAND USE PLAN
## WEST CAROLINE COUNTY

**LEGEND:**

- Municipal Corporate Boundaries
- Arterial
- Major Collector
- Local Road/Street
- Greenbelt Boundary
- Preservation/Conservation Land
- Incorporated Towns
- Growth Areas
- TDR Receiving Area
- Greenbelt
- Residential
- Rural Legacy Planning Area
- Water Resources
- Rural Conservation Area
- Industrial
- Commercial
- Institutional

**Map and statistics as shown in the West Caroline County Comprehensive Plan:**

Incorporated Areas - 1,382 acres (3%);
Unincorporated Areas - 42,228 acres (97%)

2005 LAND USE

Residential - 1,993 acres (5%)
Commercial - 556 acres (1%)
Industrial - 352 acres (1%)
Institutional - 1,146 acres (3%)
Preservation/Conservation Land - 2,624 acres (6%)
Rural Conservation Area - 36,362 acres (83%)
TDR Receiving Area - 1,257 acres (3%)

2005 LAND USE PLANNING AREAS

Growth Areas - 3,236 acres (7%)
Greenbelt - 13,684 acres (31%)
Rural Legacy Planning Area - 7,191 acres (17%)
Rural Villages - 454 acres (1%)

## GROWTH TRENDS & PATTERNS

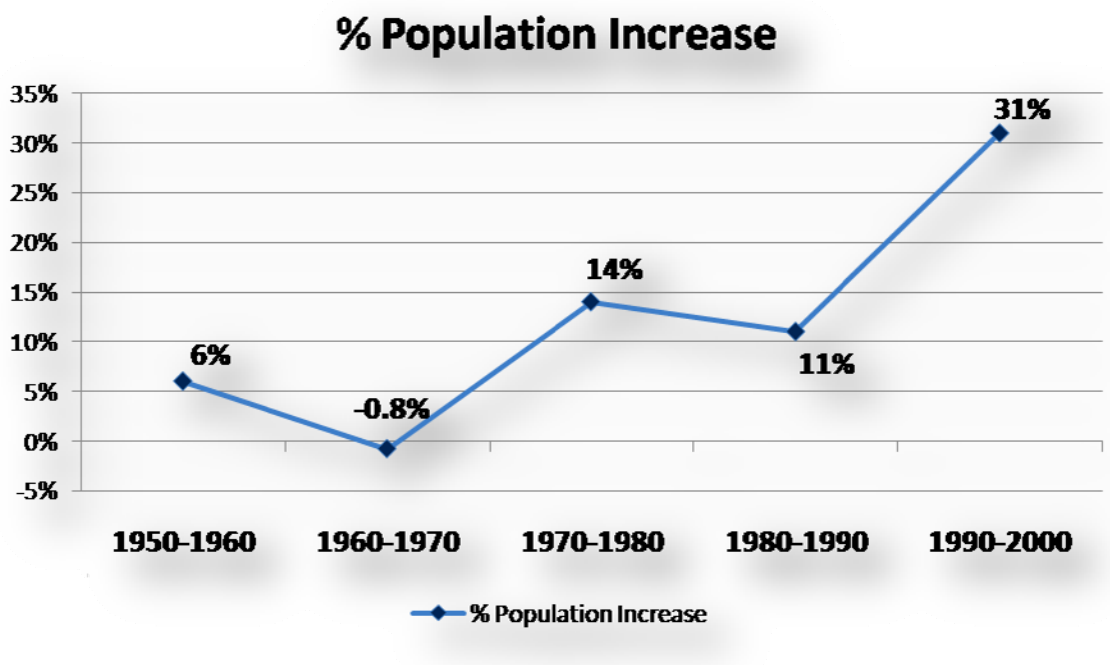
From 1950 to 2000, Ridgely's population increased by 518 residents (see Table 3-1). Ridgely population ranged from 4% to 5% of Caroline County's overall population during this period.

**TABLE 3-1: HISTORIC POPULATION GROWTH – CAROLINE COUNTY AND RIDGELY**

| Classification | 1950 | 1960 | 1970 | 1980 | 1990 | 2000 |
|---|---|---|---|---|---|---|
| Caroline County | 18,234 | 19,426 | 19,781 | 23,143 | 27,035 | 29,772 |
| **Ridgely** | **834** | **886** | **822** | **933** | **1,034** | **1,352** |
| % of County Population | 5% | 5% | 4% | 4% | 4% | 5% |

Source: Maryland Department of Planning, 2007: 1990-2000 U.S. Census – Historic Census Data.

The years 1950 to 1970 witnessed a large decrease in Ridgely's population (7%), culminating in a negative population loss between 1960 and 1970 of approximately 1% (see chart below). From 1970 through 1980, Ridgley experienced a population increase of 14%. From 1980 to 1990, Town population declined slightly (3%). From 1990 to 2000, Ridgely witnessed a significant population increase of approximately 31%.




It is important to note that the population in Ridgely has steadily increased in the last 16 years (1990 to 2006). State figures based on U.S. Census data indicate a 44% increase in the Town's population from 1990 to 2006 (see Table 3-2). This is approximately a 2.7% annual growth rate.

As of 2005, the Maryland Department of Planning (MDP) estimated Ridgely's population at 1,485 making it the 4th largest municipality in Caroline County.

| TABLE 3-2: POPULATION BY MUNICIPALITY – CAROLINE COUNTY | | | | | |
|---|---|---|---|---|---|
| **Classification** | **1990** | **2000** | **2005** | **2006** | **% Change 1990-2006** |
| **Caroline County** | **27,035** | **29,772** | **31,805** | **32,617** | **21%** |
| **Classification** | **1990** | **2000** | **2005** | **2006** | **% Change 1990-2006** |
| Denton | 2,977 | 2,960 | 3,280 | 3,552 | 20% |
| Federalsburg | 2,365 | 2,620 | 2,635 | 2,649 | 12% |
| Goldsboro | 185 | 216 | 210 | 209 | 13% |
| Greensboro | 1,441 | 1,632 | 1,951 | 1,958 | 36% |
| Henderson | 66 | 118 | 121 | 122 | 85% |
| Hillsboro | 64 | 163 | 158 | 158 | 147% |
| Marydel | 143 | 147 | 143 | 143 | 0% |
| Preston | 437 | 566 | 582 | 644 | 47% |
| **Ridgely** | **1,034** | **1,352** | **1,364** | **1,485** | **44%** |
| Templeville | 66 | 80 | 81 | 82 | 24% |
| **TOTAL** | **8,778** | **9,854** | **10,525** | **11,002** | **25%** |

Source: Maryland Department of Planning, 2007: 1990-2000 U.S. Census – 2005 Data

## FUTURE POPULATION GROWTH

Ridgely's future population projections through 2030 are shown in Table 3-3 below. Population growth for the Town from 2000 to 2030 is projected to increase by approximately 109%. The projected annual average growth rate between 2000 and 2030 will be approximately 4%. The most substantial increases are expected from 2000 to 2020 as dwelling units in approved subdivisions are constructed.

**Assumptions:** Population and dwelling unit (DU) projections are based on the following assumptions, referenced in the Growth Plan section of this chapter:

- New planned developments, vacant land, and underutilized land total approximately 1,250 DU's (total infill and redevelopment potential in Ridgely) and approximately 458 acres (see Tables 3-4 and 3-5).
- Residential planned developments, totaling 487 DU's, are where development is expected by 2030 (see Map 3-2).
- Total residential development during the planning period from 2000 to 2030 is expected to be approximately 559 DU's.
- Infill and redevelopment potential (other vacant and underutilized land for residential development) is estimated at 763 additional DU's. Approximately 72 DU's from other residential infill and redevelopment is anticipated in the planning period from 2000 to 2030. The potential yield for other residential infill and redevelopment is based on a "Development Pattern Analysis" (see Appendix B for a detailed description).
- Population projections assume average household size will be commensurate with U.S. Census 2000 statistics for Ridgely at 2.46 persons per household. Population projections for planned

developments and other residential infill and redevelopment total an additional 1,374 people from 2000 to 2030.

- Population projections from 2000 to 2030 assume that Ridgely's population will increase to 6% of Caroline County's total population. Population projections assume that Ridgely's population will remain 6% of Caroline County's total population after 2030.
- After 2030, other residential infill and redevelopment units, totaling 691 DU's, may occur at a slower pace due to infrastructure limitations.
- No additional residential units are anticipated to be added to Ridgely as a result of new annexations within the next six years.

**TABLE 3-3: POPULATION PROJECTIONS FOR CAROLINE COUNTY AND RIDGELY (2000-2030)**

| Classification | 2000 | 2010 | 2015 | 2020 | 2025 | 2030 | Change | Percent | Annual |
|---|---|---|---|---|---|---|---|---|---|
| **Caroline County** | 29,772 | 34,200 | 37,300 | 40,750 | 44,000 | 47,150 | 17,378 | 58% | 1.9% |
| **Ridgely** | **1,352** | **1,491** | **1,838** | **2,187** | **2,544** | **2,726** | **1,374** | **102%** | **3.4%** |
| Dwelling Units | 549 | 606 | 747 | 889 | 1,034 | 1,108 | 559 | N/A | N/A |
| % of County Population | 5% | 4% | 5% | 5% | 6% | 6% | N/A | N/A | N/A |

Sources: Maryland Department of Planning; U.S. Census; Peter Johnston & Associates

## ADDITIONAL FACTORS INFLUENCING GROWTH

The nature and scope of growth in Caroline County and its towns has changed in the 21st Century from a predominately rural area to increasing suburban development. Long-term impacts could include social, economic, and political changes for the County and its towns. From a broad perspective, growth in Caroline County and Ridgely may be caused by a myriad of factors including:

- National demographic trends, particularly the retirement of the "Baby Boomer" generation;
- Market trends for homes, low interest rates, high value housing in other areas of the Mid-Atlantic region;
- Recent economic fluctuations caused by the 2008 economic crisis in the United States including a significant downturn in the housing market nationwide, which may impact new development; and
- Location in relation to major urban areas in Delaware, Maryland, New Jersey, New York, Pennsylvania, and Virginia (Mid-Atlantic States).

In addition, a number of local factors also may be contributing to growth including:

- Lower cost housing and land on the Eastern Shore;
- "Quality of Life" for the Eastern Shore region of Maryland;
- Abundance of historical, cultural, natural, and scenic resources and public amenities, particularly the Chesapeake Bay and its tributaries.
- Water and sewer capacity in municipalities; and
- Economic shifts as the region moves toward a service based economy.

In the past, growth in Caroline County was primarily rural residential development on private well and septic systems. Most of the new growth in the County is occurring in municipal areas where development can access public infrastructure and services. Other regional infrastructure enhancements, such as the dualization of MD Route 404, which connects U.S. Routes 50 and 13, may increase future development in Caroline County and its towns as access from urban areas is improved.

It is noteworthy to consider growth in the neighboring State of Delaware, particularly Kent, New Castle, and Sussex Counties. It also is reasonable to assume that increased growth in Delaware will affect Caroline County and the Town of Ridgely, whether it is increased development activity within the Town or the County.

In regards to Ridgely, Kent County, Delaware is the closest and most convenient with an approximate 30 minute drive time. In 2000, the population of Kent County was 126,697. As indicated by the Delaware Population Consortium in the *Kent County, Delaware Comprehensive Plan*, the County's population is projected to grow at a rate of over 1.5% per year through 2020, increasing to 164,706 people.

New Castle County is the largest county in the State of Delaware with a 2006 population of 525,587 people. In addition, the Wilmington Metropolitan Service Area is within commuting distance to Caroline County and Ridgely (approximately 1 hour and 26 minutes). According to the *2003 Sussex County, Delaware Comprehensive Plan*, the County's population was 156,638 persons in 2000. County population is projected to increase to 218,547 persons by 2020.

## GROWTH PLAN (INFILL & REDEVELOPMENT)

Recent planned developments in Ridgely total approximately 487 dwelling units (DU's) as shown in Table 3-4. These planned residential developments are expected to commence construction and be completely built-out within the next 15 to 20 years subject to infrastructure availability.

**TABLE 3-4: PLANNED DEVELOPMENTS - RIDGELY**

| Planned Developments | Number of Lots/Units (Est.) |
|---|---|
| Cow Barn Subdivision | 36 |
| Elliot Subdivision | 1 |
| Ridgely Park | 403 |
| Ridgeway Estates (Lister House) | 16 |
| Sebasco Unit | 1 |
| Walnut Farms | 20 |
| Walnut Street | 3 |
| Weese Project | 7 |
| **TOTAL** | **487** |

Peter Johnston & Associates
Includes approved/unimproved subdivisions and approved master concept plans from the Town of Ridgely Municipal Government.

As shown on Map 3-2, the three largest potential developments are Ridgely Park, Ridgeway Estates, and Walnut Farms. The most important for the Town is the Ridgely Park Project, which currently has concept plan approval from the Town. Ridgely Park is a Planned Unit Development (PUD) exhibiting a Traditional Neighborhood Development (TND) pattern with clustering and maximization of open space land for on-site environmental management and recreation. As part of their agreement with the Town, the developers of Ridgely Park will fund a large portion of wastewater system capacity upgrade.

## RESIDENTIAL INFILL & REDEVELOPMENT CAPACITY

Table 3-5 below shows the potential dwelling units associated with the planned developments shown in Table 3-4 as well as other vacant and underutilized land within Ridgely (see Map 3-2). Total infill and redevelopment potential for the build-out of the corporate area is estimated to be 1,250 total dwelling units (DU's).

**TABLE 3-5: RESIDENTIAL INFILL & REDEVELOPMENT LAND – RIDGELY**

| Classification | Parcels | Acres | Potential Residential DU's |
|---|---|---|---|
| Planned Developments* | 13 | 168 | 487 |
| Vacant Land | 15 | 276 | 728 |
| Underutilized Land | 3 | 14 | 35 |
| **TOTAL** | **32** | **458** | **1,250** |

Peter Johnston & Associates

*Includes approved/unimproved subdivisions and approved master concept plans.

The potential DU yield for infill and redevelopment is based on a "Development Pattern Analysis" (see Appendix B for a detailed description). Yield was determined by first identifying the characteristics of recent planned developments as well as vacant and underutilized parcels using 2006 Maryland Property View data (MPV), verified by 2003 aerial photography for Caroline County.

## NON-RESIDENTIAL INFILL & REDEVELOPMENT CAPACITY

Non-residential infill and redevelopment capacity includes commercial and industrial areas. The potential yield for commercial and industrial infill and redevelopment is based on a "Development Pattern Analysis" (see Appendix B for a detailed description). Ridgely has reserved 11,000 gallons per day (gpd) of water and sewer capacity for commercial projects, which has been factored into the evaluation of growth impacts in the planning period from 2000 to 2030.[5]

**FIGURE 3-4:** The Ridgely Airport and Business & Technology Park are important economic development initiatives for the Town and County.

### Ridgely Business Technology Park

Ridgely is cooperating with Caroline County in the development of a Business & Technology Park located in the northeast portion of the Town (see Figure 3-4). The Business & Technology Park is one phase of a larger effort to construct a technology business center in Caroline County linked to the neighboring Ridgely Airport. Combined these two sites provide a major transportation hub and modern employment center for the County. Both of these sites were annexed by the Town in 2005. The Business & Technology Park site totals approximately 95 acres with the potential for 18 commercial units at build-out, according to the current concept plan.

[5] *Town of Ridgely Wastewater Capacity Management Plan*. October 1, 2008. Capacity/Flow/Remaining Capacity.

As described in "Appendix B: Development Pattern Analysis," utilizing a ratio for projected commercial water and sewer demand (200 gpd per 1,000 square feet of floor area), the Business & Technology Park will require 50,530 gallons per day (gpd) of water and sewer at total build out. Ridgely has reserved 9,000 gpd of wastewater for Phase I of Business & Technology Park from the existing water and sewer system.[6]

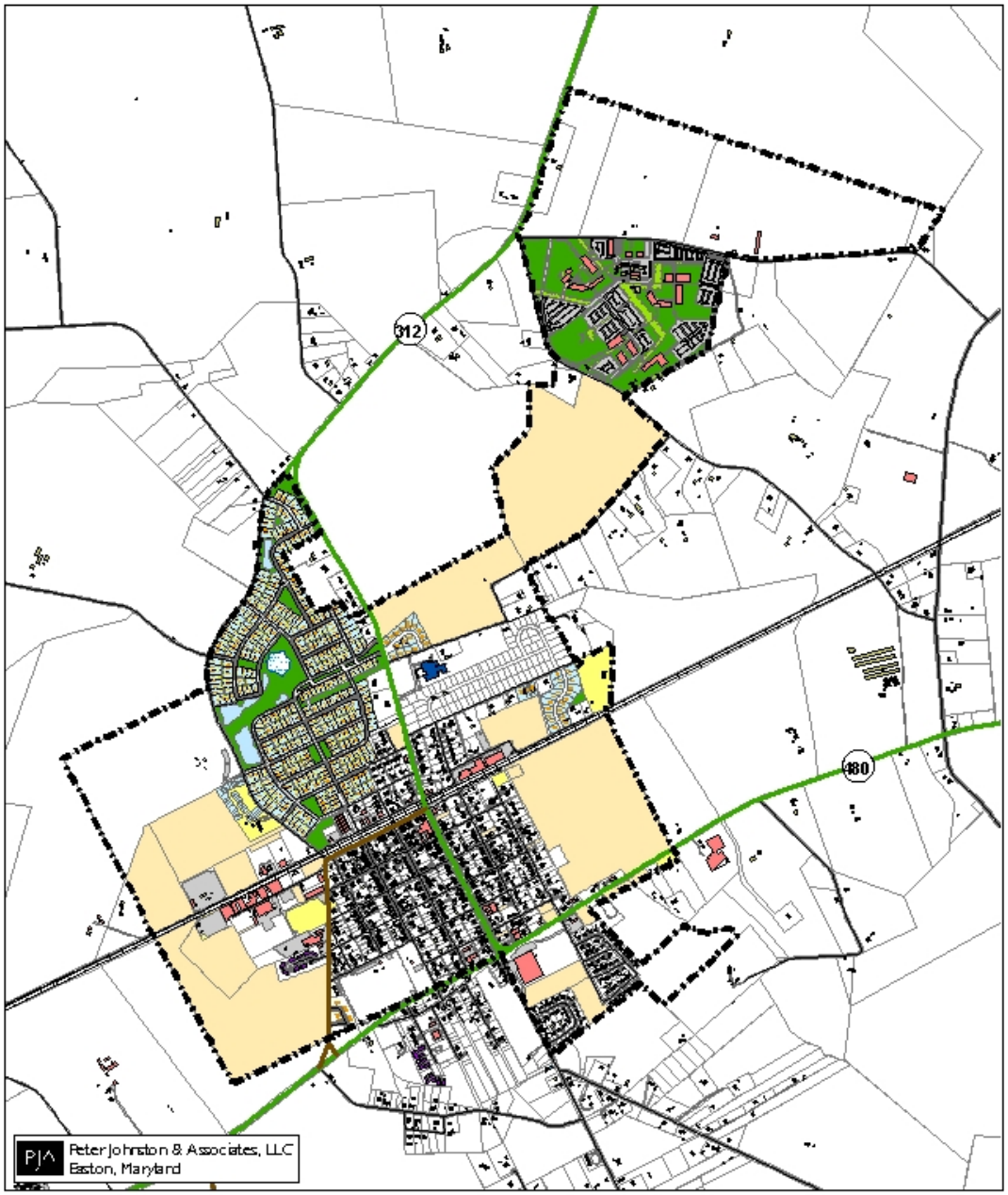
**Ridgely Stores/Brodie Shopping Center**

The Ridgely Stores/Brodie Shopping Center is a commercial redevelopment project for the New Roads Commercial Building on Railroad Avenue in the Central Business District. The building is being converted for shops and other small commercial operations as leased space. Ridgely has reserved 2,000 gpd from the existing water and sewer system.

**Other Commercial/Industrial Infill and Redevelopment**

In addition to the planned Ridgely Business & Technology Park, other commercial infill and redevelopment sites exist in the Town. Total "other" commercial infill and redevelopment is approximately 5 acres with seven (7) potential commercial units (CU's). Total industrial infill and redevelopment is approximately 28 acres with twelve (12) potential industrial units (IU's). Other commercial/industrial infill and redevelopment areas will require an additional 28,506 gpd of water and sewer at total build-out. "Other" commercial and industrial infill and redevelopment, as described in Appendix B, are not expected during the planning period from 2000 to 2030.

[6] Ibid.




## MAP 3-2: MUNICIPAL GROWTH PLAN INFILL & REDEVELOPMENT LAND

**LEGEND:**

- Ridgely Corporate Boundary
- Major Collector
- Minor Collector
- Local Road/Street
- Railroad Line
- Potential Dwellings
- Accessory Units
- Dwellings
- Commercial Buildings
- Apartments
- Out Buildings
- Church/Public
- Public/Semi-Public Buildings
- Sidewalks
- Impervious Surface
- New Subdivisions - Open Space
- New Subdivisions - Lots
- Underutilized Land
- Vacant Land

N

0 0.125 0.25 0.5 0.75 1 Miles

# GROWTH & ANNEXATION AREA PLAN

The Ridgely Growth & Annexation Area, as shown on Map 3-3 and Figure 3-5, represents the Town's long range growth expectations. A Growth Area for Ridgely was first defined in the *West Caroline County Comprehensive Plan*. The Ridgely Growth Area has been further refined during this comprehensive planning process to reflect current Town goals in relation to annexation, growth, and future development beyond Ridgely's current corporate boundaries. The 2008 Ridgely Growth Area totals approximately 824 acres.

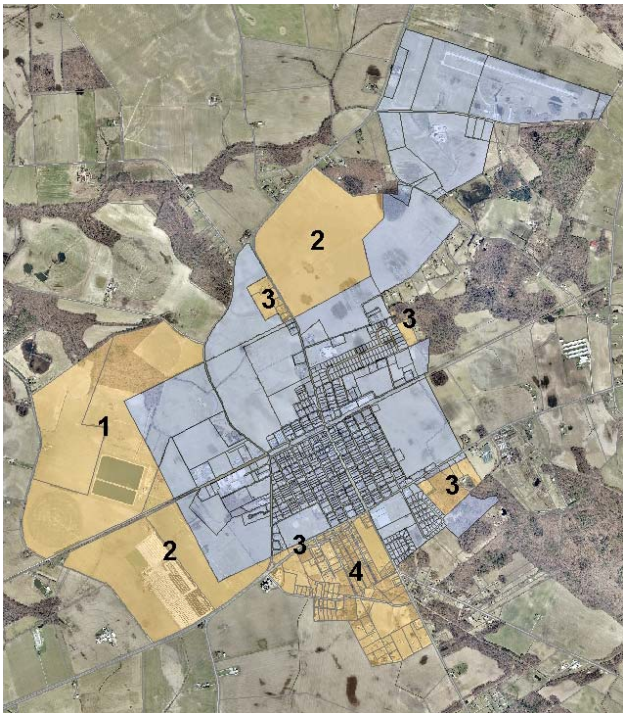



**FIGURE 3-5:** The Ridgely Growth & Annexation Area totals 824 acres. Areas are numbered in the Figure, depicting each distinct area and its general location.

## GROWTH & ANNEXATION AREAS

The Ridgely Growth and Annexation Area include four distinct area types, described as follows:

1. Annexation Area 1: Ridgely Wastewater Treatment and Spray Application Site (WWTP).
2. Annexation Area 2: Large vacant parcels for future residential, commercial, and/or mixed use development as Planned Neighborhood Developments.
3. Annexation Area 3: Several small and medium sized parcels to clarify corporate boundaries.
4. Annexation Area 4: Caroline County rural village of Trinity Boonsboro.

**Annexation Area 1:** Annexation Area 1, owned by the Town, includes the Ridgely WWTP (208 acres). This area is a priority annexation area and will continue to be used for wastewater treatment and spray application. Additional agricultural properties are located in this area, which could be used for future spray irrigation expansion. Annexation of the WWTP may occur within the planning period 2000 to 2030. Residential development on this site is not anticipated;

**Annexation Area 2:** Annexation Area 2 includes several large areas east and north of Town consisting of three (3) parcels totaling 320 acres. Annexation plans for Ridgely acknowledge these properties as substantial future growth areas for planned mix-use development. Annexation of this area is not anticipated within the planning period.

**Annexation Area 3:** Annexation Area 3 represents properties where annexations would clarify boundaries, prevent "enclaves," and/or extend service to areas of septic systems. Annexation Area 3 consists of several small and medium sized parcels totaling approximately 145 acres with limited development potential. This area includes a mix of existing agricultural, residential, and commercial land

uses. Properties may be annexed on a "case-by-case" basis. Impacts associated with these annexations are minimal.

**Annexation Area 4:** Annexation Area 4 includes Trinity Boonsboro (152 parcels/151 acres), an existing residential subdivision in Caroline County located south of Ridgely and adjacent to the Town. The rural village has been identified by the County as a "failing septic system" area requiring public infrastructure (water and sewer). Some areas within Trinity Boonsboro are currently served by Town water and/or sewer. These areas should constitute priority annexation areas since infrastructure services are already provided by the Town. Annexation of the rural village of Trinity Boonsboro is not anticipated in the planning period from 2000 to 2030 other than small parcels currently served by the Town. Full annexation of Trinity Boonsboro will require intensive inter-jurisdictional coordination and cooperation with Caroline County including planning for public facilities and services, cost sharing for public infrastructure provisions/improvements, and a detailed housing and revitalization program.

## ANNEXATION: RURAL/URBAN TRANSITION AREAS

Figure 3-6 shows areas that the Town would like the County to consider as rural/urban transition areas. The Town will work with the County to determine zoning appropriate to a rural/urban transition area. This includes inter-jurisdictional discussion for a potential change of zoning or application of transitional zoning to ensure municipal annexation in the future, which is consistent with the Town and County Comprehensive Plans. Of particular concern to Town officials are those areas zoned R-1 and R-2 residential areas as well as I-2 in the County. These areas permit low-density strip residential and commercial development, located at the gateways to the Town.

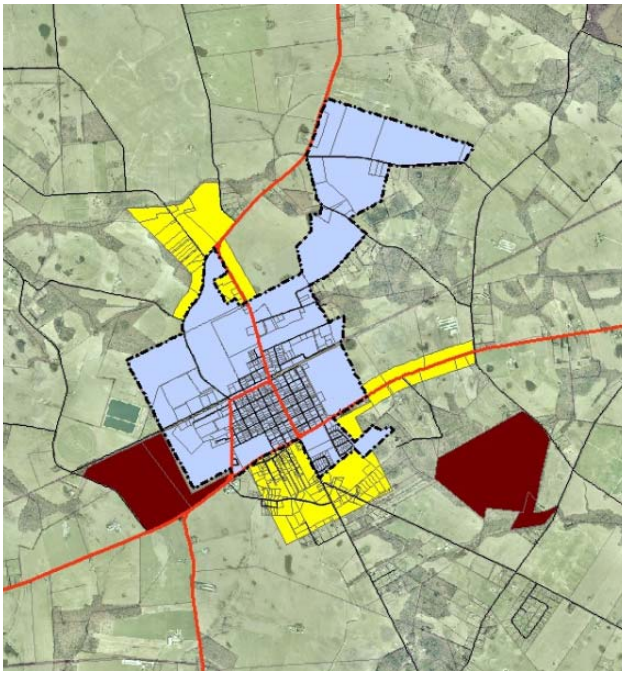


**FIGURE 3-6:** Figure 3-6 depicts Caroline County Zoning Districts for consideration as rural/urban transition areas, which include Residential: R1 and R2 (yellow) and Industrial: I-2 (red).

## ANNEXATION TIMELINE

With the exception of "Annexation Area 1" and annexation of several small parcels to clarify Town corporate boundaries, annexation of other properties in the Growth Area is not anticipated within the next 6 years. Ridgely does however anticipate annexation and development in the future. The Town's reasons for planning future annexations include:

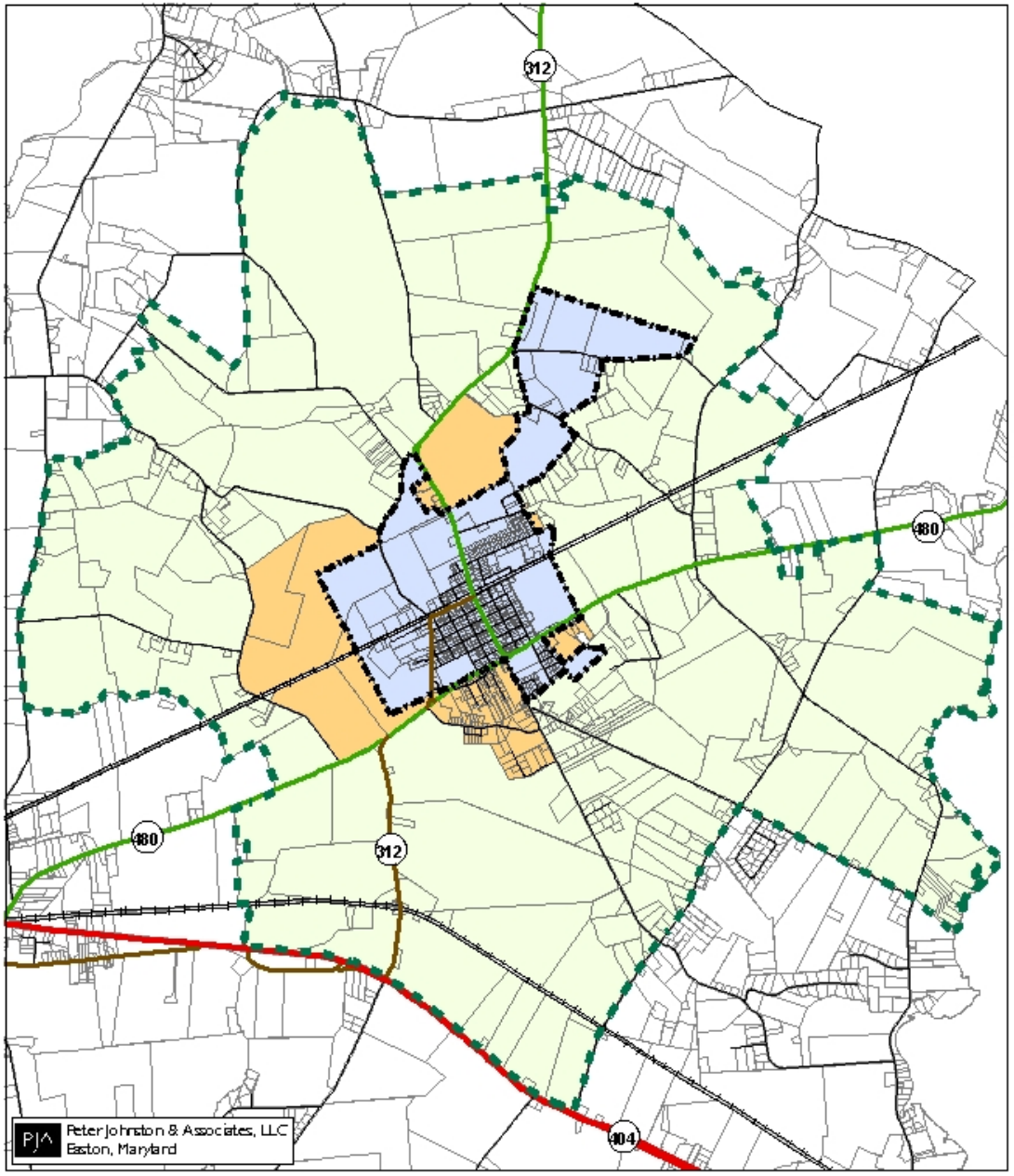
- Protecting Ridgely's unique identity by controlling the quality of development occurring in and around the Town;
- Requiring development site design that focuses on "place-making" principles;
- Efficient use of land resource by ensuring Smart Growth densities for new development;

- Requiring appropriate stormwater Best Management Practices (BMP's) to enhance and protect water quality in potential receiving waters (Environmental Site Design);
- Addressing potential health and water quality issues associated with failing septic systems in coordination with Caroline County; and
- Ensuring appropriate expansion of wastewater treatment and spray irrigation systems to accommodate new development.

## ANNEXATION POLICIES

The Comprehensive Plan maps a proposed Growth and Annexation Area for Ridgely. Properties located within this Growth Area are eligible for annexation. Prior to annexing any land area not included in the Growth and Annexation Area Plan, the Town will first consider appropriate amendments to this Comprehensive Plan (including the Municipal Growth and Water Resources Elements). Ridgely will follow the procedural requirements for comprehensive plan amendments and annexation established in State law (Articles 66B and 23A). This will ensure that: 1) the proposed annexation is consistent with the goals and objectives of this Comprehensive Plan; 2) appropriate consideration has been given to the adequacy of public facilities and services; and 3) County and State agencies are afforded an opportunity to comment on the proceedings. In addition, the following annexation policies will apply to future annexations:

1. Proposed annexation areas will be economically self-sufficient and will not result in larger municipal expenditures than anticipated revenues, which would indirectly burden existing Town residents with the costs of services or facilities to support the area annexed.
2. The costs of providing roads, utilities, parks, other community services will be borne by those people gaining the most value from such facilities through either income, profits, or participation.
3. Specific conditions of annexation will be made legally binding in an executed annexation agreement. Such agreements will address, among other things, consistency with the goals, objectives and recommendations contained in the *Ridgely Comprehensive Plan*, zoning and development expectations, responsibility for appropriate studies, and preliminary agreements concerning responsibilities for the cost of facilities and services provided by the Town. These preliminary agreements may be further revised in a Developers Rights and Responsibility Agreement (DRRA).
4. For annexations involving larger parcels of land, the Town may require appropriate impact studies, including a fiscal impact study and an environmental impact assessment that addresses the potential impact of the proposed annexation and planned development on the environment of the site and surrounding area.
5. If necessary, applicants for annexation shall pay the cost of completing all studies related to expanding capacity in existing public facilities and/or services.




## MAP 3-3: MUNICIPAL GROWTH PLAN
## GROWTH & ANNEXATION PLAN

**LEGEND:**

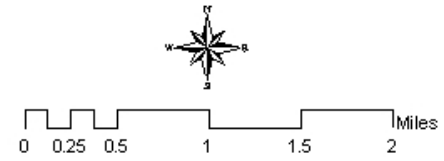
- Ridgely Corporate Boundary
- Ridgely Greenbelt Boundary
- Other Principal Arterial
- Major Collector
- Minor Collector
- Local Road/Street
- Railroad Line
- Ridgely Growth Area
- Ridgely Greenbelt

GROWTH & ANNEXATION LAND

Annexation Area 1 = 208 acres
Annexation Area 2 = 320 acres
Annexation Area 3 = 145 acres
Annexation Area 4 = 151 acres

TOTAL = 824 acres

*Note: See Comprehensive Plan for detail regarding Annexation Areas.



# IMPACTS OF GROWTH

Population growth will have impacts on public services and facilities provided by Ridgely and Caroline County. Table 3-6 summarizes the estimated potential impacts on public facilities and services associated with planned developments, residential infill and redevelopment areas, and commercial infill and redevelopment during the planning period from 2000 to 2030. Impacts project dwelling units, population increases, sewer and water demand, as well as other public facilities and services such as schools, libraries, police, recreation land demand, and fire and rescue (emergency services).

**Assumptions:** Impact projections for Ridgely growth utilize the following sources:

- Future population and dwelling unit projections from 2000 to 2030, as described in this chapter;
- Maryland Department of the Environment (MDE) multipliers for water and wastewater "Water & Wastewater Capacity Management Plans" (250 gallons per day of water and sewer per DU). Assumes an additional 25% water and sewer capacity to accommodate new development;
- Maryland Department of Planning (MDP) multipliers for school enrollment and recreation land;
- Multipliers for Municipal Administrative Space based on current space per thousand people;
- American Library Association (library facility square footage multiplier);
- International Association of Police Chiefs and other organizations (personnel multiplier);
- International City Council Management Association (fire personnel multiplier); and
- National Planning Standard (fire facility square footage multiplier).

**TABLE 3-6: IMPACTS OF RIDGELY GROWTH ON PUBLIC FACILITIES & SERVICES**
**INFILL & REDEVELOPMENT FOR THE PLANNING PERIOD 2000 - 2030**

| Classification | Infill/Redevelopment Areas |
|---|---|
| **Total Dwelling Units** | **559** |
| **Population** | **1,374** |
| - Additional Sewer Design Capacity Required (gallons per day - gpd) | 139,750 |
| - Additional Water Design Capacity Required (gallons per day - gpd) | 139,750 |
| - Non-Residential Sewer/Water Design Capacity Required (gallons per day - gpd) | 11,000 |
| ***Total Sewer and Water (including non-residential infill/redevelopment)** | **150,750** |
| **School (new students)** | **266** |
| - High School | 86 |
| - Middle School | 60 |
| - Elementary School | 120 |
| **Municipal Administrative Space (gross floor area – gfa)** | **5,496** |
| **Library (gross floor area - gfa)** | **137** |
| **Police (personnel)** | **4** |
| **Recreation Land (acres)** | **41** |
| **Fire & Rescue (Emergency Services)** | |
| - Personnel | 2 |
| - Facilities (gross floor area - gfa) | 1,099 |

Peter Johnston & Associates

*Note: Impact projections assume approximately 487 dwelling units from planned developments and an additional 72 dwelling units from other infill and redevelopment sites for the planning period from 2000 to 2030 (total of 559 DU's). Impact projections also assume an additional 11,000 gallons per day (gpd) of water and sewer for commercial infill and redevelopment projects.

## IMPLICATIONS OF GROWTH

The most significant implications of Ridgely's "Growth Plan" are impacts on school facilities and water and wastewater demand. Future large-scale developments with significant potential impacts will be required to conduct a fiscal impact analysis to determine if revenues will cover the cost of public services and facilities. If a shortfall is determined, the Town will require a Developers Rights and Responsibilities Agreement that includes offsetting fees or enacting impact fees.

**Public Schools:** The projected impact of Ridgely's population growth on schools is approximately 266 new students: 120 elementary school students; 60 middle school students; and 86 high school students.

**Library:** Residents of Ridgely are located within an easy drive of two branches of the Caroline County Public Library: Denton Public Library and the Greensboro Public Library. County library expansions and renovations are funded through the Caroline County Fiscal Year Capital Budget. Projected impacts indicate that an additional 137 square feet of library space will be needed to accommodate the residential growth projected for Ridgely. The combined facilities of Denton and Greensboro public libraries should adequately serve these needs.

**Recreation Land:** Ridgely already has 52.3 acres of park and recreation land, which are dedicated public parks serving the existing population. Projected impacts indicate an additional 41 acres is needed.

**Public Safety:** Fire and emergency medical services are provided to Ridgely residents through the Caroline County Department of Emergency Medical Services (EMS), which supplies EMS to Caroline County towns and oversees municipal volunteer fire departments (including the Ridgely Volunteer Fire Department). Police protection in Ridgely is provided by a Town Police Force, the Caroline County Sheriff's Department, and the Maryland State Police.

Police and emergency services will be impacted to a moderate degree as a result of the projected increase in Ridgely's population. Based on industry standards for calculating staffing levels of emergency services personnel, four (4) additional police personnel and two (2) additional fire/rescue personnel will be needed to serve the projected increase in population. Fire and rescue services also will need an additional 1,099 square feet of building space. This need can be partially fulfilled with the construction of a new Ridgely Fire Hall/Station within the Town.

**Town Administrative Offices:** Ridgely recognizes that any gain in population will require an equivalent increase in municipal meeting space, Town administrative staff, and municipal services (street repairs, trash collection, etc.). The Town currently provides approximately 4,000 square feet of administrative office space per 1,000 people.[7] If this level of service is to be maintained through the planning period (2000 to 2030), an additional 5,496 square feet of administrative office space is needed.

[7] 2006 Maryland Property View. United States Census Bureau: U.S. Census 2000.

**Water and Sewer:** According to the Town's January 1, 2008 Status Report "Wastewater Treatment Plant Allocation Capacity Management Plan," the Ridgely WWTP has an existing design capacity of 200,000 gpd with a current flow of 124,667 gpd (2005 – 2007). Remaining capacity in the plant is limited and planning for upgrades should be undertaken.

Sewerage capacity exists in the Ridgely WWTP but not enough to serve new planned developments, other residential infill and redevelopment, and non-residential infill and redevelopment. Additional capacity is required to serve growth/development during the planning period from 2000 to 2030. Sewer demand will increase by an additional 150,750 gpd. Water demand also will increase by 150,750 gpd.

This will require a water/wastewater system with a total design capacity of approximately 350,750 gpd (existing design capacity at 200,000 gpd and projected usage at 150,750 gpd combined). Future infill and redevelopment beyond 2030 will require additional capacity as noted in Table 3-7. Capacity for future commercial and industrial development must also be factored into the Town's allocation process.

### POTENTIAL IMPACTS ASSOCIATED WITH ADDITIONAL INFILL & REDEVELOPMENT LAND

Table 3-7 provides potential impacts from additional infill and redevelopment associated with the full build-out to the Town's development capacity. This includes an additional 691 residential infill and redevelopment units with a projected population of 1,670 new residents. It also includes limited non-residential infill and redevelopment sites (commercial and industrial). Additional infill and redevelopment, including residential and non-residential units, is not anticipated during the planning period from 2000 to 2030.

Substantial impacts from Ridgely infill and redevelopment land will be experienced by Caroline County. For example, to accommodate infill and redevelopment growth, an expansion of school facilities will be required at all levels (see discussion of rated school capacity in the Community Facilities chapter). It also will require increases in personnel for police and fire and rescue (emergency services). Emergency services include additional square footage for facilities.

Impacts to the Town include the need for additional water and sewer capacity to meet projected demand. In all likelihood, the Town will be required advance waste water treatment levels to Enhanced Nutrient Removal.

| TABLE 3-7: IMPACTS OF RIDGELY GROWTH ON PUBLIC FACILITIES & SERVICES<br>POTENTIAL INFILL AND REDEVELOPMENT BEYOND 2030 | |
|---|---|
| **Classification** | **Remaining Infill/Redevelopment Areas** |
| ***Total Dwelling Units** | **691** |
| **Population** | **1,670** |
| - Additional Sewer Design Capacity Required (gallons per day - gpd) | 172,750 |
| - Additional Water Design Capacity Required (gallons per day - gpd) | 172,750 |
| - Non-Residential Sewer/Water Design Capacity Required (gallons per day - gpd) | 28,506 |
| ***Total Sewer and Water (including non-residential infill/redevelopment)** | **201,256** |
| **School (new students)** | **329** |
| - High School | 106 |
| - Middle School | 74 |
| - Elementary School | 149 |
| **Municipal Administrative Space (gross floor area – gfa)** | **6,680** |
| **Library (gross floor area - gfa)** | **167** |
| **Police (personnel)** | **4** |
| **Recreation Land (acres)** | **50** |
| **Fire & Rescue (Emergency Services)** | |
| - Personnel | 3 |
| - Facilities (gross floor area - gfa) | 1,336 |
| Peter Johnston & Associates<br>*Note: Impact projections assume approximately 691 total dwelling units from other residential infill and redevelopment sites in Ridgely after 2030. Also assumes approximately 19 commercial and industrial units anticipated after 2030 (28,506 gpd water/sewer), depending on the availability of infrastructure. | |

## POTENTIAL IMPACTS ASSOCIATED WITH THE GROWTH & ANNEXATION AREA

Annexation of Ridgely Growth Areas, with the exception of the Ridgely wastewater treatment site, is not anticipated within the planning period 2000 to 2030. The Ridgely Growth Area is approximately 824 acres of which 320 acres form the core area anticipated for future residential and/or mixed use development (Annexation Area 2). Annexation Area 2 was used to estimate potential impacts from new residential development.

**Assumptions:** Impact projections for the Ridgely Growth Area are largely confined to Annexation Area 2, large vacant parcels where future residential and/or mixed use development is anticipated. The potential impacts associated with annexation and development of the Growth Area was calculated based on three potential development scenarios:

- Scenario 1: Based on standard zoning for the Ridgely R-3 Residential Zoning District, Scenario 1 assumes an average gross density of 2 dwelling units per acre.
- Scenario 2: Based on Maryland Smart Growth objectives, Scenario 2 assumes an average gross density of 3.5 dwelling units per acre.
- Scenario 3: Based on development standards that will permit maximum dwelling units per acre in planned mixed-use communities, Scenario 3 assumes an average gross density of 5.0 dwelling units per acre.

As shown in Table 3-8, impacts associated with the build-out of the Growth Area are based on a potential range of dwelling units (development capacity) from 640 to 1,600. Population is estimated to range from 1,574 to 3,936 new Town residents.

| TABLE 3-8: IMPACTS OF RIDGELY GROWTH ON PUBLIC FACILITIES & SERVICES (GROWTH AREA) | | | |
|---|---|---|---|
| **Classification** | **Scenario 1** | **Scenario 2** | **Scenario 3** |
| **Gross Dwelling Units (Annexation Area 2)** | **640** | **1,120** | **1,600** |
| **Population** | **1,574** | **2,755** | **3,936** |
| **Additional Sewer Design Capacity (GPD)** | **160,000** | **280,000** | **400,000** |
| **Additional Water Design Capacity (GPD)** | **160,000** | **280,000** | **400,000** |
| **SCHOOL** | **305** | **533** | **762** |
| - High School | 99 | 172 | 247 |
| - Middle School | 68 | 120 | 171 |
| - Elementary School | 138 | 241 | 344 |
| **Municipal Administrative Space (gross floor area – gfa)** | **6,296** | **11,020** | **15,744** |
| **LIBRARY (floor area)** | **157** | **276** | **394** |
| **POLICE (personnel)** | **4** | **7** | **10** |
| **RECREATION LAND (acres)** | **47** | **83** | **118** |
| **FIRE & RESCUE** | | | |
| - Personnel | 3 | 4 | 6 |
| - Facilities | 1,259 | 2,204 | 3,149 |
| Peter Johnston & Associates | | | |

Scenario 2 is most reflective of how the properties may be developed given past development trends. Scenarios 2 and 3 are based on the belief that in order for the County and Town to make the most efficient use of existing and planned water and sewer facilities, while at the same time addressing resource protection and water quality requirements, development regulations will need to require compact mixed-use communities.

Accommodating the growth implied in any scenario will require expansion of school facilities at all levels. It also will require increases in personnel for police and fire and rescue (emergency services). Emergency services include additional square footage for facilities. Water and sewer demand will increase significantly. Development of the Ridgely Growth Area will require another substantial upgrade to the Town's water and wastewater systems.

## INTER-JURISDICTIONAL COORDINATION

The *Ridgely Comprehensive Plan* highlights the need for increased inter-jurisdictional coordination with Caroline County. From Ridgely's perspective, the substantive issues related to Caroline County include the following:

- The Caroline County Landfill, located near Ridgely in the Study Area on Holly Road, will impact Town infrastructure and quality of life for residents. Caroline County and Ridgely should work closely to address perceived impacts and mitigate conflicts with landfill operations.

- The County region surrounding Ridgely is rich in mineral resource (sand and gravel deposits). Caroline County should identify areas where mineral extraction will be permitted in coordination with the nearby municipalities. Locating mineral resource extraction districts, as recommended in the *West Caroline County Comprehensive Plan*, should take into account municipal gateways and surrounding scenic viewsheds. In addition, the County should develop comprehensive and up-to-date regulations governing surface mining activities to ensure mitigation and appropriate post mining uses, which can include residential development.
- Peripheral development in Caroline County, within the Ridgely Growth Area, is a concern of Town officials. The Town believes that new development in and around the Town should be consistent with Maryland Smart Growth principles and sound place-making practices. Caroline County should work closely with the Town to address potential pre-development issues and ensure that land designated as a future municipal growth area or greenbelt be protected from incompatible development.
- Caroline County has indicated in the *West Caroline County Comprehensive Plan*, a desire to have Trinity Boonsboro annexed by Ridgely and provided with water and sewer infrastructure. Ridgely concurs that annexation and water and sewer provisions will assist overall County water quality and quality of life objectives. However, the Town wishes to note that Trinity Boonsboro is a County subdivision and the Town is not responsible for the failing septic systems in this area. Future annexation of Trinity Boonsboro will require a detailed and coordinated County/Town effort. This includes acceptance of Caroline County's responsibility to provide sanitary, safe, and healthy conditions for residents through cost sharing initiatives with the Town to improve conditions.
- Ridgely and Caroline County will have to work together, along with other jurisdictions in the Choptank River Basin, to devise appropriate management strategies to ensure water quality standards are met while at the same time accommodating responsible growth (see Water Resources Element).

## COORDINATION FOR EFFECTIVE GROWTH MANAGEMENT

It is apparent from the prior discussion of growth-related impacts that a critical need exists for the Town and County to work together. Future growth of the County and Town will depend on sound strategies to address such issues as water quality and school capacity as well as demands on emergency services, public infrastructure, and transportation facilities. This sentiment was underscored by the *West Caroline County Comprehensive Plan*.

Like public infrastructure, water quality issues cannot be addressed by the Town alone. Going forward, effective management of non-point source pollution must be based on watershed-wide land use strategies and coordinated administration and enforcement of sediment and erosion control and stormwater management regulations. The planning requirements from Maryland House Bill 1141 direct the Town and County Planning Commission to meet and discuss this Comprehensive Plan prior to adoption. At a minimum, an agenda for such a joint County/Town meeting should include how best to coordinate the following:

1. Cooperative watershed planning initiatives for the watershed;
2. Coordinated policies concerning County land uses adjacent to the Town;
3. Coordinated policies concerning conservation of green infrastructure; and
4. Funding for public facilities and services, i.e., Adequate Public Facilities Ordinance, impact fees, excise taxes, County/Town tax differential.

Effective mechanisms for County/Town dialogue, coordination, and agreement are needed. Acceptable coordinated strategies should be formalized in ways that bind each participant. Forums for on-going coordination and cooperation include the Caroline County Council of Governments (COG), sanitary districts, joint steering committees (for example for watershed planning initiatives) and others. Examples of potential formal mechanisms for recording joint policies include a Memorandum of Understanding (MOU) and/or an Inter-Governmental Agreement (IGA). An assessment of the direction for future development patterns in Caroline County is needed as a critical step in the broader process. Updates to Caroline County's policies and implementing provisions to reflect the recommendations of this Plan also are needed.

## IMPLEMENTATION RECOMMENDATIONS

Descriptions and other details regarding implementation are contained in Chapter 9 of this Comprehensive Plan.

**RECOMMENDATION #1:** Review, update, and revise Ridgely development standards, guidelines, regulations, processes, and procedures to achieve consistency with the Comprehensive Plan. This is particularly important for infill and redevelopment, annexation, and infrastructure.

**RECOMMENDATION #2:** Preserve the small town historic and rural character of Ridgely, while also preserving single-family neighborhood community identity by initiating local municipal policies and regulations to stabilize neighborhoods.

**RECOMMENDATION #3:** Initiate immediate planning, design, and engineering for infrastructure upgrades to accommodate planned developments and infill and redevelopment (water and sewer).

**RECOMMENDATION #4:** Require new planned development assess their impacts, including fiscal and environmental impacts.

**RECOMMENDATION #5:** Coordinate with Caroline County regarding County zoning, which surrounds the Town, and other planning initiatives such as watershed planning. Regarding County zoning, Ridgely should request enhanced coordination and cooperation from the Caroline County Department of Planning and Codes Administration to ensure compatible development with Ridgely's historic character and unique location. Low density residential development in Ridgely Growth Areas should be discouraged.

**RECOMMENDATION #6:** Coordinate with Caroline County to amend the Ridgely Growth Area and Greenbelt in the *West Caroline County Comprehensive Plan* to reflect the recommendations of this Comprehensive Plan and create consistency between the County and Town Comprehensive Plans.

**RECOMMENDATION #7:** Meet with the Caroline County Planning Commission to discuss the Ridgely Comprehensive Plan.

# Chapter 4 Community Facilities

Public services and facilities provided by Ridgely, and other government agencies, ensure the health, safety, and welfare of existing and future populations. To ensure that adequate community facilities and services are available when needed, the Town must continually monitor demand and capacity to anticipate when and where facility expansions will be needed. Preparation of a "Community Facilities Element" in the Comprehensive Plan is a preliminary step in addressing supply and demand for community facilities and services. This includes education and recreation facilities, police and emergency services, roads, streets and sidewalks, and water and sewer services. This element of the Comprehensive Plan examines existing community facilities and services. The "Municipal Growth Element" assesses the impacts of projected future growth and recommends actions the Town should take to ensure adequate community facilities and services are available.

**GOAL & OBJECTIVES**

**GOAL:**

Provide an appropriate array of community facilities and services, required to maintain the public health, safety, and welfare of the residents of Ridgely.

**OBJECTIVES:**

Assure the continued expansion of public facilities and services commensurate with local financial capabilities and the capacity of each system.

Assure the provision of community facilities and services to all "living and working" areas of Ridgely, accomplished in a manner least disruptive to the environmental qualities of the area.

Encourage the efficient use of natural resources such as water, waterways, and scenic areas for the benefit of all residents of Ridgely.

Encourage the use of public lands and buildings for a variety of public purposes.

## TOWN GOVERNMENT

Ridgely Town government maintains a town hall, police station, several water and sewer service support buildings and a public works maintenance garage and shop. The Town Hall, approximately 5,356 square feet, is located on Central Avenue. Built in 1867, this building is the former residence of one of the Town's founding fathers. Named the "Ridgely House," it served as a hotel and apartments before being purchased by the Commissioners of Ridgely in 1997. A careful and extensive restoration was undertaken. In August 1998, the building was dedicated to the citizens of Ridgely as the Town Hall. Today, it houses the administrative operations of the Town, including the office of the Town Manager and staff and meeting rooms for the Town's various Boards and Commissions. Public meetings are held at the Town Hall on a regular basis.

## PARKS & RECREATION

There are several parks located in the Town of Ridgely. The largest of these is the Ridgely Athletic Complex. This 35-acre facility was originally developed in 1999 as a cooperative agreement between the Town and the Ridgely Little League. The initial phase of the development of the Complex included the construction of parking facilities and two regulation Little League ball fields. Subsequent improvements included playground equipment and a temporary concession stand. Phase II begun in May, 2007 and was funded by State, Town, corporate, commercial, and private contributions. Renovations will include the installation of restrooms and construction of a Senior League ball field as well as a permanent concession stand.

Martin Sutton Memorial Park is a neighborhood park located on the southwest corner of Park Avenue and Fourth Street. This 24-acre facility, funded primarily with Project Open Space (POS) funds, was developed as a multi-service park. It includes playgrounds and facilities for baseball, softball, basketball, soccer, tennis, volleyball, picnicking, skateboarding, and horseshoes, as well as tracks and trails for walking, jogging, and cycling. The Park underwent $15,000 worth of POS-funded renovations in the summer of 2007, including the construction of a new bandstand and additional park benches.

The Railroad Park Mini-Park is the smallest park in Ridgely. The Commissioners of Ridgely purchased the Railroad Depot from the Delaware Railroad Company in 1966, along with approximately one-third of an acre of land adjacent to the station. The railroad station served as the Town Office for a time. It is now occupied by a medical practice. The adjacent land was developed with POS funds as a small landscaped park with park benches for seating.

Ridgely Elementary School's 15-acre site on Central Avenue contains public recreation facilities, including 2 ball fields, a multi-purpose playing field, picnic tables, and a tot lot.

### REGIONAL PARK FACILITIES

Residents of Ridgely benefit from proximity to Tuckahoe State Park, a 3,800-acre park located approximately 2 miles east of Ridgely. The Park is maintained by the Maryland Department of Natural Resources (DNR). In addition to Tuckahoe Creek, which runs through the length of the park, visitors have access to a 60-acre lake for boating and fishing; over 20 miles of hiking, biking, and equestrian trails; playgrounds; picnic areas; and the 500-acre Adkins Arboretum, which offers education programs and special events to the public year-round.

A needs analysis conducted as part of the 2005 *Caroline County Land Preservation, Recreation and Parks Plan* revealed a lack of public recreation trails for walking, jogging, and bicycling in the County.[1] The County has identified priority trail projects. Among them is a rails-to-trails project that would connect Ridgely with Tuckahoe State Park and Adkins Arboretum. In 2007, the Maryland State Highway Administration (SHA) appropriated $200,000 in funds for planning and design of this trail, which will be named the Upper Choptank Trail. The SHA funds will assist the Town of Ridgely with construction design for segments of the trail located within Town limits. The project also will identify trail routes along existing county and state roads to connect Ridgely with Tuckahoe State Park facilities.

## EDUCATION

Ridgely is served by three public schools that provide education programs and facilities for grades kindergarten through 12. These include the following:

**Ridgely Elementary School:** Ridgely Elementary School is located on Central Avenue and serves students in Kindergarten through 5th grade. In fall 2007, 420 students were enrolled at the school.

**Lockerman Middle School:** Lockerman Middle School is situated on 19 acres located at 410 Lockerman Street in Greensboro, Maryland. It serves students in grades 6 through 8. Fall 2007 enrollment was 796 students. According to the *2006 Educational Facilities Master Plan for the Caroline County Public Schools*[2] (School Master Plan), the school's building condition is "good."

**North Caroline County High School:** The North Caroline High School (NCHS) campus occupies approximately 50 acres near Denton, the County Seat. It serves grades 9 through 12 and includes a career and technology center. Fall 2007 enrollment was 1,201 students, which is estimated to be about 98 percent of capacity. The School Master Plan rated NCHS's building condition as "good."

[1] 2005 *Caroline County Land Preservation, Recreation & Parks*. Prepared by the Caroline County Department of Recreation and Parks, the Caroline County Parks and Recreation Board, and ERM, 2005.
[2] *2006 Educational Facilities Master Plan for the Caroline County Public Schools,* Caroline County Board of Education, June 2006

### FACILITIES NEEDS SUMMARY

The condition of schools in Ridgely and Caroline County are described in the *2006 Educational Facilities Master Plan for Caroline County Public Schools; Caroline County Board of Education*. As shown in Table 4-1, School Rated Capacity (SRC) is summarized for educational institutions serving Ridgely and the surrounding areas.

**TABLE 4-1: 2006 STATE RATED CAPACITY – SCHOOLS SERVING RIDGELY, MARYLAND**

| Classification | 2006 SRC (# of students) | % of SRC w/Fall 2007 FTE |
|---|---|---|
| **Ridgely Elementary School** | **476** | **88%** |
| Lockerman Middle School | 997 | 83% |
| North Caroline High School | 1,213 | 96% |

SRC: State Rated Capacity
FTE: Full-time enrollment
Source: Caroline County, Maryland Board of Education 2007 Educational Facilities Master Plan

**School Capacity:** The School Master Plan includes a "Facilities Needs Summary" that states that Caroline County will need to build additional school capacity to meet anticipated needs as the County population increases. The State Rated Capacity or SRC for the three schools serving the Town of Ridgely, and the level of capacity for each school, has been reached with fall 2007 enrollment.

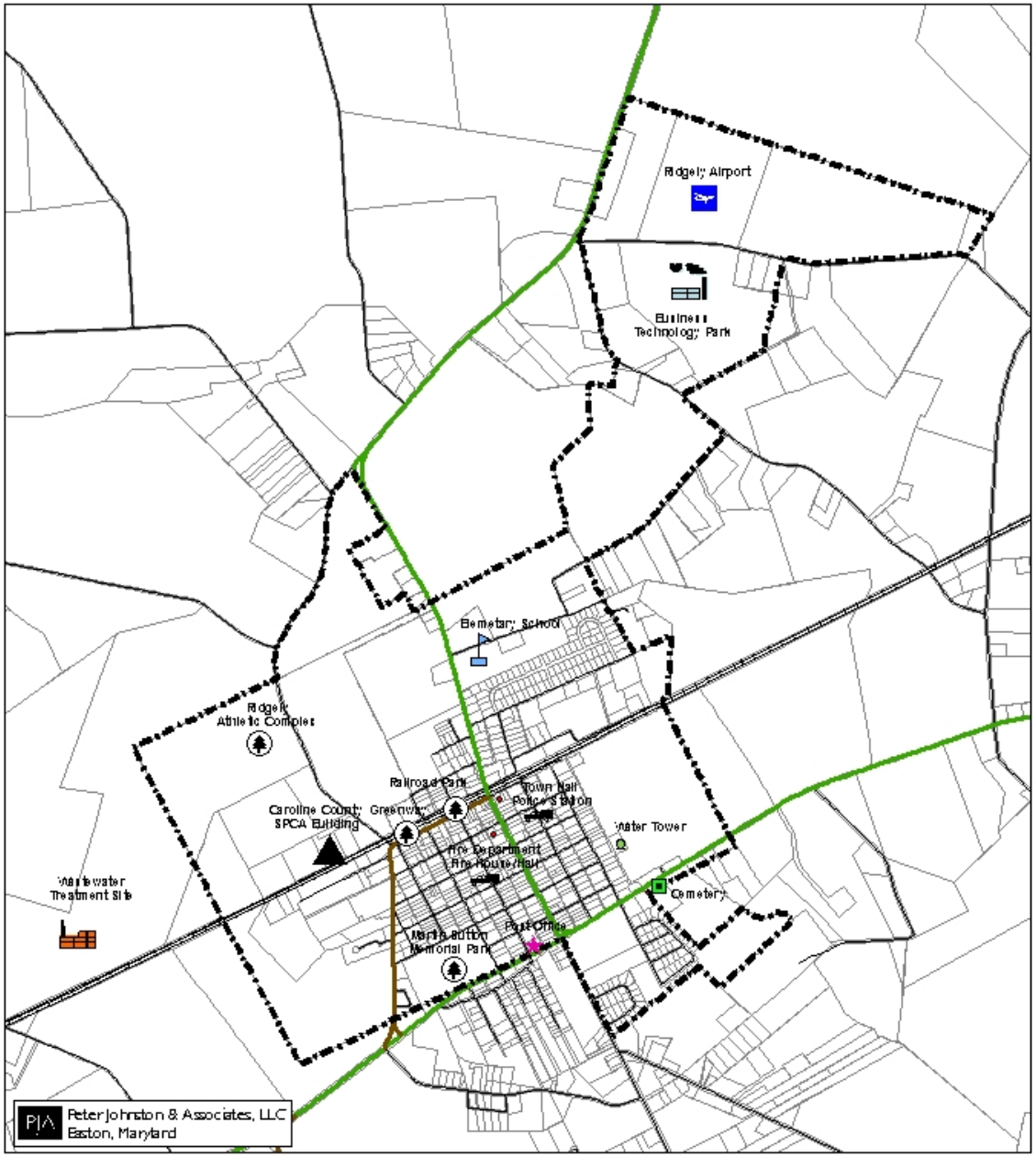
New facilities proposed in the School Master Plan include two new elementary schools, one new middle school (to augment capacity at Lockerman Middle School), and additional high school capacity to supplement capacity at North Caroline High School and/or the career and technology center.

The *Caroline County Public Schools Capital Improvement Plan* (CIP) anticipates the construction of a new middle school within the next ten years, with the facility to be added to the North Caroline High School complex, if municipal sewer service is extended to the campus. If sewer service is not extended, another site will be chosen for the new middle school.

The timing and scale of improvements planned for the public schools that serve the Town of Ridgely indicate that the Town and the County have coordinated planning efforts to ensure that education facilities will expand to sufficiently accommodate anticipated growth. The School Master Plan estimates these projects will be included in the 2008 School CIP.

## POLICE SERVICES

The Ridgely Police Department provides police protection to the citizens of Town. It also enforces the criminal and traffic portions of the Town Code and State motor vehicle laws. The Department's routine duties include traffic control, responding to citizen complaints, assisting fire and emergency services agencies, and providing services to local community organizations and gatherings.




## MAP 4-1: COMMUNITY FACILITIES

**LEGEND:**

- Ridgely Corporate Boundary
- Other Principal Arterial
- Minor Collector
- Major Collector
- Local Road/Street
- Railroad Line
- Ridgely Airport
- Business & Technology Park
- Wastewater Treatment Site
- Ridgely Elementary School
- Park & Recreation Areas
- Town Hall & Fire Department
- Caroline County Facility - SPCA
- Ridgely Water Tower
- Ridgely Post Office
- Cemetery

N

0 625 1,250 2,500 3,750 5,000 Feet

## FIRE & EMERGENCY SERVICES

The Ridgely Volunteer Fire Department, one of eight volunteer fire departments located in the County, provides fire and emergency medical services to residents in Ridgely and unincorporated areas located near the Town. The Department was organized in 1906 and incorporated in 1926, when its first fire engine was purchased. Currently, the Department operates two engine companies comprised of a shuttle tanker, a brush truck, a command vehicle, an advanced life support (ALS) equipped ambulance, a utility vehicle, and a canteen vehicle operated by the Ladies Auxiliary. In 2002, the Department replaced a 1972 Shuttle Tanker and a 1986 Engine with a 2002 International/Ferrara Tanker and a 2002 Spartan/Ferrara Engine. The total cost was $350,000.00 for both pieces of equipment. In addition to the services it provides to residents living in and near Ridgely, the Department also has Mutual Aid Agreements with the other towns in Caroline County and with Talbot and Queen Anne's Counties.

At present, the Department is housed in its original building, which was constructed in 1930. The station has since been enlarged to include a banquet hall and additional equipment bays. Several years ago the Department purchased land on the corner of Sunset Boulevard and 1st Street, and is currently undertaking a capital campaign to raise funds for the construction of a new station.

## PUBLIC TRANSPORTATION

Maryland Upper Shore Transportation provides daily fixed route service between Ridgely, Denton, and Easton. Delmarva Community Transit for Caroline County provides door-to-door service by reservation. Patrons must call to request service by noon the day before the needed service.

## UTILITIES

Electric service in Ridgely is provided by Connectiv and Choptank Electric Cooperative. Water and wastewater services, as well as general public works functions such as trash collection, are provided by the Town of Ridgely.

## WATER & SEWER FACILITIES & SERVICES

### WATER SERVICES

Water service in Ridgely is provided by two wells that draw from the Piney Point Aquifer. A third well has been drilled but is not in use, pending construction of a new storage tank and final approval by the Maryland Department of the Environment (MDE) for withdrawal.

The Town's water system includes a 200,000 gallon elevated water storage tank and a treatment facility. In 2008, there were 617 connections to the system. Of the total connections, 530 are residential (3 of which are outside Town boundaries), 44 commercial and industrial (1 is outside Town boundaries), and 43 apartments (11 of which are outside of Town boundaries).

A "Water Infrastructure Study," completed in 2007, recommended the addition of a second elevated water storage tank with at least 500,000 gallons holding capacity. The planning and design phase of the new tower project is complete and Ridgely has submitted a Pre-Application for MDE Water Quality Infrastructure Program Capital Project funding. The new Mid Shore Regional Business & Technology Park has been identified as a potential site for the tank. Construction is anticipated to be complete by June 2009.[3]

## SEWER SERVICES

In 2008, there were 612 sewer connections to the Town's wastewater treatment plant (WWTP). Of the total connections, 524 are residential (5 of which are outside Town boundaries), 45 commercial and industrial (1 is outside Town boundaries), and 43 apartments (11 of which are outside of Town boundaries).

The wastewater treatment system (see Figure 4-1) consists of two non-aerated storage lagoons, a chlorine contact tank, and effluent spray fields. Under the WWTP's current operating permit (Permit Number 04-DP-0530), the facility may surface discharge 200,000 gallons per day. In 2008, the Plant's average annual flow was 124,667 gpd (based on the average annual flows of 2005, 2006, and 2007). [4] The total spray field area currently is separated into three spray zones. These spray zones have soils ranging from moderately well-drained to well-drained. The three spray sites are each served by a rotating "center pivot" irrigator.

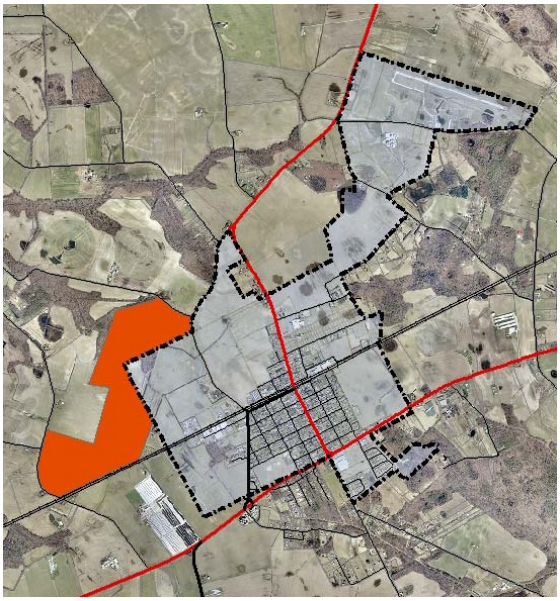


**FIGURE 4-1:** Figure 4-1 indicates the location of Ridgely's wastewater treatment system (shown in red) and spray irrigation site, partially located outside the Town's corporate boundaries.

The Town is in the process of upgrading its plant to maximize the use of its existing spray irrigation land for effluent disposal. The upgrade will include replacing the existing center pivot spray irrigators with solid set irrigators. In order to use the solid set spray irrigators, pumps will be added to correctly pressurize the system. The new pumps will be installed in a newly constructed building adjacent to the plant's existing chlorine contact tank. These changes will be coupled with a crop replacement in the irrigation fields to loblolly pines, which will decrease crop management delays and keep nutrient levels within permitted limits. The project is estimated to be complete in mid-2009.[5]

As noted in the *Ridgely 5-Year Capital Improvements Plan*, "the sewer Infiltration/Inflow (I&I) issue has been around for some time, and the Town realizes it needs to be addressed. The complete replacement of the old collection system lines would cost around $6,000,000. The Town has undertaken a study to ascertain the amount of I&I affecting the WWTP. It appears that though the issue is serious, the new

[3] *Ridgely Five-Year Capital Improvement Program*, 2007
[4] MDE Letter to Joseph A. Mangini, Jr., Town Manager, Ridgely, February 15, 2008
[5] *Ridgely Five Year Capital Improvement Projects Report*, April 2, 2007

WWTP could help alleviate the potential of the lagoons filling up and thus costing sewer capacity, since with the new plant the Town could discharge every day, and not be limited to just three months. However, the issue of I&I needs to be addressed and corrected. And a new main sewer pumping station needs to be constructed. The present one is old and parts for it are hard to get and expensive."[6]

## WATER & WASTEWATER PLANNING

Under Maryland House Bill 1141 (HB 1141), comprehensive planning now requires the addition of two new Plan Elements to address Municipal Growth and Water Resources. As a result of HB 1141, new water quality requirements are being initiated by the State. The most important changes impacting municipalities are achieving compliance with the "Federal Clean Water Act" (CWA) and creating consistency with water and sewer planning in relation to growth and development. In general, sufficient water and sewer planning is a standard requirement before approvals can be acquired from Maryland regulatory/approving agencies.

Ridgely is responsible for local municipal water and wastewater planning. This includes ensuring that plans, reports, regulations etc. are consistent with State and local laws. The Town also is responsible for ensuring that water and wastewater facilities and services are adequate to serve existing residents and new development, providing for the public health, safety and welfare of Ridgely residents. The Caroline County Commissioners are responsible for the adopting and updating the *Caroline County Master Water & Sewerage Plan* (County Water & Sewer Plan), as per State law. This includes ensuring that the Plan is updated regarding planning for municipal water and wastewater systems. In this role, Caroline County acts as the coordinating agency for water and sewer planning. The County is responsible for incorporating the subsidiary plans of Towns, as per State law. Currently, the County Water and Sewer Plan needs to be updated.

### CAROLINE COUNTY MASTER WATER & SEWERAGE PLAN

All counties in Maryland are required under the *Annotated Code of Maryland: Environment Article; Subtitle 5* (Maryland Environment Article) to prepare a "Comprehensive Water and Sewer Plan." The Plan requires updates every 3 years and annual review and reporting. The County Water & Sewer Plan was first adopted in 1984. It was updated in 1992 and several amendments were added to the Plan in 1996 and 2002.

The County Water & Sewer Plan clearly states in both Chapters 3 and 4 that the desired "growth pattern" is "mainly peripheral expansion in and around existing population centers."[7] According to this statement, growth in and around the Towns, where it can be served by public infrastructure, is preferred by the County. This also is consistent with State Smart Growth goals and objectives. Furthermore, "Section 201 Sewerage Facility Studies" includes recommendations that some form of public sewerage service be provided outside the current limits of incorporated towns to areas in need of

[6] Ibid.
[7] 1984 *Caroline County Comprehensive Water & Sewerage Plan*, as amended. Caroline County Department of Planning & Codes Administration and the Maryland Department of the Environment; 1992, 1996, and 2002. Pg 4-3.

such services (e.g. failing septic systems). This service could take various forms, including, but not limited to: 1) annexation into and service by towns; 2) creation of separate sanitary district commissions to provide the service for each area; 3) creation of a County Department of Public Works to provide service, possibly combined with sanitary districts; 4) and service by private sewerage companies."[8]

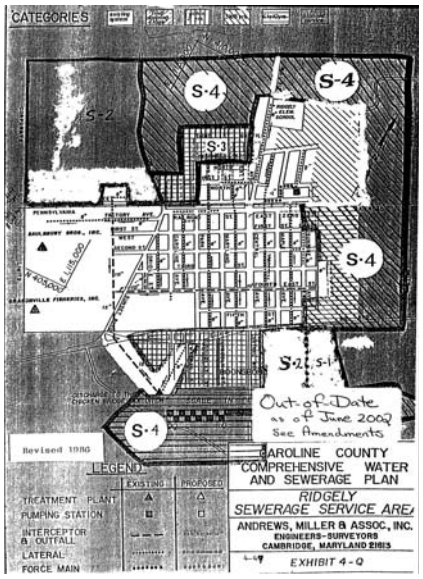
**Water & Sewer Plan Goals and Objectives**

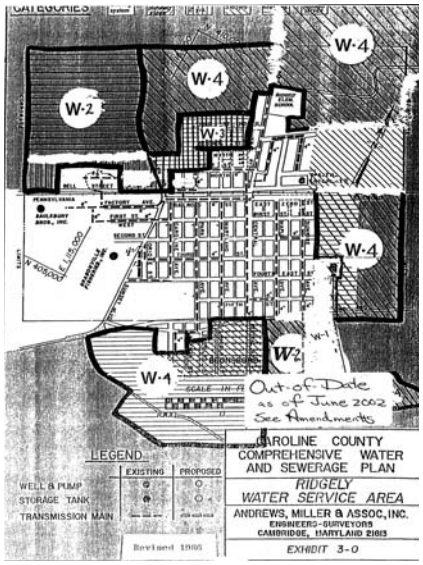
Section 1.3 of the County Water & Sewer Plan requires consistency with the *Caroline County Comprehensive Land Use Plan*.[9] Summarized objectives from the Comprehensive Plan related to water and sewer include the following:

- New manufacturing should be encouraged in accessible locations near towns, where utilities are available or can be made available;
- Housing development should be guided within or adjacent to existing communities;
- Retail and commercial development should be enhanced through new housing development near the County's major towns;
- Encourage new housing in an adjacent to the towns to reduce pollution dangers and lessen the costs of community facilities; and
- Protect the County's agricultural lands by avoiding random development patterns.

Several goals, as outlined in the *Caroline County Master Water & Sewerage Plan,* are pertinent to the water and wastewater goals and objectives of the Town of Ridgely.[10] These include:

- To protect the general health, safety, and welfare of the people of Caroline County through the provision of adequate water and sewerage facilities;
- To protect the natural resources and maintain the environmental quality of Caroline County;
- To provide for the stable orderly pattern of population growth where it can be efficiently and effectively served by public facilities and services; and
- To insure municipal, industrial, and individual water supply and wastewater systems are designed and constructed to acceptable standards.



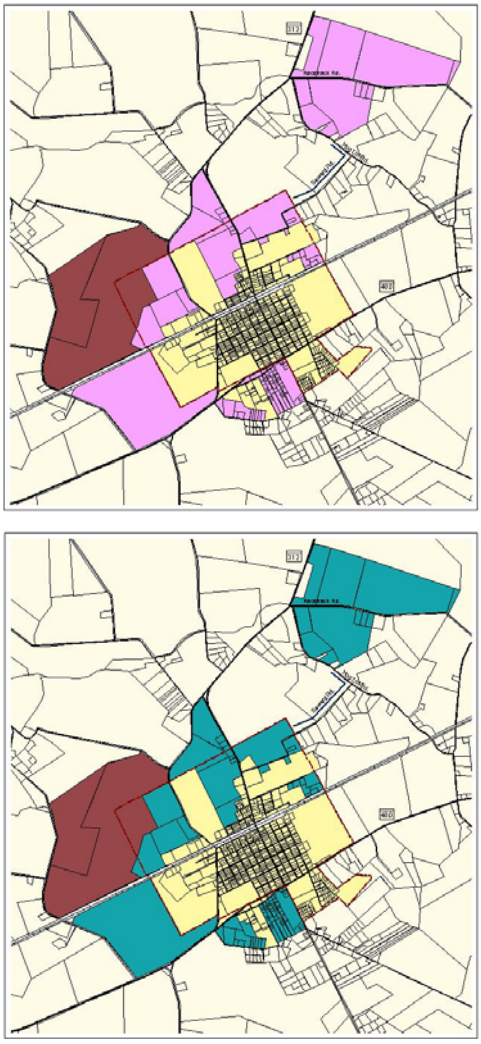

**FIGURES 4-2:** Figure 4-2 is the original service area classifications for Ridgely as shown in the 1984 version of the County Water & Sewer Plan.

[8] Ibid, 1-10.
[9] Ibid, 1-8.
[10] Ibid, 1-1.

## Water & Sewer Service Area Classifications

The County Water & Sewer Plan provides for a "Water and Sewerage Service Area Classification System, as required by State law."[11] This system indicates when facilities and services will be developed and utilized. The Plan contains maps of the "Ridgely Water and Sewer Service Areas" and related classifications (see Figure 4-2), which include the following:

- W-1 and S-1: Existing water and sewer systems or systems currently under construction.
- W-2 and S-2: Planned water and sewer system improvements in the next 2 to 5 years.
- W-3 and S-3: Planned water and sewer system improvements in the next 6 to 10 years.
- W-4 and S-4: Areas with development potential but no current plans for water and sewer upgrades (beyond the 10 year horizon).
- W-5 and S-5: Agricultural and open space areas where water and sewer systems will not be constructed.



**FIGURES 4-4:** Figure 4-4 illustrates the officially mapped water and sewer service areas for Ridgely, as depicted in the County Water & Sewer Plan Caroline County Resolution #2002-009).

## 2002 Water and Sewer Plan Amendments for Ridgely

In 2002, several amendments to County Plans, both the Comprehensive Land Use Pan and the Water & Sewer Plan, are relevant to discussions regarding facilities upgrades. These amendments include the following:

Resolution #2002-008: As empowered by *Article 66B of the Annotated Code of Maryland*, the Caroline County Commissioners reviewed and adopted amendments to the *Caroline County Comprehensive Land Use Plan* in June 2002 to include the Ridgely Airport and Business & Technology Park. Prior to adoption by the County Commissioners, amendments were reviewed and approved by the Caroline County Planning Commission. As stated in Resolution #2002-00 8: "The Ridgely Airpark consists of 152.46 acres, located at the intersection of MD Route 312 and Racetrack Road, less than 1 mile northeast of the Town of Ridgely. Ridgely Airpark has been used continually as an airport since 1966 and currently provides small aircraft with a paved runway, airplane hangers, self service fueling facilities, and radio facilities for aviation assistance."[12]

[11] Ibid, 1-3 – 1-7.
[12] *Caroline County Resolution #2002-008*. Officially amending the *Caroline County Comprehensive Land Use Plan*. 2002.

As stated in the *One Maryland Strategic Plan for Economic Development in Caroline County*, which was approved by the Caroline County Commissioners on July 27, 1999, "the protection of the airpark as a valuable resource is a priority for the County and is strongly supported by the Maryland Aviation Administration."[13] The proposed site for the Ridgely Business/Technology Park adjoins MD Route 312, Racetrack Road, and Hog Lot Road, immediately south of the Ridgely Airpark."[14] Furthermore, Resolution #2002-008 states that "the County should encourage and support the annexation of the Business/Technology Park by the Town of Ridgely to permit water, sewerage, and other municipal services."[15]

Resolution #2002-009: As empowered by the *Annotated Code of Maryland: Environment Article 9; Subtitle 5*, the Caroline County Commissioners reviewed and adopted amendments to the *Caroline County Master Water & Sewerage Plan* on June 11, 2002 to include the following sites: 1) Ridgely Airport; 2) Business & Technology Park; and 3) Other defined areas within Ridgely's Growth Area including the McNomee Farm, site of the Ridgely Park Development Project. Water & Sewer Plan amendments and revised "Water and Sewer Service Area Maps" received review and approval by the Caroline County Planning Commission in May of 2002.[16]

The Maryland Department of the Environment (MDE) wrote a letter to Mr. John Cole, then President of the Caroline County Commissioners, on October 11, 2002 approving the amendments to the County's Water & Sewer Plan, as per the requirements of State law Section 9-507 of the Environment Article, which requires MDE review and final approval.[17]

**2008 Ridgely Water and Sewer Planning Initiatives**

Ridgely should ensure that the *Caroline County Comprehensive Land Use Plan* and the *Caroline County Master Water and Sewerage Plan* accurately reflect the Town's land use and community facility plans. According to the Maryland Environment Article, "the objective of the county water and sewer plan is to develop the water supply and sewerage disposal systems in a way consistent with county comprehensive planning."[18] "The county governing body is the coordinating agency required to develop county water and sewerage plans."[19] The Environment Article further states that "these plans shall incorporate all or part of the subsidiary plans of the towns, municipal corporations, sanitary districts, privately owned facilities, and local, State, and federal agencies having existing, planned, or programmed development within the county."[20]

[13] *One Maryland Strategic Plan for Economic Development in Caroline County*. Prepared by Caroline County Administration, Caroline County Economic Development Council, and the Mid-Shore Regional Economic Development Council. 2001.
[14] *Caroline County Resolution #2002-008*.
[15] Ibid.
[16] *Caroline County Resolution 2002-009*. Officially Amending the Caroline County Master Water & Sewerage Plan. 2002.
[17] Letter to John Cole, President of the County Commissioners of Caroline County, Maryland: "Approval of Amendments to the Caroline County Master Water & Sewerage Plan." Prepared by the Maryland Department of the Environment. October 11, 2002.
[18] COMAR: Code of Maryland Regulations: Title 26 Department of the Environment: Subtitle 03 Water Supply, Sewerage, Solid Waste, and Pollution Control Planning and Funding. "Section .02 General Provisions." Maryland Department of the Environment. 1.
[19] Ibid, 1.
[20] Ibid, 1.

Resolution #2002-009, as defined above, constitutes an official amendment to the County Water and Sewer Plan for Ridgely. New "Existing and Planned Water and Sewerage Service Maps" were adopted by the Caroline County Commissioners and approved by the Maryland Department of the Environment (MDE) in 2002 (see Figure 4-3). These maps indicate existing and planned water and sewer service areas for the Town and replace the maps shown in the original version of the County Water & Sewer Plan (see Figure 4-2). However, the revised maps do not provide for water and sewer service area classifications as required under State law. The Environment Article states that "as minimum requirements, the water and sewerage maps in the county plan shall be delineated to show each existing and proposed community and multi-use water supply and sewerage system."[21] This process includes facilities locations (mapped) and service area classifications for the following:

1. W-1/S-1: water and sewerage facilities existing or under construction.
2. W-2/S-2: areas served by extensions of existing water and sewer systems, which are in the final planning stages.
3. W-3/S-3: areas where improvements to, or construction of, new the water and sewerage systems will be given immediate priority.
4. W-4/S-4: areas where improvements to, or construction of, new the water and sewerage systems will be programmed for a 3 to 5/6 year period.
5. W-5/S-5: areas where improvements to, or construction of, new the water and sewerage systems will be programmed for a 6/7 through 10 year period.
6. W-6/S-6: areas where there is no planned service.

Current planned developments in Ridgely, particularly the Ridgely Park Project, are important to meet the Town's objectives for growth, revitalization, economic development, and infrastructure improvement. These planned developments also are important to meet Caroline County objectives for growth and economic development. Significant federal, State, and local investment have been made in the development of the Ridgely Airpark and Business & Technology Park.

[21] Ibid, 4.

## IMPLEMENTATION RECOMMENDATIONS

Descriptions and other details regarding implementation are contained in Chapter 9 of this Comprehensive Plan.

**RECOMMENDATION #1:** Annex the Town's existing wastewater treatment site (WWTP), which currently lies outside corporate boundaries, and seek Priority Funding Area (PFA) status from the Maryland Department of Planning.

**RECOMMENDATION #2:** Require adequate public facilities to serve any proposed new development. This includes assessing current fee structures and requirements.

**RECOMMENDATION #3:** Update and/or revise Ridgely infrastructure facilities reports, plans, policies, and regulations including, but not limited to, the Capital Improvements Plan and Water & Sewer Subsidiary Plans, to:

- Map utilities systems in Ridgely including water and sewer facilities for the Ridgely Geographic Information System (GIS).
- Outline areas for future development to be incorporated in the Capital Improvements Plan and Water and Sewer Subsidiary Plans.
- Map water and sewer service area classifications for Ridgely in relation to approved planned developments, future infill and redevelopment, and growth areas, consistent with the Comprehensive Plan.
- Ascertain an accurate measure of capacity and costs within existing systems and what upgrades and/or expansions will be needed to accommodate growth and development.

**RECOMMENDATION #4:** Upgrade and expand the Town's water and sewerage facilities and services to accommodate infill and redevelopment, as needed.

**RECOMMENDATION #5:** Conduct regular assessments of the Ridgely Fire Department to determine if expansion of facilities is needed as the Town's population increases.

**RECOMMENDATION #6:** Ensure adequate park and open space land and facilities to meet current and projected demands.

**RECOMMENDATION #7:** Coordinate planning and programming of community facilities and services with the appropriate Caroline County and State agencies and entities.

**RECOMMENDATION #8:** Request that the County update the *Caroline County Master Water & Sewerage Plan* to reflect the Town's planned water and sewer service areas and priorities.

# Chapter 5 Resource Conservation

Managing growth and development in Ridgely should be balanced with careful consideration for the natural resources essential to the Town's quality of life. Ridgely's identity and present day charm are intertwined with its natural setting and its roots as a rural community. The conservation and protection of key natural resources and sensitive areas will be crucial to the successful realization of this Comprehensive Plan's goals.

## BACKGROUND

The implications of increasing water quality initiatives in the State will have impacts for Maryland jurisdictions. This is evidenced by the 2006 passage of Maryland House Bill 1141, which requires that all comprehensive plans now contain a "Water Resources Element." The results include an approach that focuses more on broader watershed planning for local communities to address regional impacts on the environment. In this regard, the "Resource Conservation" Chapter of the Comprehensive Plan is important.

### PHYSIOGRAPHY

The physiography of Ridgely and the surrounding countryside is relatively flat and well drained. There are no major rivers or streams within the limits of Ridgely. However, the Tuckahoe River is just to the northwest and the Choptank River is four miles to the south og Town. Caroline County is one of only two Eastern Shore counties that have no direct border with the Chesapeake Bay. The other is Worcester County on the Atlantic Ocean.

**GOAL & OBJECTIVES**

**GOAL:**

Ensure sensitive areas protection in accordance with State laws and preserve the natural resources and features of the Town of Ridgely and its surrounding environs.

**OBJECTIVES:**

Provide specific protection measures for sensitive areas as defined in State law.

Minimize adverse impacts on water quality through "Best Management Practices" BMP's

Assess future development proposals in light of the site's physical suitability to accommodate development, while protecting natural resources and the quality of the Town's groundwater.

Ensure new development and redevelopment minimizes on-site pollutant loadings/runoff through stormwater and sediment/erosion control plans.

Identify wetlands and floodplains in order to ensure the special protection they may need.

Conserve forest and woodland resources and, wherever possible, replenish them through tree conservation measures and replanting programs.

Promote the protection and preservation of valuable ecological lands (Green Infrastructure) around Ridgely.

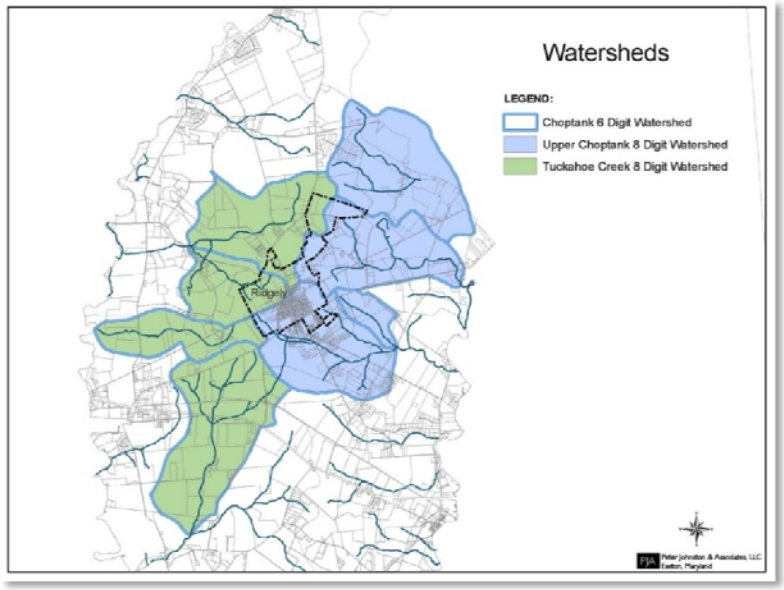
Protect the Town's natural scenic vistas by working with Caroline County to encourage strong land use controls on rural lands adjacent to Ridgely.

Encourage Caroline County support for the greenway trail connection from Ridgely to Adkins Arboretum and Tuckahoe State Park.

Update the Ridgely Geographic Information System-GIS for the mapping of natural resources and sensitive areas.

## BASIN & WATERSHEDS

Ridgely is located in the Choptank River Basin, which has the lowest elevation of any basin in Maryland. It drains approximately 700 square miles of land in Maryland, including portions of Caroline, Dorchester, Queen Anne's, and Talbot Counties. Larger water-bodies in the Basin include the Choptank, Little Choptank, and Tred Avon Rivers and Broad, Harris, and Tuckahoe Creeks. The Basin lies entirely within the Atlantic Coastal Plain.




Ridgely is located in the Choptank Watershed and the Town straddles the Upper Choptank and Tuckahoe Creek Sub-Watersheds. The Choptank Watershed extends from Maryland into Delaware. Both the Tuckahoe Creek and Upper Choptank Sub-Watersheds are listed as impaired by Maryland Department of Environment (MDE). In 2006, MDA received a $796,600 grant from the "Chesapeake Bay Targeted Watersheds Grant Program" to increase the installation of agricultural best management practices (BMPs) by farmers in the Tuckahoe Creek Sub-Watershed. By promoting the use of additional BMPs, the project aims to reduce nutrient and sediment loads. Through field level research, the project's goal is to develop improved nutrient reduction efficiencies for conventional cover crops, commodity cover crops, and drainage control structures. The project also aims to develop a flexible, user-friendly planning tool that can be utilized by conservation program managers to optimize BMP implementation in the most cost-effective manner over the entire Choptank River Basin.

Under the 1998 *Maryland Clean Water Action Plan*, the State conducted a "Unified Watershed Assessment" for each of its 58 watersheds. The Choptank River was cited as a "Priority One Restoration Watershed," according to U.S. Environmental Protection Agency (EPA) standards under the Federal *Clean Water Act*, being impaired by one or more pollutants, such as nutrients, sediments, toxic substances, acidity, or fecal coliform. This designation highlights the need for more cooperative regional planning on a watershed basis to address the health of the Choptank River and its sensitive natural areas to improve local water quality.

## GREEN INFRASTRUCTURE

Maryland's green infrastructure is a network of undeveloped lands that constitute the bulk of the State's ecosystem. Green infrastructure areas, such as forests, wetlands, and other environmental resource lands act together to clean the air, filter water, store and cycle nutrients, conserve soils, regulate climate, and maintain hydrologic function. Ecologically valuable lands also provide marketable goods and services, like forest products, fish and wildlife sport, and recreation.

The *Maryland 2000 Green Infrastructure Assessments* (GIA), as developed by the Maryland Department of Natural Resources (DNR), identifies green infrastructure as a network of waterways, wetlands, woodlands, wildlife habitats, and other natural areas of State and countywide significance that supports native species, maintains natural ecological processes, sustains air and water resources, and contributes to health and quality of life. As an interconnected system, green infrastructure provides greater environmental viability, value, and function than the sum of the individual parts. In addition to serving as vital habitat for wild species, green infrastructure contributes, in many ways, to the health and quality of life for Maryland residents.

The GIA identifies two types of important resource lands: "hubs" and "corridors." Hubs are typically large contiguous areas separated by major roads and/or human land uses, containing one or more of the following:

- Large blocks of contiguous interior forest containing at least 250 acres plus a transition zone of 300 feet;
- Large wetland complexes with at least 250 acres of unmodified wetlands;
- Important animal and plant habitats of at least 100 acres including rare, threatened, and endangered species locations, unique ecological communities, and migratory bird habitats;
- Relatively pristine stream and river segments, which, with adjacent forests and wetlands, are at least 100 acres, supporting trout, mussels, and other sensitive aquatic organisms; and
- Existing protected natural resource lands which contain one or more of the above features (e.g., state parks and forests, National Wildlife Refuges, etc).

As shown in Figure 5-1, corridors are linear features connecting hubs together to help animals and plant species to move between hubs. Generally, corridors connect hubs of similar types. Hubs containing forests are connected to one another; while those consisting primarily of wetlands are connected to others containing wetlands. Corridors generally follow the most appropriate ecological or natural routes between hubs. Typically, these are streams with wide riparian buffers and healthy fish communities. Other wildlife corridors include ridge lines or forested valleys. According to DNR, the fragmentation of green infrastructure has reduced the distribution and abundance of forest birds and other wildlife species throughout North America. As forest areas are divided and isolated by roads and development, interior habitat decreases. When human disturbance increases, opportunistic edge species replace interior species and populations of animals become too small to persist.

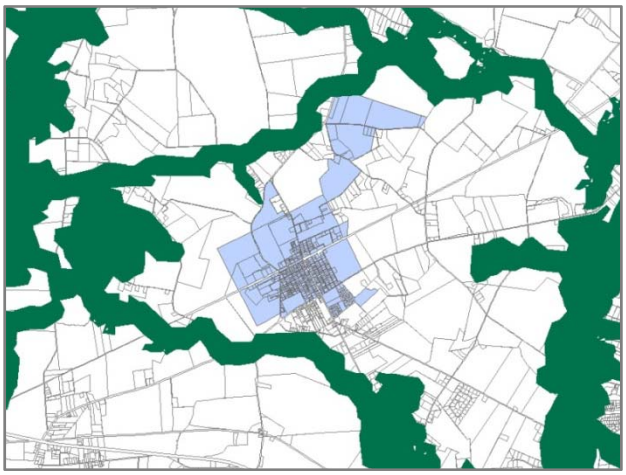


**FIGURE 5-1:** Indicates Green Infrastructure, as defined by the Maryland Department of Natural Resources, in the vicinity of the Town of Ridgely.

# SENSITIVE AREAS & FEATURES

The *Maryland Economic Growth, Resource Protection, and Planning Act of 1992* added the requirement to "Article 66B of the Annotated Code of Maryland" that comprehensive plans must contain a Sensitive Areas Element. This element must describe how the jurisdiction will protect the following sensitive areas:

1. Streams and stream buffers,
2. 100-year floodplain,
3. Threatened and endangered species habitats,
4. Steep slopes, and
5. Other sensitive areas a jurisdiction wants to protect from the adverse impacts of development.

In its 2006 session, the Maryland Legislature passed Maryland House Bill 1141 (HB 1141), which expanded sensitive areas elements of comprehensive plans to include wetlands as well as agriculture and forest land for resource protection (conservation lands). Ridgely's sensitive areas and their total acreage are listed in the table below and illustrated on Map 5-1.

## RESOURCE INVENTORY

The Resource Inventory provides a description of the natural resource features associated with the Town of Ridgely. Many of these resources are not located within the existing corporate boundaries of the Town but, rather on lands adjacent to the Town and within the general vicinity of the municipality.

Resources include the following: 1) Streams & Stream Buffers; 2) 100-Year Floodplain; 3) Sensitive Species Habitat; 4) Tidal & Non-Tidal Wetlands; 5) Forested Areas; 6) Mineral Resources; and 7) Soils. As indicated in Table 5-1, environmental and natural resources located within the current Town of Ridglely total approximately 152 acres and include the following:

**TABLE 5-1: SENSITIVE AREAS - RIDGELY**

| Sensitive Areas | Acreage |
|---|---|
| Non-Tidal Wetlands (NWI) | 28 |
| Sensitive Species Group 2 (State Listed) | 117 |
| Forest Interior Dwelling Species (FIDS) | 7 |
| **TOTAL** | **152** |

Source: MD Department of Natural Resources (DNR)
NWI – National Wetlands Inventory

- Non-Tidal Wetlands;
- Sensitive Species Habitat; and
- Forest Interior Dwelling Species (FIDS).

## STREAMS & STREAM BUFFERS

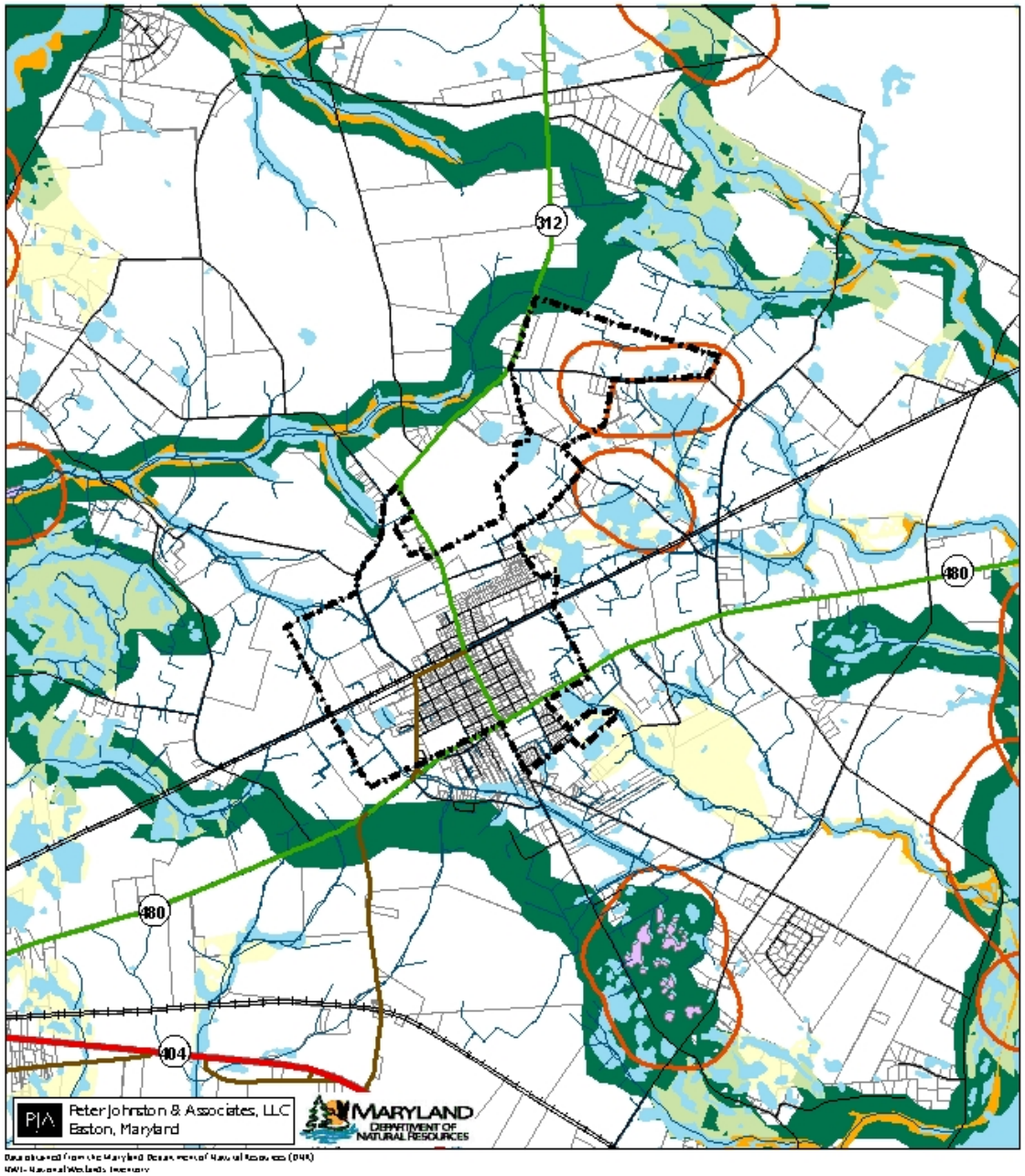
Streams and their adjacent buffers are home to a variety of species of animals and plants. Streams transport nutrients, minerals, and contaminants to rivers and creeks, providing both a positive and negative function. These rivers and creeks eventually empty into the Chesapeake Bay and the larger watershed ecosystem. Therefore, floodplains, wetlands, and wooded slopes along streams are all important parts of the stream ecosystem. In addition, streams support recreational fishing and serve as spawning areas for commercial fish stock. Streams in the Town of Ridgely are indicated on Map 5-1.

The majority of the streams in Ridgely have drainage ditch characteristics, owing to the area's prevailing agricultural uses. These ditches, located alongside roads maintained by Public Works, and on agricultural land, channel runoff from rainwater, irrigation, and larger storm events. Pollutants in agricultural runoff include eroded soil particles (sediments), nutrients, pesticides, salts, viruses, bacteria, and organic matter.

### Public Drainage Systems

The Caroline County Soil Conservation District (SCD) assists Public Drainage Associations (PDAs) to maintain ditches on agricultural lands. These are cooperative programs for agricultural drainage with local landowners. There are 343.6 miles of these manmade channels in Caroline County.[1] Because the land in the County is predominantly flat, farmers rely on the drainage ditches for healthy functioning and productivity of agriculture operations. Due to the County's flat topography, drainage ditches are vital to the healthy functioning and productivity of farms.

[1] *Upper Choptank River Strategic Watershed Restoration Action Plan*, 2003




## MAP 5-1: SENSITIVE AREAS

**LEGEND:**

- Ridgely Corporate Boundary
- Other Principal Arterial
- Major Collector
- Minor Collector
- Local Road/Street
- Railroad Line
- Streams & Stream Corridors
- Wetlands of Special State Concern
- Sensitive Species Project Review Areas
- Tidal & Non-Tidal Wetlands
- 100-Year Floodplain
- Forest Interior Dwelling Species
- Green Infrastructure

**RESOURCE CONSERVATION AREAS**

Resources in the Town of Ridgely

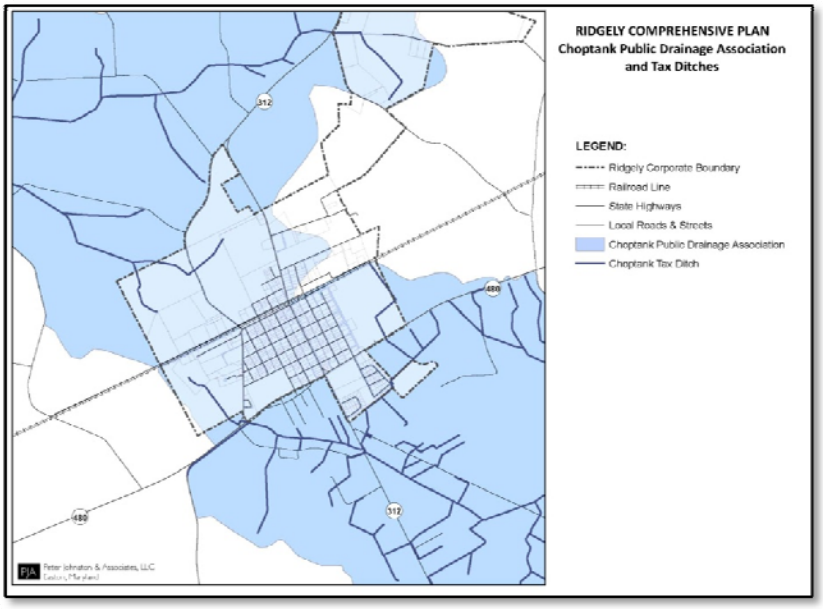
Streams & Stream Corridors (Public Drainage Ditches - PDA's)
Non-Tidal Wetlands - 28 acres
Sensitive Species Project Review Areas (Group 2) - 117 acres
Forest Interior Dwelling Species (FIDS) - 7 acres

Resources in the Ridgely Vicinity

Streams & Stream Corridors
100 - Year Floodplain
Tidal & Non-Tidal Wetlands
Wetlands of Special State Concern
Sensitive Species Project Review Areas (Groups 1, 2, & 3)
Forest Interior Dwelling Species (FIDS)
Green Infrastructure

0 0.25 0.5 1 1.5 2 Miles

Ridgely is served by the Chicken Bridge Public Drainage Association (PDA) which was established in 1965[2]. The ditch system is about 15,000 feet in length within Town boundaries. The Association is regulated by Article 25 of the Maryland Drainage Law and meets on an annual basis to elect managers, review tax income and maintenance liability, review plan activity from the previous year, and determine plan activity for the upcoming year. The ditch is inspected annually and after severe storm events. Maintenance and enforcement needs are determined by the elected managers of the PDA in conjunction with Caroline County Soil Conservation Service, Maryland Department of Agriculture, and the Department of Natural Resources.




Maintenance generally includes the removal of debris, sediment deposits, sand bars, and undesired woody or vegetative growth. Undesirable woody growth is controlled by mowing ditch banks and berms. New sediment traps are installed after extensive cleanouts. The PDA maintains a minimum 10-foot filter strip on both sides of the ditch's main channel and lateral channels (access areas). Property owners along the ditch are responsible for keeping the ditch and drainage to the ditch from being obstructed. If obstruction occurs property owners are charged with a misdemeanor and fined.

In 2000, the Maryland Public Drainage Taskforce, in its report to the Chesapeake Bay Cabinet, issued recommendations for public drainage systems as they pertain to development and watershed planning. The recommendations, made in the 2000 report, include developing site-specific plans to slow the rate of water flow and improve habitat and the application of best management practices (BMPs) that incorporate the best achievable methods to reduce nutrient export and increase habitat quality. Recommendations also include the development of regulatory policies that direct the burden of costs required for altering public drainage (e.g., structural and non-structural stormwater features located up-stream or downstream of development) to the developers of property to be drained. [3]

The Soil Conservation District for Caroline County assists Public Drainage Associations (PDAs), which are cooperative programs for agricultural drainage with local landowners that manage drainage ditches. As an historical legacy, public drainage ditches for farmland were first channelized in the late 1700's. PDA's are located almost exclusively in rural Eastern Shore Counties with 343.6 miles of manmade channels in Caroline County alone. Due to the County's flat topography, drainage ditches are vital to the healthy

[2] Denton Journal, March 11, 1965
[3] *Moving Water,* A Report to the Chesapeake Bay Cabinet by the Public Drainage Task Force, Washington College and the Institute for Governmental Service at University of Maryland College Park, October 2000.

functioning and productivity of farms. They also benefit the County's highway system, towns, and residential properties, by assisting in the drainage of excess water. PDA's are inspected annually by PDA managers and Soil Conservation District personnel to identify maintenance needs.

## FLOODPLAIN

Flood and related losses are created primarily by inappropriately located structures, which are inadequately elevated, unprotected, and vulnerable to floods. Development, which increases flood damage to other land, also creates flood issues. While protection of life and property provide the initial basis for protection of floodplains, there is recognition in recent years that limiting disturbances within floodplains can serve a variety of positive functions with important public purposes and benefits.

Floodplains moderate and store floodwaters, absorb wave energies, and reduce erosion and sedimentation. Wetlands found within floodplains help maintain water quality, recharge groundwater supplies, protect fisheries, and provide habitat and natural corridors for wildlife. All these functions are best served if floodplains are kept in their natural state. Wherever possible, the natural characteristics of floodplains, and their associated wetlands and water bodies, should be preserved and enhanced. There are no floodplains located within the current corporate boundaries of the Town of Ridgely.

## SENSITIVE SPECIES HABITAT

The Maryland Department of Natural Resources (DNR) Wildlife and Heritage Division has identified "Sensitive Species Project Review Areas" in all Maryland jurisdictions. These areas are delineated to indicate sensitive species habitat. DNR designates these areas to provide local governments with information for assessing potential impacts and for reviewing development projects or land use changes within these areas that may affect the environment. Sensitive Species Project Review Areas are classified in 3 groups:

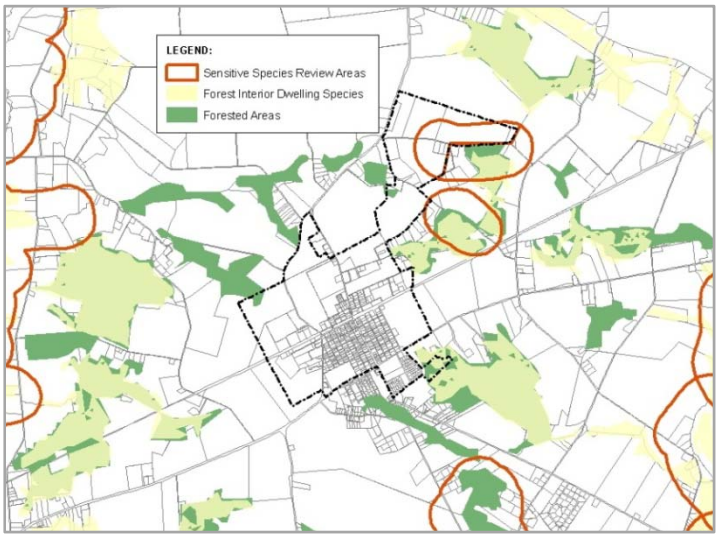



**FIGURE 5-2:** Indicates Sensitive Species Project Review Areas and Forest Interior Dwelling Species located in the Ridgely vicinity.

- Group 1: Federally listed sensitive species;
- Group 2: State listed sensitive species; and
- Group 3: Species or natural communities of concern to DNR but not with official status.

DNR lists three (3) types of Sensitive Species Project Review Aras (SSPRA) in the Ridgely vicinity, totaling 5,608 acres around the Town. The largest of these areas are classified as Group 2 totaling 4,746-acres. Group 1 areas total 125 acres and Group 3 areas total 737 acres. There are approximately 117 acres of Group 2 sensitive species located within the current corporate boundaries of Ridgely. These areas are located on the Ridgely Airport and Business Technology Park sites to the north-east of Town.

**Forest Interior Dwelling Species**

In addition to the Sensitive Species Project Review Areas, the forests in and around Ridgely are designated by DNR as habitat areas for "Forest Interior Dwelling Species" (FIDS). Approximately 7 acres of land within Ridgely is classified by DNR as FIDS habitat. FIDS are a group of species that require habitat conditions in the interior of forests for optimal reproduction and survival. A potential FIDS habitat is defined as a forest tract that is either greater than 50 acres with at least 10 acres of forest interior habitat (forest greater than 300 feet from the nearest forest edge), or riparian forests that are at least 300 feet in total width and greater than 50 acres in total forest area, where the stream must be perennial.

High quality FIDS habitat is defined as a predominantly mature hardwood or mixed hardwood-pine forest tract at least 100 acres in size, of which forest interior habitat comprises at least 25% of the total forest area. High quality FIDS habitats must contain one or more of the following:

1. Sensitive species habitat;
2. Riparian forest at least 600 feet in width;
3. Mature river terrace, ravine, or cove hardwoods at least 300 feet from the nearest forest edge;
4. Approximately 5 contiguous acres of old growth forest located at least 300 feet from the nearest forest edge; or
5. Contiguous forest acreage greater than 500 acres, where a FIDS habitat with contiguous forest greater than 500 acres is designated as Class 1.

## TIDAL & NONTIDAL WETLANDS

Public and private (tidal) wetlands are important natural areas protected by State law (Title 9, Sections 9-101/9-301 of the Natural Resources Volume, Maryland Annotated Code), which sets forth strict licensing procedures for any alteration of wetlands. These resources are within the protective jurisdiction of the federal government through the U.S. Army Corps of Engineers.

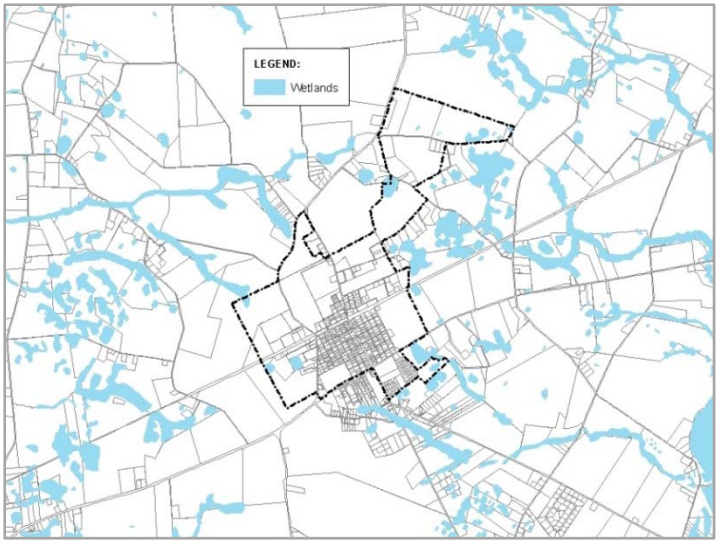



**FIGURE 5-3:** Indicates a little over 28 acres of non-tidal wetlands located in the Town of Ridgely

As shown in Figure 5-3, small areas of Palustrine system wetlands, totaling a little over 28 acres, can be found within the Town of Ridgely. Palustrine system wetlands are non-tidal wetlands of low salinity and shallow depths (less than 6 feet), dominated by trees, shrubs, plants and undergrowth. Palustrine wetlands, mostly forested, exist in the northeastern and southwestern ends of the Town. Palustrine wetlands that border tidal wetlands (as they do in the northeastern corner of Ridgely, along Clarks and Racetrack Roads at the airport) are considered to be of moderate to high significance for serving to temporarily hold coastal surge flood waters and to temporarily store water during storm events.

## FORESTED AREAS

As shown in Figure 5-4, large and small tracts of forested land can be found around Ridgely, totaling approximately 2,657 acres. Much of these forested areas are located on farms surrounding the Town. The largest majority of regional forested areas are located at Tuckahoe State park to the west of Ridgely. Forested areas near Ridgely are designated by DNR as habitat areas for "Forest Interior Dwelling Species" (FIDS).

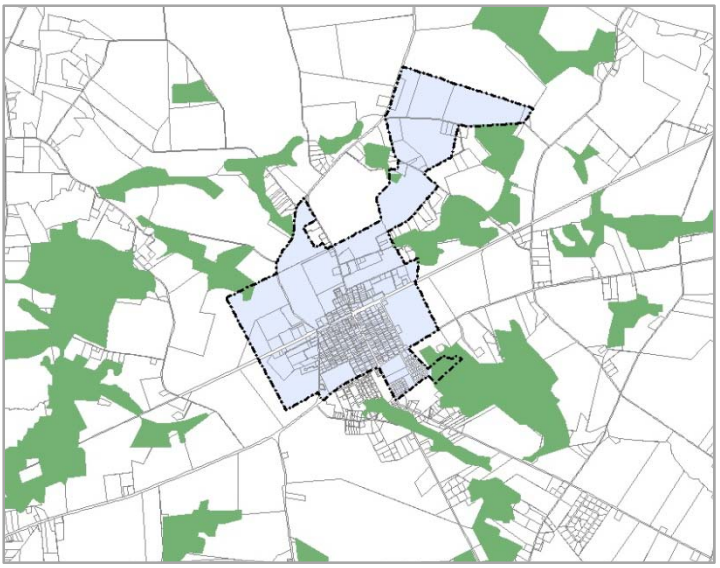


**FIGURE 5-4:** Large and small tracts of forested land can be found within the Ridgely vicinity, these areas also indicate Forest Interior Dwelling Species.

## MINERAL RESOURCES

Surface mining is not permitted within the Town of Ridgely. Therefore a specific mineral resources section for the *Ridgely Comprehensive Plan* is unnecessary. However, the region in which Ridgely is located (West Caroline County) is rich in sand and gravel. This has led to a significant increase in mineral extraction activities in lands surrounding the Town. Ridgely is concerned about surface mining operations that are located too close to Town boundaries, which may impact its roads and streets through increased industrial traffic. Town concerns also include the effects that surface mining may have on municipal gateways, scenic landscapes, and general quality of life.

According to the "Draft" *West Caroline County Comprehensive Plan* (West County Plan), as prepared by the Caroline County Department of Planning & Codes Administration (Planning & Codes), the region surrounding Ridgely contains much of the County's sand and gravel resources. These resources are located along the Ridgely Paleochannel, which runs north to south. The West County Plan further states that "population growth in rural areas of West County combined with the increased urbanization of County municipalities creates the potential for land use conflicts with surface mining industries." To this end the West County Plan identifies the following objectives/strategies for mineral resources:

1. Identifying specific mineral resource areas to indicate appropriate areas for mineral extraction; and
2. Developing performance and site development standards for surface mining and mineral extraction.

According to the West County Plan, in April 2005, Planning & Codes held a Focus Group meeting to gauge public sentiment regarding major land use and growth management issues including surface mining. Participant comments indicated a need for more detailed County policies, processes, and regulations regarding surface mining including the following:

- Developing professional "Surface Mining & Mineral Extraction Performance Standards" including hours of operation, strict buffering, landscaping standards and maintenance standards;
- Enhancing site mitigation/reclamation with a focus on end-use in the review and approval process;

- Enacting a Mineral Extraction Tax for public compensation for associated impacts;
- Designating appropriate areas for surface mining; and
- Developing a Ridgely Bypass to divert associated commercial truck traffic for surface mining from downtown areas.

County assistance in the planning and development of a bypass for Ridgely would allow for industrial traffic, generated from surface mining and the nearby County Landfill, to be diverted away from primary Town streets that residents use. Ridgely also agrees with the County's assertion that "large-scale mineral extraction is likely in the West County region" and "the County should consider appropriate policy and regulatory provisions to address this potential land use wherever it may occur." Mineral Extraction Zones can be defined by the County and coordinated with Ridgely. This can include revision of the *Caroline County Zoning Ordinance* to eliminate surface mining as an accepted use in designated Town Growth Areas.

One effective way to ensure that potential conflicts are minimized is to encourage the development of County "Surface Mining Performance and Site Mitigation Standards" (Performance Standards). Performance Standards should include detailed plans for each phase of the surface mine with particular emphasis on pre-planning (buffering, landscaping etc.) and end use (site mitigation/reclamation). Due to Caroline County's flat topography, surface mining operations are highly visible. Therefore, Performance Standards should concentrate on preserving scenic rural quality and visual aesthetics by providing adequate buffering. Buffers should include indigenous vegetation suitable to existing climate and soil conditions. As stated in the West County Plan, "Tall story and under-story vegetation should be required and buffering should be initiated before mineral extraction commences to provide suitable time for vegetation to grow. When possible, surface mining should utilize existing forestry to effectively screen operations."

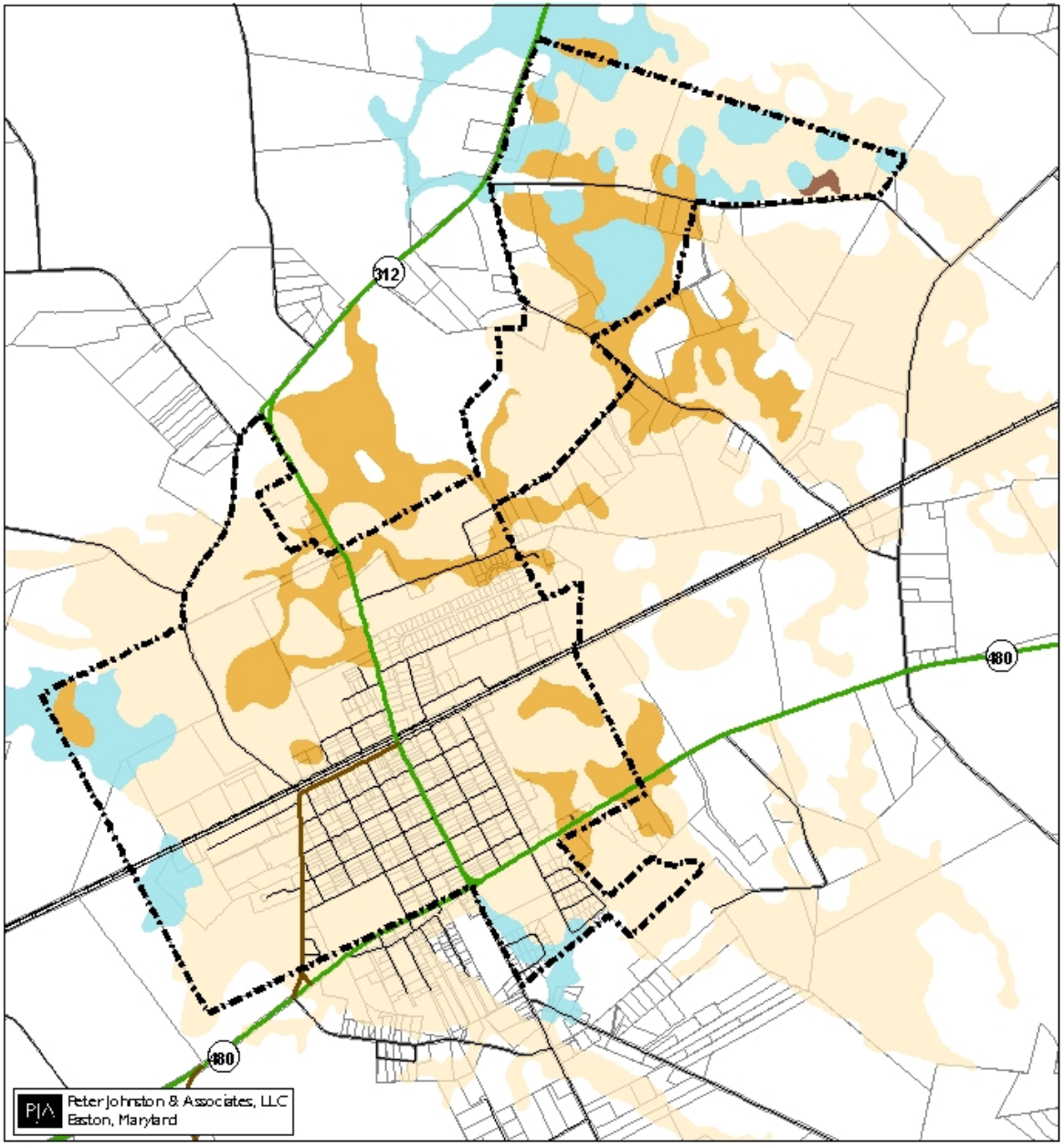
### SOILS

The Caroline County Soil Conservation District (SCD) assists Ridgely with the implementation of soil conservation and water quality goals. Because of the large percentage of agricultural land in the County, drainage is one of the primary concerns of the SCD. Approximately 80% of the County's land, including Ridgely, drains into the Choptank River, while the remaining 20% drains into the Nanticoke River watershed. While agricultural and rural land programs focus on Best Management Practices (BMP's) for nutrient and pesticide controls, urban land areas, such as Ridgely, concentrate on erosion and sediment control as well as stormwater management to prevent soil erosion and conserve water quality.

As shown on Map 5-2, according to the 1962 U.S. Department of Agriculture (USDA) National Soil Conservation Service (NRCS) General Soil Map for Caroline County, soils in Ridgely are classified as Sassafras-Fallsington-Woodstown association. These soils are coarsely textured soils that are well-drained to poorly-drained. The most widespread type in Ridgely is the Sassafras soils; a soil type that drains very well.

Identifying highly erodible lands is important to conserving soil and maintaining vegetative cover to reduce stream sedimentation. Soil characteristics assist in determining the suitability of land uses in a specific area. Nonpoint source pollution, which is associated with a variety of land-based activities including agriculture, is one reason why water quality remains impaired in Maryland. Nonpoint source pollution is defined as polluted runoff caused by stormwater (rainfall or snowmelt) or irrigation water, which moves over and through the ground. As this runoff moves, it gathers and carries pollutants such as sediments, nutrients, toxics, and pathogens. These pollutants are eventually deposited in lakes, rivers, wetlands, coastal waters, ground waters, and the Chesapeake Bay.[4] The effects of runoff on streams and aquatic habitat include not only an increase in sediment, but also an introduction of toxins. These toxins are bound to the sediment, which is eroded and washed into the hydrologic system.[5]

[4] MD DNR Coastal Zone Management Division, Watershed Services Unit 2003 Annual Report
[5] US Department of Agriculture Natural Resources Conservation Service.




## MAP 5-2: SOILS CLASSIFICATIONS

**LEGEND:**

- Ridgely Corporate Boundary
- Other Principal Arterial
- Major Collector
- Minor Collector
- Local Road/Street
- Railroad Line
- Hydric Soils
- Highly Erodable Soils
- Moderately Erodable Soils
- Not Highly Erodable Land

**SOIL TYPES IN RIDGELY VICINITY**

Highly Erodable Soils

SnC3 - Sassafras Sandy Loam: 5% to 10% slopes

Moderately Erodable Soils

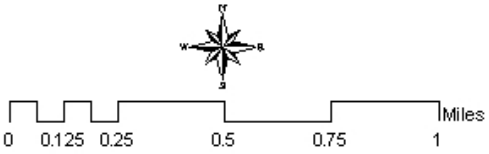
SaB2 - Sassafras Sandy Loam: 5% to 10% slopes
SnB2 - Sassafras Loam: 2% to 5% slopes
SnC2 - Sassafras Sandy Loam: 5% to 10% slopes
WdB2 - Woodstown Loam: 2% to 5% slopes
WoB2 Woodstown Sandy Loam: 2% to 5% slopes

Not Highly Erodable Soils

WoA - Woodstown Sandy Loam: 0% to 2% slopes
WdA - Woodstown Loam: 0% to 2% slopes
SnA - Sassafras Sandy Loam: 0% to 2% slopes
SmB - Sassafras Loamy Sand: 2% to 5% slopes
SaA - Sassafras Loam: 0% to 2% slopes

Hydric Soils

Fs - Fallsington Sandy Loam
Fa - Fallsington Loam
Ps - Pocomoke Sandy Loam
Pa - Pocomoke Loam
Em - Elkton Silt Loam



# RESOURCE CONSERVATION LANDS

Resource conservation lands include areas within Ridgely as well as land located within the Ridgely Greenbelt. As shown in Table 5-2, Ridgely resource conservation land includes parks and open spaces and agricultural land. Protected lands, within or near the Ridgely Greenbelt, include Tuckahoe State Park, Agricultural Preservation Easements and Districts, as well as Private Conservation land. These areas total approximately 5,372 acres. Resource conservation lands are discussed below.

**TABLE 5-2: RESOURCE CONSERVATION LAND**

| Resource Conservation Lands | Acreage |
|---|---|
| Tuckahoe State Park | 1,545 |
| Agricultural Preservation Easements | 2,915 |
| Agricultural Preservation Districts | 667 |
| Private Conservation Land | 245 |
| - Ridgely Agricultural Lands | 549 |
| - Ridgely Parks, Recreation Land, & Open Space | 120 |

Source: MD Department of Natural Resources, Maryland Department of Planning (MPV), and the Caroline County Department of Planning & Codes Administration

## RESOURCE CONSERVATION LAND: TOWN OF RIDGELY

### Agricultural Areas

According to the 2006 Maryland Property View (MPV), Ridgely contains approximately 549 acres of agricultural land within the existing Town boundary. Large tracts of agricultural land are located to the north and west of the center of Ridgely, as well as in the northeastern-most and southeastern-most corners of the Town. Although located within Town, this land is used for agricultural purposes. This valuable resource helps to define Ridgely as a rural community that was created in the 19th century. Accordingly, the preservation of that farmland is part of the retention of the character of Ridgely. In addition, the agricultural products are an important economic asset to the community.

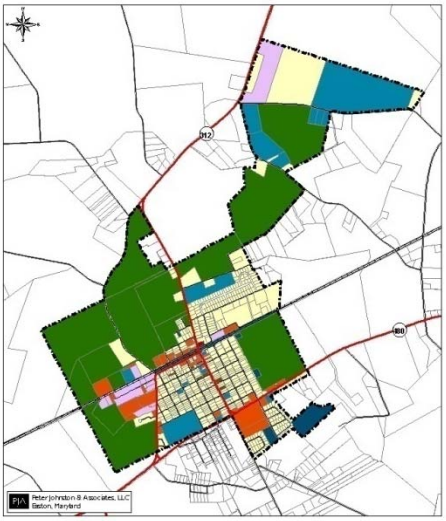


**FIGURE 5-5:** Agricultural areas in the Town of Ridgely are shown in green above. These areas total approximately 549 acres according to the Existing Land Use Map (Map 2-1).

The Town of Ridgely has an expectation that these agricultural areas within Town will be developed in the future. In addition, Ridgely has an expectation it will grow into the unincorporated and adjacent agricultural areas of Caroline County that have been defined as Town Growth Areas in the Municipal Growth Element of this Plan. However, every effort should be made to retain annexed agricultural lands for production until developed, where appropriate. If and when these lands are converted to another use, residential, recreational/cultural, or other, as much of the land as possible should be retained as open space.

### Parks, Recreation Land, & Open Space

There are 120 acres of parks, recreation land, and open space in the Town of Ridgely. A detailed accounting of the specific parks and recreation facilities in Ridgely is contained in the “Community Facilities” chapter of this Comprehensive Plan.

In 2006, the Commissioners of Ridgely established a "Parks and Recreation/Open Space Development and Maintenance Fee" under Chapter 105 of the *Ridgely Zoning Ordinance*. Before securing a building permit, developers must pay a parks and recreation/open space development and maintenance fee of $1,000 per dwelling unit to the Town. Fees received are maintained in a special account by the Commissioners of Ridgely to be used solely for the acquisition, development, and maintenance of municipal parks, community and recreation areas and buildings.

Ridgely parks, recreation, and open space efforts also are assisted greatly by the Caroline County Department of Recreation & Parks. The Department primarily utilizes "Program Open Space" (POS) funding to acquire land and develop projects. POS was established under the Department of Natural Resources in 1969, and is funded by State real estate transfer taxes, which are deposited in a special fund for the Program. POS funds are used by counties and municipalities to purchase and/or make improvements to park and recreation land.

Currently, a "Rails to Trails" effort has been initiated in Ridgely with assistance from the Maryland State Highway Administration (SHA) and Department of Natural Resources (DNR). As shown on Map 5-3, this effort utilizes the existing railroad line in Ridgely, which is approximately 1.25 miles, to form one portion of a greenway trail connection. The second portion of the Rails-to-Trails creates a greenway connection from the Town to Adkins Arboretum at Tuckahoe State Park. Currently, the Greenway is proposed to run from the Town's corporate boundaries along Bell Road to Crouse Mill Road in Caroline County. It then turns onto Sawmill Road and runs to Eveland Road and ends at the Adkins Arboretum. The total length of the greenway trail from the Ridgely corporate boundary to the Arboretum is approximately 3 miles. Restoration of the historic "Ridgely Railroad Station," as a public recreation facility along the greenway, is part of this initiative.

## RESOURCE CONSERVATION LAND: RIDGELY GREENBELT

### Agricultural Preservation Areas

According to the *West Caroline County Comprehensive Plan*, the "County has remained an agricultural community for over 300 years…where farming continues to be a vital component of the regional economy as a defining aspect of life."[6] Caroline County's goal for land preservation and conservation is to protect 100,000 acres by 2020, approximately 50% of the County's land area. Farmland is presently being preserved through state preservation and conservation programs.

The *Maryland Agricultural Land Preservation Program Fund* (MALPF) is the State's most effective program for preserving agricultural land. Agricultural land preservation districts provide a temporary reserve, where the land cannot be developed in a non-agricultural use for five years. Once within an agricultural land preservation district, landowners may remain permanently in the program. Land held in agricultural land preservation districts cannot be developed for non-agricultural uses but landowners are able to sell development rights to the State in return for placing a conservation easement on the land.

[6] 2006 "Draft" *West Caroline County Comprehensive Plan*. Prepared by the Caroline County Department of Planning & Codes Administration, the Caroline County Planning Commission, and the West County Comprehensive Plan Ad Hoc Committee.

As shown on Map 5-3, the Ridgely Greenbelt contains designated MALPF agricultural land preservation properties and private conservation areas for agricultural use totaling 3,827 acres. According to the West County Plan, changes to the County's land preservation program could include municipal involvement to assist with enhanced preservation. This includes consideration of a local "Caroline County Land Preservation Program and Fund" for the County and its municipalities.[7]

The Plan states that "in order for Caroline County to reach its goal of 100,000 acres preserved by 2020, the future viability of preservation initiatives in the County depends on municipal involvement to maximize investment dollars."[8] This includes the concept of leveraging agricultural preservation and conservation program funds as well as leveraging Program Open Space (POS) funding. It also considers County purchase of development rights from farmers, partially funded from new development.

Ridgely supports the preservation and protection of resource lands within the Ridgely Greenbelt. The Town also supports the Caroline County Department of Planning & Codes Administration's focus on municipal greenbelts as "Priority Preservation Areas," consistent with State law. As a designated "Priority Funding Area" (PFA) in Caroline County, the Town is a growth center. Therefore, Ridgely believes that cooperative planning for effective growth management and land preservation is essential. However, Ridgely feels that any County/Municipal Land Preservation Program must provide benefits for Town residents as well as County residents. Ridgely elected officials have a responsibility to ensure that such a program, if created, provides tangible value to the Town. Therefore, the development of any program should be carefully coordinated with Ridgely as well as the Caroline County Council of Governments (COG).

**Tuckahoe State Park/Adkins Arboretum**

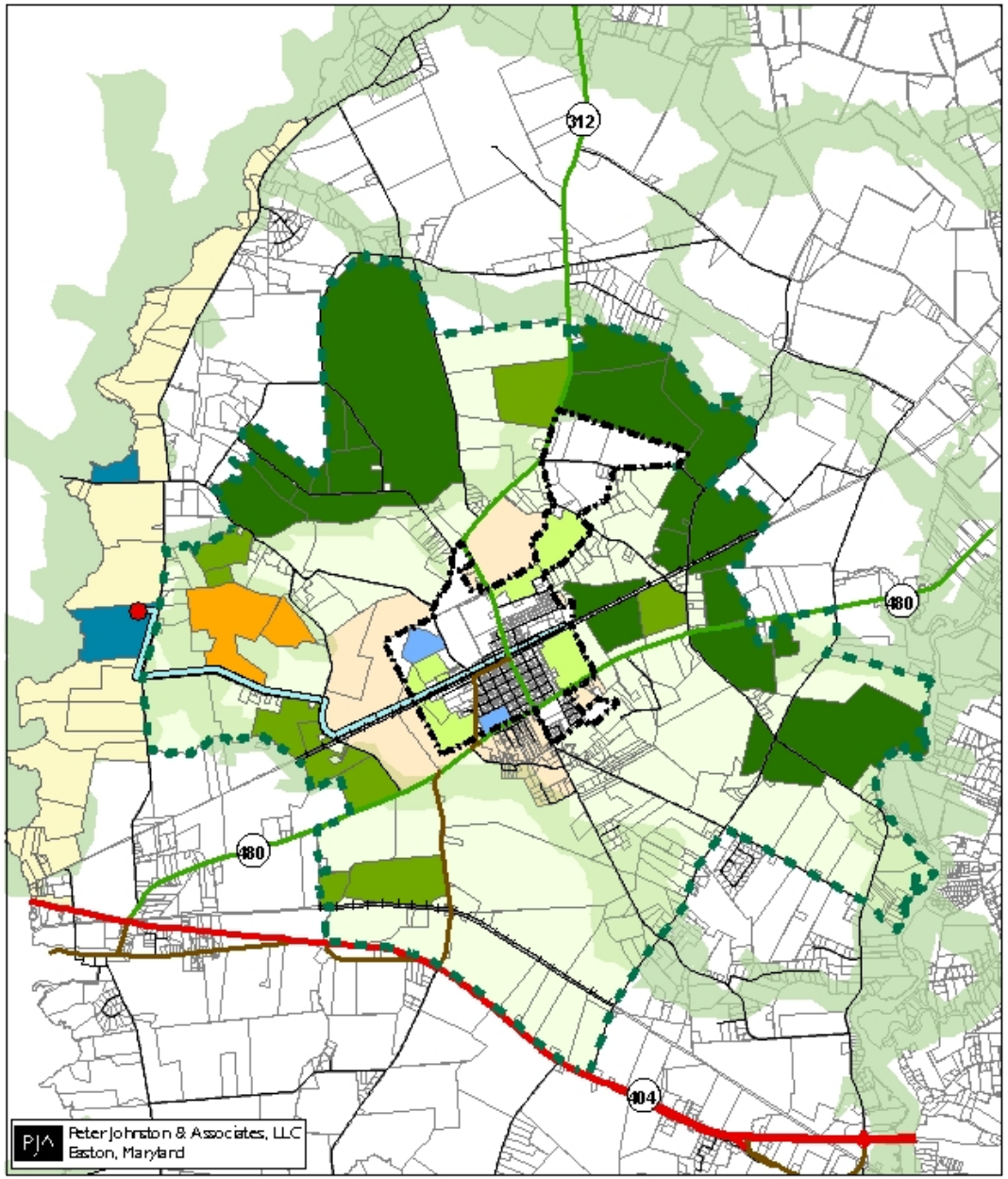
Tuckahoe State Park is a 4,000+ acre State owned park with recreation facilities along the scenic Tuckahoe River and creek. This large natural area and park is situated in the western portion of Caroline County on the border with Queen Anne's County. The park is administered by Maryland Department of Natural Resources (DNR). The park provides for camping, fishing, and community recreation. As shown on Map 5-3, Tuckahoe State Park is linked to the Ridgely Greenbelt and constitutes an important amenity for the Town and its residents.

**FIGURE 5-6:** Adkins Arboretum and Tuckahoe State Park are important local resources, located near Ridgely. These resources are valuable amenities for the Town, its residents, and visitors to the area.

Adkins Arboretum is a 400 acre native garden and preserve located in Tuckahoe State Park. The Arboretum highlights natural vegetation and eco-systems indicative of the Delmarva region. Currently, an initiative is underway to establish a full service visitor center on the grounds. Plans also include a greenway trail connection to the Town of Ridgely.

[7] Ibid.
[8] Ibid.

Greenway plans represent a tremendous recreation and economic opportunity for the Town and County. With the construction of the new Ridgely Airport and Business Technology Park, trail connections present a unique marketing opportunity. In addition, the greenway trail provides potential new residents, such as those in the Ridgely Park development, with an amenity that many towns on the Eastern Shore lack. Ridgely feels that all efforts should be made by Caroline County to realize this important Town objective. Furthermore, the County should support the greenway trail connection through County areas.




## MAP 5-3: RESOURCE CONSERVATION LAND

**LEGEND:**

- Adkins Arboretum Visitor Center
- Ridgely Corporate Boundary
- Ridgely Greenbelt Boundary
- Other Principal Arterial
- Major Collector
- Minor Collector
- Local Road/Street
- Railroad
- Adkins Arboretum Trail Connection
- Institutional Land - State Park
- Tuckahoe State Park
- Ridgely Park & Recreation Areas
- Ridgely Growth Area
- Agricultural Preservation Easement
- Agricultural Preservation District
- Private Conservation
- Ridgely Greenbelt
- Green Infrastructure
- Ridgely Agricultural Land

N

0 0.375 0.75 1.5 2.25 3 Miles

## SENSITIVE AREAS POLICIES

Future development in and around Ridgely should seek to minimize impacts on sensitive environmental areas. Regardless of location, future development should be subject to minimum performance standards for environmental protection and natural resource conservation. Some planning strategies to be considered include the following:

- Identifying and protecting sensitive resources;
- Expanding and enhancing stream buffers; and
- Reducing impervious cover through such techniques as clustering, narrow streets, reduced parking and shared driveways, eco-friendly pavement processes, and other such techniques.

### STREAMS & STREAM BUFFERS

Buffer systems along Ridgely drainage ditches and small streams serve an important function and require vigilant protection and maintenance efforts. The cumulative loss of open space and natural growth in and around streams reduces the ability to filter the effects of greater stormwater runoff, sedimentation, and higher levels of nutrient pollution. Enhanced buffering is a "Best Management Practice" (BMP) that reduces sediment as well as nitrogen, phosphorus, and other runoff pollutants. Buffers act as a filter, thus minimizing damage to the water bodies that lie "downstream" from ditches and eventually the Chesapeake Bay.

The effectiveness of buffers is influenced by their width, which should take into account such factors as contiguous or nearby slopes, soil erodibility, and adjacent wetlands or floodplains. The type of vegetation within the buffer is important because some plants are more effective at nutrient uptake than others. Buffers also provide habitat for wetland and upland plants, which form the basis of healthy biological communities. A wide variety of animals use the natural vegetation as a corridor for food and cover. A natural buffer system provides connections between remaining patches of forest in the area to support wildlife movement.

### HABITATS OF THREATENED & ENDANGERED SPECIES

Ensuring the protection and safety of threatened and endangered species habitat is important within all areas of the Ridgely's jurisdiction. The Ridgely *Zoning Ordinance and Subdivision Regulations* should include provisions for the protection of these habitats on all land within Town limits. This includes prohibiting development in sensitive species habitat areas or requiring specific protection measures in project designs of proposed construction projects that are located within or adjacent to an endangered species habitat. Protection measures should include site design plans and descriptions of measures to be taken to protect the endangered species (protection measures should be as described by the DNR Natural Heritage Program).

## WETLANDS

Public and private (tidal) wetlands are important natural areas protected by Maryland law (Title 9, Sections 9-101/9-301 of the Natural Resources Volume, Maryland Annotated Code) which sets forth strict licensing procedures for any alteration of wetlands. They are also within the protective jurisdiction of the federal government through the U.S. Army Corps of Engineers. Town policies and regulations regarding wetlands require compliance with State and Federal wetland regulations. A twenty-five-foot (25') setback from all non-tidal wetlands is required for all development around the extent of the delineated non-tidal wetland, except as may be permitted by the U.S. Army Corp of Engineers and the State of Maryland, Department of Natural Resources, Nontidal Wetland Division.

## FOREST CONSERVATION

In 2006, the Commissioners of Ridgely established the Ridgely Tree Commission "to preserve and enhance the Town's physical and aesthetic character by preventing the indiscriminate removal or destruction of trees between the sidewalks and the streets in the Town of Ridgely." Additionally, the Commissioners wished to retain the Town's trees for their positive environmental effects, including protecting wildlife, improving overall air quality, reducing and diverting surface water runoff, preventing siltation and sediment from entering into the Town's storm sewer system, which ultimately enters the State's waterways.

Town residents and officials are required to obtain written approval from the Ridgely Tree Commission before removing or destroying any tree over two inches in diameter at its base located on a municipal property or right-of-way. After removal of a tree, a replacement tree must be planted, and its location and species must be approved by the Tree Commission.

In 1991, the State of Maryland enacted the *Forest Conservation Act* to protect forests by making forest conditions and character an integral part of the site planning process. It is regulated by the Maryland Department of Natural Resources but implemented and administered by local governments. The law's intent is to maximize the benefits of forests and slow the loss of forest land, while allowing development to take place. In 1993, the Commissioners of Ridgely adopted Subtitle 16 of Title 5 of the Natural Resources Article of the Annotated Code of Maryland as the "Ridgely Forest Conservation Program."

Significant tracts of Forest Interior Dwelling Species (FIDS) habitat are located in areas surrounding the Town's corporate boundary. This includes areas that are designated as potential growth areas for Ridgely. While the Town has not established any regulatory mechanisms to protect FIDS habitat, it is recommended that as growth areas are determined and established, protection measures should be addressed as part of the development process.

## EROSION & SEDIMENT CONTROL/STORMWATER MANAGEMENT

Ridgely has adopted the *2000 Maryland Stormwater Design Manual, Volumes I and II* (Maryland Department of the Environment, April 2000) as the Town's official guide for stormwater principles, methods, and practices. Applicants must submit an "Erosion and Sediment Control Plan" to the Caroline Soil Conservation District (CSCD) for review and approval in all instances where a grading permit is required.

Clearing or grading land in excess of 5,000 square feet or earth movement in excess of 100 cubic yards is not permissible without first obtaining an Erosion and Sediment Control Plan from the CSCD. A standard Erosion and Sediment Control Plan for "Minor Earth Disturbances" may be used for projects with disturbances less than 30,000 square feet and 500 cubic yards of earth movement if certain limitations are met. When a Standard Erosion and Sediment Control Plan for Minor Disturbances is not appropriate, an Engineered Erosion and Sediment Control Plan is required. Engineered plans must be signed and sealed by either professional engineers, landscape architects or professional land surveyors licensed in the state of Maryland.

Ridgely also requires developers to submit a "Stormwater Management Plan" with proposed design and calculations for capacities of stormwater drainage systems for any new subdivision. Current stormwater management requirements address both the quantity and quality of stormwater runoff leaving the development site. In order to achieve many of the environmental protection and resource conservation objectives the Town has established, more emphasis should be placed on low impact stormwater management practices in addition to standard methods.

New development as well as infill and redevelopment projects should be required to treat stormwater using nonstructural and micro-scale practices to the maximum extent feasible. Techniques such as submerged gravel wetlands, rain water harvesting (Cisterns & Rain Barrels), landscape infiltration, infiltration berms, and dry wells should become common practices. Stormwater should be filtered using such techniques as rain gardens, landscape and tree planters (e.g., linear tree pits, sidewalk planters), grass swales and bio-Swales, tree-swales, grass filter strips and vegetated buffers. Low impact stormwater management techniques are currently being utilized in the Ridgely Park development project.

## IMPLEMENTATION RECOMMENDATIONS

Descriptions and other details regarding implementation are contained in Chapter 9 of this Comprehensive Plan.

**RECOMMENDATION #1:** Amend the *Ridgely Zoning Ordinance* and *Subdivision Regulations* to provide specific protection measures for sensitive areas as per the requirements of Article 66B of the Annotated Code of Maryland.

**RECOMMENDATION #2:** Assess future development proposals in light of the site's physical suitability to accommodate development, while protecting natural resources, sensitive areas, and the quality of the Town's groundwater and encourage Caroline County to develop similar policies and regulations

**RECOMMENDATION #3:** Consider incorporating environmentally sensitive building and site-design guidelines that follow LEED (Leadership in Energy and Environmental Design) models into the subdivision review process to minimize the potential negative impacts of development on natural resources and sensitive areas.

**RECOMMENDATION #4:** Conserve forest and woodland resources, Forest Interior Dwelling Species (FIDS) habitat, and green infrastructure (hubs and corridors), and wherever possible, replenish them through tree conservation measures and replanting programs in compliance with the Maryland Forest Conservation Act.

**RECOMMENDATION #5:** Amend Town regulations to incorporate the "Conservation Corridor" as described in the Land Use Plan to protect sensitive environmental areas.

**RECOMMENDATION #6:** Work with Caroline County to review development proposals near the Town and ensure that sensitive areas are addressed.

# Chapter 6 Water Resources Element

The Ridgely Comprehensive Plan's "Water Resources Element" (WRE) is a planning requirement mandated by Maryland House Bill 1141 (HB 1141). The purpose of the WRE is to assess the adequacy of water supply and wastewater capacity to meet current and future needs. In regards to meeting these needs, the WRE determines impacts on water resources. Considering available data, the statutory requirements are to accomplish the following:

- Identify drinking water/water resources adequate for the needs of existing and future development proposed in the land use element of the comprehensive plan.
- Identify suitable receiving waters and land areas to meet the storm water management and wastewater treatment and disposal needs of existing and future development proposed in the land use element of the comprehensive plan.
- Adopt a WRE in the comprehensive plan on or before October 1, 2009, unless an extension is granted by Maryland Department of Planning (MDP) pursuant to State law. Zoning classifications may not be changed after October 1, 2009 if a jurisdiction has not adopted the WRE in its comprehensive plan.

**GOAL & OBJECTIVES**

**GOAL:**

Maintain and protect an adequate and safe water supply to serve current and future residents of Ridgely.

**OBJECTIVES:**

Maintain and protect an adequate water supply to serve the residents of Ridgely and collaborate with Caroline County to serve current and future populations.

Restore and protect water quality and contribute toward meeting water quality regulatory requirements in rivers and streams in the Upper Choptank River Watershed.

Address current water quality impacts as well as future impacts from land development and population growth.

Protect the habitat value of rivers and streams in the Upper Choptank River Watershed.

Work with Caroline County to develop watershed planning and management guidelines that relate land use and development to their impacts on water resources.

Work with Caroline County to address the needs of property owners with failing septic systems in Trinity Boonsboro.

Develop Town-wide water conservation methods and policies and encourage innovative technologies for stormwater management such as bio-roofs, rain gardens, rain barrels, and street-side buffer areas for home and business owners.

Among other things, preparation of the WRE is an exercise intended to test water resource capacity limits, determine the potential implications of water resource issues for future growth, and facilitate development of management strategies. Specifically, the Ridgely WRE is directly linked to the following Plan elements:

1. Land Use Plan;
2. Municipal Growth Element;
3. Community Facilities; and
4. Resource Conservation.

# BACKGROUND

## HYDROGEOLOGIC SETTING

Located in Caroline County, Maryland, the Town of Ridgely is part of the Northern Atlantic Coastal Plain aquifer system (NACP). The NACP system encompasses approximately 50,000 square miles that extend from the North Carolina and South Carolina border to Long Island, New York. In Maryland the aquifer system is bounded in the west by the Fall Line, which separates the Piedmont from the Coastal Plain physiographic province (see Figure 6-1). It is bounded in the east by the Atlantic Ocean. [1]

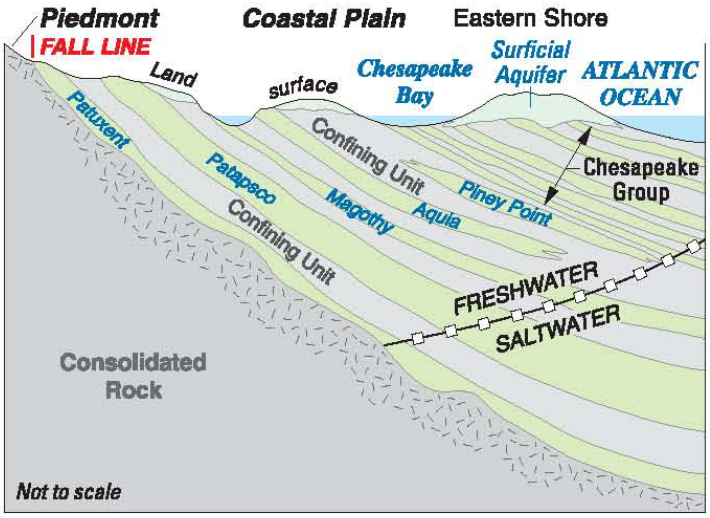



**FIGURE 6-1:** Describes the Northern Atlantic Coastal Plain Aquifer System, which separates the Piedmont from the Coastal Plain.
Source: *A Science Plan for a Comprehensive Regional Assessment of the Atlantic Coastal Plain Aquifer System in Maryland*, US Dept. of Interior and USGS

## REGIONAL WATER RESOURCES

The Atlantic Coastal Plain aquifer system in Maryland consists of an alternating series of aquifers and confining units that descend and widen, as they extend toward the Atlantic Ocean (see Figure 6-1). The major aquifers in the Coastal Plain system are the Patuxent, Patapsco, Magothy, Aquia, and Piney Point Formations, and the Chesapeake Group. The sediments that form the aquifers and confining units range in age from Cretaceous to Quaternary. Most of the Eastern Shore is covered by loose sediments in layers containing gravel, sand, silt and clay deposited during the present post-glacial period (Tertiary).

Total ground water use in Maryland exceeds 214 million gallons per day.[2] The urban areas of Baltimore and Washington, D.C. make up the largest percentage of water usage. Much of the water supply for these urban areas is derived from surface water sources. In Maryland's Coastal Plain counties, which include southern Maryland and the Eastern Shore, ground water comprises 86% of the total water use.[3]

Coastal Plain groundwater is drawn from unconfined (natural water table) and confined (artesian) aquifers. Unconfined aquifers are recharged by rainfall and snow melt, which can be depleted by drought resulting in fluctuating water levels. Artesian aquifers receive recharge from areas where water-bearing formations contribute to leakage through confining beds and lateral movement of water from adjacent aquifers. Artesian aquifers are much less vulnerable to drought conditions.[4] The natural water quality of Coastal Plain ground water is generally good and ranges from very soft to very hard (Vokes and Edwards, 1974).

[1] *A Science Plan for a Comprehensive Regional Assessment of the Atlantic Coastal Plain Aquifer System in Maryland* (Open-File Report 2007–1205), by Robert J. Shedlock, David W. Bolton, Emery T. Cleaves, James M. Gerhart, and Mark R. Nardi, U.S. Department of the Interior and U.S. Geological Survey, prepared in cooperation with the Maryland Geological Survey, the Maryland Department of Natural Resources and the Maryland Department of the Environment.
[2] *An Overview of Wetlands and Water Resources of Maryland, by* Denise Clearwater, Paryse Turgeon, Christi Noble, and Julie Labranche. Prepared for Maryland Wetland Conservation Plan Work Group, January 2000
[3] Ibid.
[4] Ibid.

Most Coastal Plain aquifers contain both fresh and salt water. Water directly below recharge areas is fresh and salt levels increase with aquifer depth and proximity to the ocean. The location of the freshwater/salt water boundary (zone of diffusion) depends on the volume of fresh water entering the aquifer from recharge or leakage.

## THE PINEY POINT AQUIFER

Currently, Ridgely draws its water from the Piney Point aquifer, which extends from North Carolina to New Jersey. In Maryland, the aquifer supplies water for much of Calvert and St. Mary's Counties on the western shore, and Queen Anne's, Talbot, Caroline, and Dorchester counties on the Delmarva Peninsula.

The Piney Point aquifer lies below all of Caroline County. The common range of yield for wells in the aquifer is 10 to 250 gallons per minute (gpm). In some areas the yield may exceed 600 gpm.[5] On the Delmarva Peninsula, the aquifer's rate of transmissivity (the rate at which water will move through the aquifer) is greatest in a zone that runs from Cambridge, Maryland to Dover, Delaware. Another area of comparatively thick high yielding surficial sediments is in the vicinity of Ridgely. The aquifer becomes less transmissive away from this zone, as sediment thickness decreases north of Ridgely. [6]

The Piney Point aquifer does not outcrop in Maryland. The principal recharge to the aquifer on the Eastern Shore is due to leakage from the overlying Cheswold aquifer in areas where the two aquifers are connected or separated by only a thin layer of silt and clay. Large water users on the Eastern Shore, particularly agricultural operations, depend more on the region's water table (surficial) aquifers than the Piney Point aquifer. The surficial aquifer in the northern part of Caroline County is the Columbia aquifer, which is poorly transmissive. The Columbia aquifer supplies some homes and farms (for irrigation purposes), but its shallowness makes it vulnerable to drought and pollution from surface sources.[7]

The Maryland Department of the Environment (MDE) released projections of water use in the Piney Point aquifer in 1995. As shown in Table 6-1, these uses are classified as Agricultural and Non-Agricultural, reflected in gallons per day (gpd).

**TABLE 6-1: MDE WATER USE PROJECTIONS BY LAND USE FOR THE PINEY POINT AQUIFER – CAROLINE COUNTY**

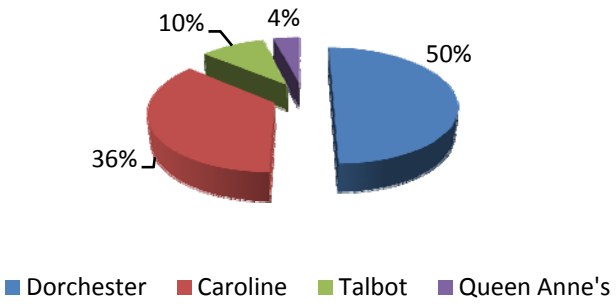
| Classification | 1990 | 1995 | 2000 | 2005 |
|---|---|---|---|---|
| **Pop. Projections (MDP)** | **27,035** | **28,701** | **30,103** | **31,149** |
| - Agriculture Use (gpd) | 553,737 | 553,737 | 553,737 | 553,737 |
| - Non Ag Use (gpd) | 929,248 | 986,515 | 1,034,708 | 1,070,657 |
| - Total Use (gpd) | 1,482,985 | 1,540,252 | 1,588,445 | 1,624,394 |

Source: *A Finite Difference of Analysis of the Piney Point Aquifer on the Eastern Shore of Maryland*, Maryland Department of the Environment Water Rights Division, 1995

[5] *Caroline County Comprehensive Water and Sewerage Plan*, Caroline County, Maryland Planning Department, 1992
[6] Agricultural Use of the Piney Point Aquifer, Maryland Department of the Environment Water Rights Division, 1998
[7] Maryland Geological Survey Report of Investigation #72, D. D. Drummond, 2001,

In 1993, Caroline County comprised approximately 36% of the Piney Point Aquifer's usage on the Eastern Shore. In 1998, within the four Delmarva counties using the aquifer, a total of 392 wells were permitted to pump an average total of 31,280,800 gallons per day (gpd) from surficial aquifers. By contrast, there are 317 water appropriation permits for the Piney Point Aquifer with permitted averages totaling 5,125,950 gpd.[8] MDE's "Water Rights Division" instruct large irrigators in Caroline County to use the Columbia aquifer, reserving the more protected confined aquifers for drinking water supply. However, in the 1990s, an increasing number of farms sought water appropriation permits from confined aquifers (including the Piney Point) because of low yields in the surficial aquifer.

**FIGURE 6-2: Proportion of Piney Point Use for Caroline County**




In May 1998, MDE temporarily suspended processing applications from Caroline County farms for Water Appropriations Permits due to an increase in the number of large users interested in using the Piney Point Aquifer for irrigation. MDE conducted a study of water use and availability in the region to evaluate the cumulative impacts of all existing water uses and proposed permitted water uses of the aquifer. This included known water uses in surrounding counties and Delaware. The study concluded that uses, at that time, would not seriously impact the Piney Point aquifer or cause conflicts with other users. In addition, the aquifer could support additional withdrawals above existing levels. MDE has resumed processing all applications for ground water from the Piney Point aquifer. The Department continues to direct large users to the Columbia aquifer in areas where yield is sufficient. Where yield is insufficient, MDE will permit large water users including farmers, to use the Piney Point Aquifer on a case-by-case basis.

More recently, in 2007, MDE reported that steadily declining well water levels are a matter of concern to local residents in some areas of the State. [9] The aquifers requiring scrutiny are the Aquia, Piney Point, Magothy, and Patapsco Formations. These formations are heavily used on the Coastal Plain and in the Washington-Baltimore metropolitan area. In 2007, the U.S. Department of the Interior (USDI) and U.S. Geological Survey (USGS) reported that "decades of increasing pumpage have caused ground-water levels in parts of the Maryland Coastal Plain to decline by as much as 2 feet per year in some areas of southern Maryland. Continued declines at this rate could affect the long-term sustainability of ground-water resources in Maryland's heavily populated Coastal Plain communities and the agricultural industry of the Eastern Shore."[10]

[8] Agricultural Use of the Piney Point Aquifer, Maryland Department of the Environment Water Rights Division, 1998

[9] *Ground Water Protection Program*, Annual Report to the Maryland General Assembly July 2007, Maryland Department of the Environment Water Supply Program.

[10] Open File Report 2007 – 1205, *A Science Plan For A Comprehensive Regional Assessment Of The Atlantic Coastal Plain Aquifer System In Maryland*, by Robert J. Shedlock, David W. Bolton, Emery T. Cleaves, James M. Gerhart, and Mark R. Nardi, U.S. Department of the Interior, U.S. Geological Survey, 2007.

A report prepared by the Maryland Advisory Committee on the Management and Protection of the State's Water Resources recommended a comprehensive study of the sustainability of the entire Atlantic Coastal Plain aquifer system in Maryland, which is currently being undertaken by the U.S. Department of the Interior and U.S. Geological Survey (USGS), in cooperation with the Maryland Geological Survey and MDE. The assessment will be conducted in three phases and is expected to take 7 to 8 years to complete. Currently, the project is in Phase I, begun in 2006. A key component of the assessment will be the development of an aquifer information system designed to serve the needs of both water managers and scientific investigators. When fully developed, the system will serve as a web-based tool and facilitate the use of ground-water management models for evaluation of a variety of water-management strategies.

## RIDGELY WATER & WASTEWATER SYSTEM

### WATER SYSTEM

The Ridgely water system is comprised of two wells that draw from the Piney Point aquifer. A third well was installed in 2006. This well will come on-line when a new elevated storage tank and MDE permitting are completed. Water storage is provided in a 200,000 gallon elevated storage tank. In 2008, there are 617 connections to the water system and, of the total connections, 530 are residential, 3 of which are outside Town boundaries. There are 44 commercial and industrial connections, one located outside the Town's boundaries. There also are 43 apartment connections, 11 of which are outside of Town boundaries.

In 2007, a "Water Infrastructure Study" conducted for the Town recommended the addition of a second elevated water storage tank with at least 500,000 gallons holding capacity. The planning and design phase of the new tank is complete. The Town has submitted a "Pre-Application" for MDE Water Quality Infrastructure Program Capital Project funding. The new Ridgely Business & Technology Park has been identified as a potential site for the tank and construction is anticipated to be complete by June 2009.[11]

**TABLE 6-2: RIDGELY WATER WELLS**

| Classification | Well #1 | Well #2 | Well #3 |
|---|---|---|---|
| Year Drilled | N/A | 1995 | 1985 |
| Well Diameter | N/A | 6" | 6" |
| Total Depth | N/A | 347 feet | 347 feet |
| Reported Capacity | N/A | 110 gpm | 150 gpm |

Source: Town of Ridgely; Maryland Department of the Environment

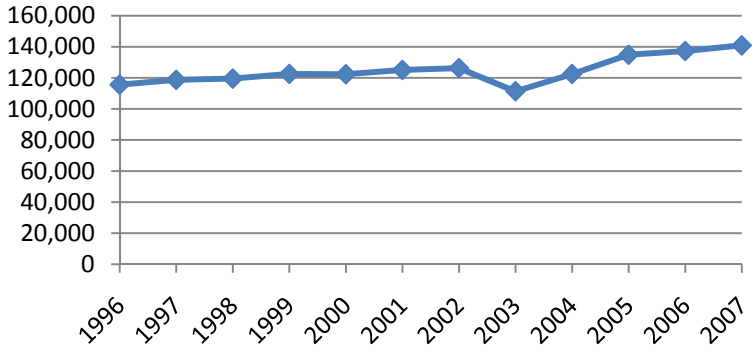
MDE issues ground water appropriation permits (GAPs) that specify average and maximum daily flow capacities for municipal water systems. Annual average daily flow is the total volume of water flowing into a water facility during any consecutive 365 days; divided by 365 and expressed in units of mgd (million gallons per day) or gpd (gallons per day). Maximum daily flow capacity is the maximum quantity permitted to flow within a single 24-hour period.

[11] *Ridgely Five-Year Capital Improvement Program*, 2007

The current Ridgely Groundwater Appropriations Permit GAP CO79G005(3), issued by MDE, authorizes the system to withdraw an annual average of 200,000 gpd and 300,000 gpd during the month of maximum use. Pumpage data from 1996 through the end of 2007 shows that water usage in the Town remained steady at or near 120,000 gpd between 1996 and 2002. However, use dropped about 10,000 gpd in 2003. Usage increased to 120,000 gpd in 2004 and climbed to almost 140,000 gpd in 2005. Usage has remained steady at or near 140,000 gpd through the end of 2007.

**FIGURE 6-3: Ridgely Water Pumpage (gpd) 1996-2007**

Source: MDE Water Supply Program




## SEWER SYSTEM

The wastewater treatment system (WWTP) consists of two non-aerated storage lagoons, a chlorine contact tank, and effluent spray fields. Under the WWTP's current operating permit (Permit Number 04-DP-0530), the facility may discharge 200,000 gallons per day (gpd). In 2008, the Plant's average annual flow was 124,667 gpd (based on the average annual flows of 2005, 2006, and 2007), with 75,333 gpd remaining in capacity. [12]

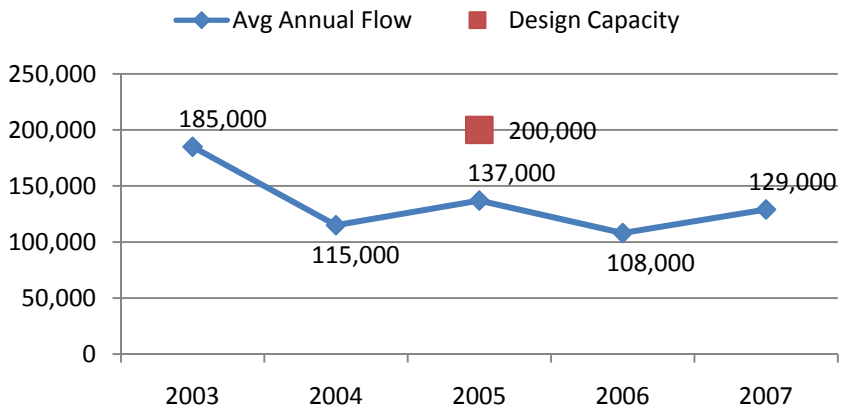
**TABLE 6-3: AVERAGE ANNUAL FLOW 2003 TO 2007**

| Year | Average Annual Flow |
|---|---|
| 2003 | 185,000 |
| 2004 | 115,000 |
| 2005 | 137,000 |
| 2006 | 108,000 |
| 2007 | 129,000 |

*2007 Town of Ridgely Annual Average Sewer Flow Report*

Note: Sewer is noted in gallons per day (gpd), 2003 was one of the wettest years on record. The Town had to use stream discharge outfall for most of the year.

**FIGURE 6-4: Ridgely 5 Year Average Annual Flow: Sewer**




[12] MDE Letter to Joseph A. Mangini, Jr., Town Manager, Ridgely, February 15, 2008

The Town is in the process of upgrading its plant to maximize the use of its existing spray irrigation land for effluent disposal. The upgrade includes replacing the existing center pivot spray irrigators with solid set irrigators. In order to use the solid set spray irrigators, pumps will be added to correctly pressurize the system. The new pumps will be installed in a newly constructed building adjacent to the plant's existing chlorine contact tank. These changes will be coupled with a crop replacement in the irrigation fields to loblolly pines which will decrease crop management delays and keep nutrient levels within permitted limits. The project is estimated to be complete in mid-2009.[13] These upgrades will not increase the plant's design capacity of 200,000 gpd.

As shown in Table 6-3, the 2007 *Town of Ridgely Annual Average Sewer Flow Report* indicates a range between 185,000 gpd in 2003 to 129,000 gpd in 2007.[14] It is important to note that 2003 was one of the wettest years on recent record. Average Annual Sewer Flows for the last three years from 2005 to 2007 provide a more accurate measurement of flow (see Table 6-4).

**TABLE 6-4: WASTEWATER CAPACITY MANAGEMENT PLAN SEWER CAPACITY SUMMARY**

| Classification | Sewer Capacity - Gallons Per Day (gpd) |
|---|---|
| Design Capacity | 200,000 |
| Current Flow | 124,667 |
| Current Capacity | 75,333 |
| ***Remaining Capacity** | **37,933** |

*Town of Ridgely Wastewater Treatment Plant Capacity Management Plan* – October 1, 2008

*Note: All figures are in gallons per day and sewer allocation is based on a 300 gpd per single family dwelling. Remaining Capacity includes current capacity minus sewer allocation for committed and reserved planned development (see Table 6-3).

The Ridgely Department of Public Works detailed the Town's current sewer capacity in October of 2008. The *Ridgely Wastewater Treatment Plant Allocation Capacity Management Plan* outlines the Town's design capacity with the existing wastewater treatment plant, its current flow, and current capacity.

**TABLE 6-5: WATER AND SEWER ALLOCATION SUMMARY**

| Sewer Allocation Committed | | |
|---|---|---|
| **Classification** | **Lots** | **Sewer Allocated/Committed - Gallons Per Day (gpd)** |
| Ridgely Business Technology Park – Phase I | N/A | 9,000 (Commercial) |
| Walnut Farms | 20 | 6,000 |
| Ridgely Stores/Brodie Shopping Center | N/A | 2,000 (Commercial) |
| Sebasco Subdivision | 1 | 300 |
| Elliot Subdivision | 1 | 300 |
| **Sewer Allocation Reserved** | | |
| **Classification** | **Lots** | **Sewer Allocated/Committed - Gallons Per Day (gpd)** |
| Existing Platted Lots | 5 | 1,200 |
| Ridgway Estates (Lister House Subdivision) | 16 | 4,800 |
| 128 Walnut Street Subdivision | 3 | 900 |
| Cow Barn Project | 36 | 10,800 |
| Weese Town-Home Project | 7 | 2,100 |
| **TOTAL** | **89** | **37,400** |

*Town of Ridgely Wastewater Treatment Plant Capacity Management Plan* – October 1, 2008

Note: All figures are in gallons per day and sewer allocations are based on a 300 gpd per single family dwelling, as per Ridgely sewer allocation policies.

[13] *Ridgely Five Year Capital Improvement Projects Report*, April 2, 2007

[14] 2007 Town of Ridgely Annual Average Sewer Flow Report.

The Report summarizes expected planned development in the Town (residential and non-residential). In addition, to the subdivisions and non-residential infill and redevelopment projects listed in Table 6-5, Ridgely has several other planned developments under review. This includes Ridgely Park, a 403 unit Planned Neighborhood Development.

## PROJECTED WATER DEMAND

Calculations for future water demand in Ridgely are based on projected residential and non-residential water usage (see the Municipal Growth Element, Table 3-6). A per-household water usage multiplier of 250 gpd (MDE estimate of single family household daily water usage) was applied to the number of dwelling units projected to be built per year within the Town. Non residential water usage was calculated using a multiplier of 200 gpd per 1,000 square feet of commercial and industrial development space.

Non-residential development is projected to begin by 2010 with the first phase of the Ridgely Business & Technology Park (9,000 gpd) and the Brodie Shopping Center (2,000 gpd). It is estimated that the Town's water usage will exceed the water system's average daily flow capacity before 2015 (see Figure 6-6).

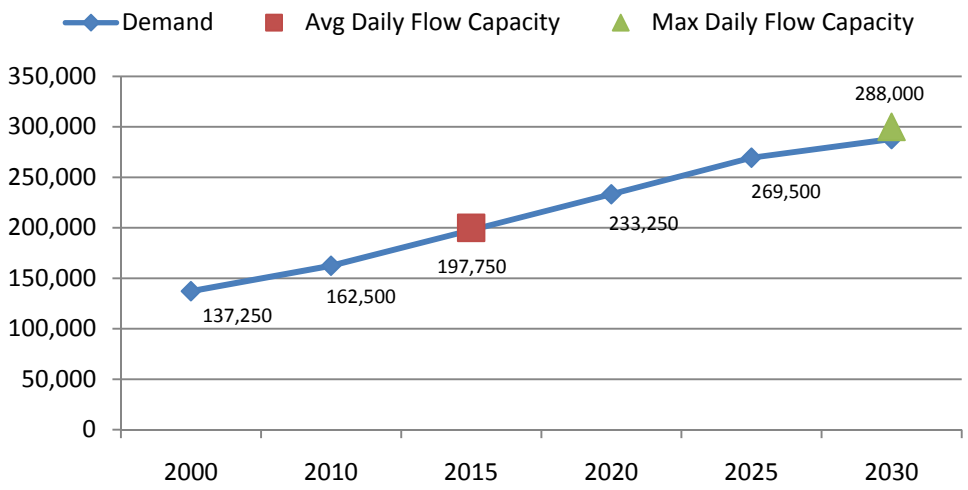
**TABLE 6-6: RIDGELY PROJECTED WATER USAGE 2000 – 2030**

| Classification | 2000 | 2010 | 2015 | 2020 | 2025 | 2030 |
|---|---|---|---|---|---|---|
| Dwelling Units – DU's | 549 | 606 | 747 | 889 | 1,034 | 1,108 |
| Water Usage (gpd) | 137,250 | 151,500 | 186,750 | 222,250 | 258,500 | 277,000 |
| - Ridgely Business Technology Park (gpd) | N/A | 9,000 | 9,000 | 9,000 | 9,000 | 9,000 |
| - Brodie Shopping Center (gpd) | N/A | 2,000 | 2,000 | 2,000 | 2,000 | 2,000 |
| **Total Water Usage (gpd)** | **137,250** | **162,500** | **197,750** | **233,250** | **269,500** | **288,000** |
| - % remaining daily average flow capacity | 69% | 81% | 99% | 117% | 135% | 144% |
| - % remaining maximum daily flow capacity | 46% | 54% | 66% | 78% | 90% | 96% |

Notes:
Percent remaining daily average flow capacity = 200,000 gpd
Percent remaining maximum daily flow capacity = 300,000 gpd

Assumptions:
- Assumes residential development total of 559 additional DU's by 2030.
- Assumes non-residential infill and redevelopment consisting of Phase I for the Ridgely Business & Technology Park and the Brodie Shopping Center project, as indicated in Table 6-3.

**FIGURE 6-5: Ridgely Water Usage Projections 2000 - 2030**




## PROJECTED SEWER DEMAND

Calculations for future sewer demand in Ridgely are based on projected residential and non-residential sewer usage (see Municipal Growth Element, Table 3-6). In order to calculate projected usage, a per-household sewer usage multiplier of 250 gpd (MDE estimate of single family household daily sewer usage) was applied to the number of dwelling units projected to be built per year in the planning period. Non residential sewer usage was calculated using a multiplier of 200 gpd per 1,000 square feet of commercial and industrial development space.

Non-residential development is projected to begin by 2010 with the first phase of the Ridgely Business & Technology Park (9,000 gpd) and the Brodie Shopping Center (2,000 gpd). The Town's sewer usage will reach design capacity by 2015 (see Figure 6-6).

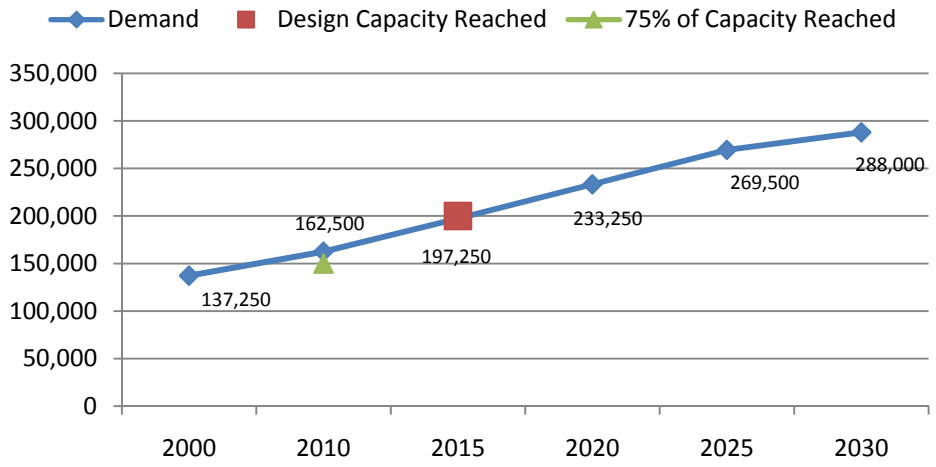
As shown in Table 6-6, Ridgely will require a sewer capacity of 288,000 gpd by 2030. This will accommodate projected residential infill and redevelopment for 559 dwelling units (see the Municipal Growth Element). It also assumes an additional 11,000 gpd for non-residential infill and redevelopment, Phase I of the Ridgely Business & Technology Park and the Brodie Shopping Center.

| TABLE 6-7: SCENARIO 1 – RIDGELY PROJECTED SEWER USAGE 2000 – 2030 | | | | | | |
|---|---|---|---|---|---|---|
| **Classification** | **2000** | **2010** | **2015** | **2020** | **2025** | **2030** |
| Dwelling Units – DU's | 549 | 606 | 747 | 889 | 1,034 | 1,108 |
| Sewer Usage (gpd) | 137,250 | 151,500 | 186,750 | 222,250 | 258,500 | 277,000 |
| - Ridgely Business Technology Park (gpd) | N/A | 9,000 | 9,000 | 9,000 | 9,000 | 9,000 |
| - Brodie Shopping Center (gpd) | N/A | 2,000 | 2,000 | 2,000 | 2,000 | 2,000 |
| **Total Water Usage (gpd)** | **137,250** | **162,500** | **197,750** | **233,250** | **269,500** | **288,000** |
| - %of Permitted Sewer Design Capacity | 69% | 81% | 99% | 117% | 135% | 144% |

Current Design Capacity = 200,000 gpd
Current Flow (Avg. Flow 2005 – 2007) = 124,667 gpd

Assumptions:
- Assumes 250 gpd per household based on MDE Guidelines for Wastewater Systems.
- Assumes residential development total of 559 additional DU's by 2030.
- Assumes non-residential infill and redevelopment consisting of Phase I for the Ridgely Business & Technology Park and the Brodie Shopping Center project, as indicated in Table 6-3.

**FIGURE 6-6: Scenario 1 - Ridgely Sewer Usage Projections 2000 - 2030**




As shown in Figure 6-6, the current plant will reach 75% capacity before 2010. In accordance with MDE guidance, planning for the expansion of Ridgely's sewer system should begin immediately.[15] Ridgely should plan to expand the sewer system to accommodate projected residential and non-residential infill and redevelopment. This will require an additional 150,750 gpd of capacity beyond the current design capacity of 200,000 gpd (350,750 gpd total design capacity with upgrade and expansion).

[15] *Guidance Document: Wastewater Capacity Management Plans*, Prepared by the Maryland Department of the Environment, 2006.

## THE WATERSHEDS

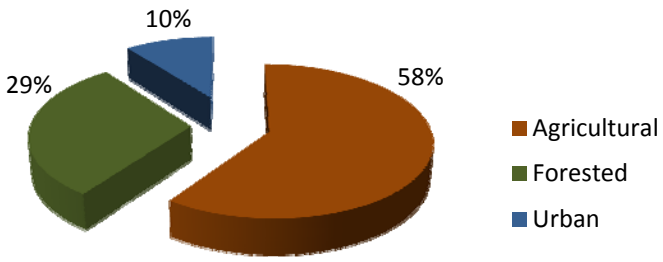
The Town of Ridgely is located in the Upper Choptank River Basin, which encompasses 795 square miles. Approximately, 700 square miles of the land area in the Choptank River Basin is located in Caroline, Dorchester, Queen Anne's, and Talbot Counties in Maryland.

The Choptank River originates in Kent County, Delaware, and flows southwest, becoming tidally controlled near Greensboro, Maryland. At 68 miles long, it is the longest river on the Eastern Shore. The Choptank, Little Choptank, Honga Rivers, and Tuckahoe Creek are all part of the network of streams that make up the basin (see Map 6-1). The Upper Choptank River, "ranks as the third most important striped bass spawning and nursery area in the Chesapeake Bay watershed in terms of size and productivity."[16]

The Maryland portion of the Choptank River Basin includes the Tuckahoe Creek, Upper Choptank, Lower Choptank, Little Choptank, and Honga River watersheds. The corporate area of Ridgely is located in both the Upper Choptank and Tuckahoe Creek watersheds (see Map 6-1). The Upper Choptank and Tuckahoe Creek watershed encompass approximately 261,957 acres or approximately 45% of the land area in the Choptank River Basin.

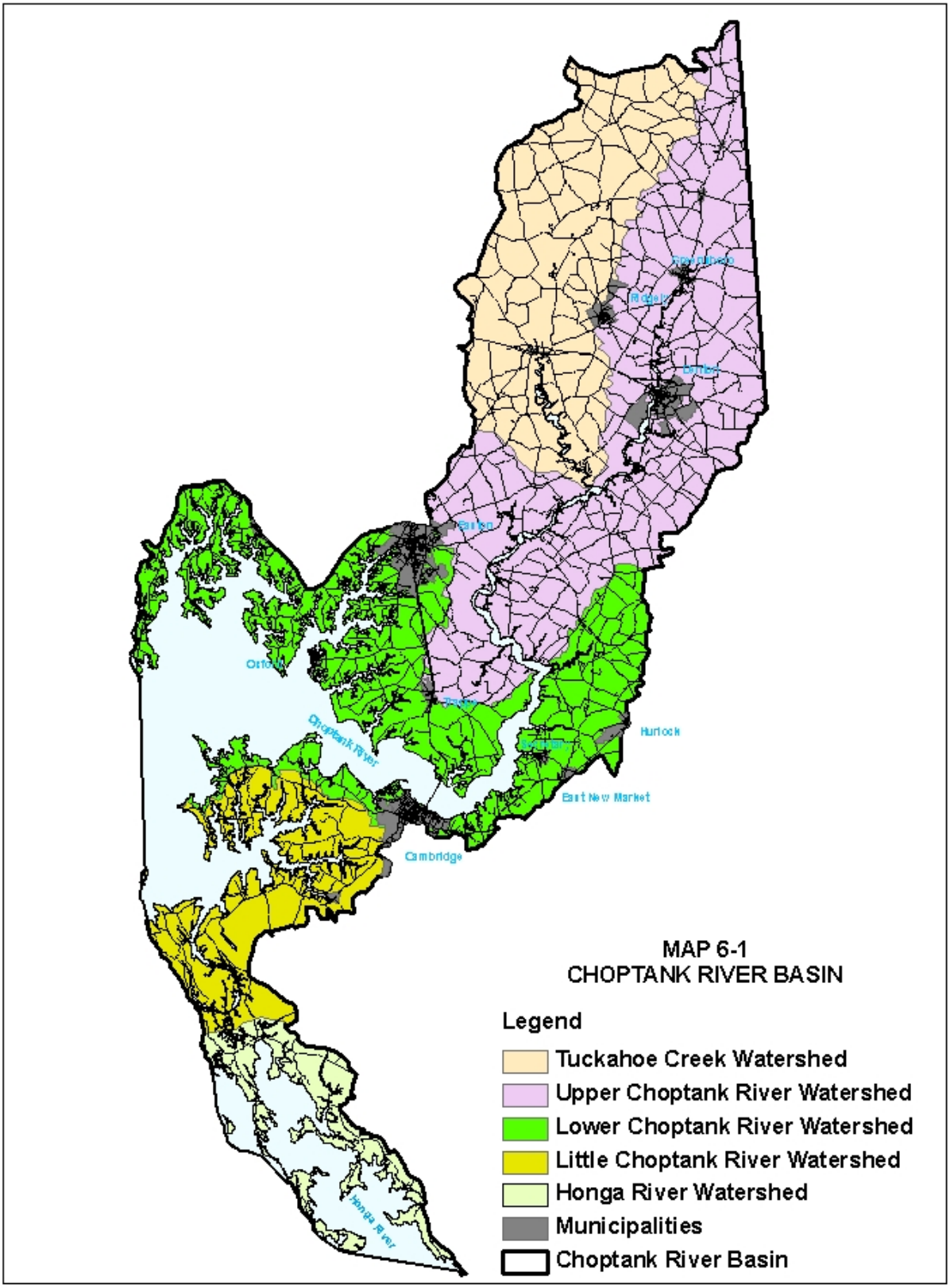
Ridgely's corporate area is a small part of the River Basin and the two watersheds. The Town of Ridgely includes approximately 0.2% of the Choptank River Basin, 0.7% of the Upper Choptank watershed, and 1.2% of the Tuckahoe Creek watershed (see Table 6.7).

**FIGURE 6-7: Land Use in Choptank River Basin**




According to 2002 data from the Maryland Department of Planning (MDP), land use in the Choptank River Basin was 58% agricultural, 29% forested, and 10% urban area. The 2002 land use breakdown in the Upper Choptank Watershed was very similar to that of the overall River Basin (see Appendix * for details). At the same time, agriculture and forest uses constituted a larger percentage of land use In the Tuckahoe Creek watershed (see Appendix * for details). Urban uses were less than 4% of the total land area. The Town of Ridgely was less than 1% of the land area in the watersheds and about 2.6% of the urban land use in the watershed based on 2002 land use and cover data.

[16] *Upper Choptank River Watershed Characterization*, Maryland Department of Natural Resources in partnership with Talbot and Caroline Counties, September 2002


Denton
Greensboro
Ridgely
Easton
Oxford
Choptank River
Hurlock
East New Market
Cambridge
Honga River
MAP 6-1
CHOPTANK RIVER BASIN
Legend
Tuckahoe Creek Watershed
Upper Choptank River Watershed
Lower Choptank River Watershed
Little Choptank River Watershed
Honga River Watershed
Municipalities
Choptank River Basin

# WATER QUALITY ISSUES

## UPPER CHOPTANK RIVER & TUCKAHOE WATERSHEDS

All waters of the State are assigned a "Designated Use" (see COMAR 26.08.02.08), which is associated with a set of water quality criteria necessary to support that use.[17] These designated uses may or may not be served now but they should be attainable. All surface waters in the Upper Choptank River watershed are "Designated Use I" for water contact recreation and protection of aquatic life.[18]

The Upper Choptank River was first listed on the Maryland 303d list required by the *Clean Water Act* in 1996. The 1996 listings for the Upper Choptank River included the tidal portions of the Tuckahoe watershed. This listing means that pollution associated with impairment(s) are preventing full use of these water bodies for the designated use based on State criteria. As noted in 1996, pollution constituents preventing the Upper Choptank River and Tuckahoe Creek from meeting clean water quality standards included total nitrogen, total phosphorus, and total suspended solids. In 2002 the Upper Choptank River Watershed was also listed for combination benthic/fisheries bioassesments and in 2008 for Polychlorinated Biphenyls (PCBs) in fish tissue.[19]

In 2002, the Maryland Department of Natural Resources (DNR) reported that "the Choptank River, like other tributaries to the Chesapeake Bay, is degraded by nutrient and sediment pollution harming aquatic life. Excess nutrients and sediments are the primary sources of pollution in the Chesapeake Bay. Nutrients occur naturally in soil, animal waste, plants, and the atmosphere; but in the Chesapeake Bay watershed, urbanization and farming have increased nutrient loads to unhealthy levels. These nutrients – nitrogen and phosphorus – promote the growth of algae, which in turn, blocks sunlight from reaching underwater grasses and reduces dissolved oxygen and suitable habitat for aquatic life."[20]

According to the DNR, "the dominant characteristic of the Choptank River Basin is agricultural land use. As a result, the major issues in the basin are those of non-point source nutrient and sediment loads." [21] With its preponderance of poorly draining soils and forest area, this basin is atypical compared to much of the Eastern Shore. Much of the Choptank River Basin is drained through ditches that have been installed over many decades to drain the flatlands for agriculture use. The drains are typically kept clear of vegetation, thus expediting flow and providing less opportunity for nutrient uptake and de-nitrification." [22]

More recently, it has been reported by DNR that "a wide array of best management practices (BMPs) have been planned to reduce impacts of non-point sources."[23] As of 2004, Tributary Strategy goals have been met and exceeded for implementation of Best Management Practices - BMP's for agricultural practices

[17] Code of Maryland Regulations COMAR. Title 26: Department of the Environment.
[18] *Upper Choptank River Watershed Characterization*. In Support of Talbot and Caroline County's Watershed Restoration Action Strategy for the Upper Choptank River Watershed. September 2002.
[19] Ibid.
[20] Choptank River Overview, Maryland Department of Natural Resource, November 2003.
[21] *Maryland Tributary Strategy Choptank River Basin Summary Report for 1985-2005 Data,* August 2007, Maryland Department of Natural Resources, Tidewater Ecosystem Assessment.
[22] *Factors Affecting Nutrient Trends in Major Rivers of the Chesapeake Bay Watershed,* Sprague *et al.*, 2000.
[23] *Upper Choptank River Watershed Characterization*. September 2002.

such as nutrient management plans, conservation tillage; implementation is also high (approximately 75% or more of goals) for animal waste management systems (both livestock and poultry), grass buffers at the edges of fields bordering waterways, and tree plantings on agricultural lands.[24] According to DNR, modeled nitrogen, phosphorus, and sediment loadings have decreased substantially from 1985 to 2005. Total nitrogen loadings are down 2.28 million pounds per year, 60% of the Tributary Strategy goal. Total phosphorus loadings are down 0.28 million pounds per year, 70% of the Tributary Strategy goal. Sediment loadings are down 43,000 tons per year, 83% of the Tributary Strategy goal. Despite these successes, the Report finds that agricultural land is still the major contributor of nitrogen, phosphorus, and sediment and as of 2004 implementation of urban BMPs has not been as successful, notably those dealing with stormwater management (overall, approximately 12% of Tributary Strategy goals) and urban nutrient management plans (no progress).[25]

## TOTAL MAXIMUM DAILY LOADS: TMDLS

Total Maximum Daily Loads (TMDLs) are a regulatory mechanism to identify and implement additional controls on both point (i.e., wastewater treatment plants, urban stormwater) and non-point 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 and non-point sources through an allocation system. TMDLs are expressed as allowable loads of a specified pollutant by point and non-point 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. Non-point sources are all discharges other than point source discharges. A TMDL is a calculation of the maximum amount of a pollutant, both point source and non-point source, that a water-body can receive and still meet water quality standards.

According to DNR's 2002 Report, the impairments in the Upper Choptank and Tuckahoe Creek watersheds "will be the subject of TMDL programs within the next few years."[26] As of 2008, TMDLs have not been established for the Upper Choptank River watershed or the Choptank River Basin. When TMDLs are established for the Upper Choptank River and the Tuckahoe Creek watersheds they could influence future NPDES permit limits and thus Ridgely's wastewater treatment plant facilities planning.

### Non Point Source Loading

Non-point source pollution occurs when rainfall, snowmelt, or irrigation runs over land or through the ground and gathers pollutants. Pollutants are then deposited into streams, rivers, lakes, and coastal waters or introduced into ground water. Stormwater runoff for the land is a significant contributor to non-point source loading.

[24] Maryland Tributary Strategy Choptank River Basin Summary Report for 1985-2005 Data August 2007, Maryland Department of Natural Resources, Tidewater Ecosystem Assessment.
[25] Ibid.
[26] Ibid.

Stormwater runoff is part of the natural hydrologic process. Human activities, such as urbanization and agriculture, can alter natural drainage patterns and add pollutants to rivers, lakes, and streams as well as coastal bays and estuaries. Urban runoff can be a significant source of water pollution including flows discharged from urban land uses into stormwater conveyance systems and receiving waters. In the past, efforts to control the discharge of stormwater focused on quantity (e.g. drainage, flood control etc.) and only to a limited extent on quality (e.g. sediment and erosion control).

In urban areas, the amount of stormwater runoff is a function of the amount of impervious surface associated with roads, parking areas, roofs, and other human constructions. Impervious surface blocks the natural seepage of rain into the ground. Unlike many natural surfaces, impervious surface typically concentrates stormwater runoff, accelerates flow rates, and directs stormwater to the nearest stream.

Watersheds with small amounts of impervious surface tend to have better water quality in local streams than watersheds with greater amounts of impervious surface. Side effects of impervious surfaces become increasingly significant and negative as the percentage of impervious area increases. Examples of related problems include reduction of groundwater infiltration, increased soil and stream bank erosion, sedimentation, destabilization or loss of aquatic habitat, and "flashy" stream flows (reduced flow between storms and excessive flows associated with storms). The Maryland Biological Stream Survey has related the percent of impervious surface in a watershed to the health of aquatic resources. For areas with less than 4% impervious cover, streams generally rate "Fair" to "Good" for both fish and in-stream invertebrates. Beyond about 12% impervious surface, streams generally rate "Poor" to "Fair" for both. Reduction of impervious area can be a valuable component of a successful Watershed Restoration Action Strategy (WRAS). In 2002, it was estimated that the entire Upper Choptank River watershed had approximately 2.3% impervious cover. This average imperviousness compared well with similar watersheds in Maryland."[27] At the same time, it is estimated that the Tuckahoe Creek watershed had approximately 1.25% impervious cover.[28]

**Point Source Loading**

Point sources are identifiable inputs of waste that are discharged via pipes or drains, primarily from industrial facilities and municipal treatments plants into streams, rivers, lakes, or oceans. Ridgely shares the River Basin with several other municipalities that have public sewer systems including the City of Cambridge, Denton, Easton, St. Michaels, Trappe, East New Market, Secretary, Greensboro, and Hurlock. Other point sources, in addition to municipal wastewater treatment plants, are located in the Upper Choptank River Watershed. According to the Maryland Department of the Environment (MDE) permit data there are 26 permitted surface water discharges and three permitted groundwater discharges in the Upper Choptank River watershed. Source: Watershed Restoration Action Strategy

[27] *Upper Choptank River Watershed Characterization*, Maryland Department of Natural Resources in partnership with Talbot and Caroline Counties, September 2002

[28] Watershed Treatment Model (WTM), Center for Watershed Protection and EPA

**Future Point Source and Non Point Loading**

As discussed in the beginning of this section of the Comprehensive Plan, one of the requirements of the Water Resource Element (WRE) is to identify suitable receiving waters and land areas to meet the storm water management and wastewater treatment and disposal needs of existing and future development proposed in the Land Use Element of this Comprehensive Plan. Analysis also considers available data provided by the Maryland Department of the Environment (MDE). According the Maryland Department of Planning, "the purpose of the WRE is to ensure that future county and municipal comprehensive plans reflect the opportunities and limitations presented by local and regional water resources. WREs are intended to improve local jurisdictions' contribution to the protection of state land and water resources; to the protection of public health, safety and welfare; and to meeting local and state smart growth policies."[29]

In 2002, Ridgely's contributions to point and non-point loadings in the watersheds were fairly limited. Total nitrogen, total phosphorous, and total suspended solids were substantially less than 1% of the total loading attributed to the Choptank River Basin. Fecal coliform loading was slightly less than 1%. Ridgely's contribution to non point loading the two watersheds was somewhat more, especially fecal coliform (see Appendix * for details).

Public health agencies look for the presence of "indicator" species, so called because their presence indicates that fecal contamination may have occurred. The two most commonly used indicators for recreational waters are fecal coliforms and Escherichia coli (E. Coli). These are bacteria that live in the lower intestines of warm-blooded animals including wildlife, farm animals, pets, and humans, and are excreted in their feces. E. Coli and fecal coliform are not usually pathogenic, but their presence can indicate sewage contamination, perhaps accompanied by disease-causing pathogens. Fecal coliform pollution may come from a variety of sources including urban runoff, pet waste, failing or leaking septic systems, livestock, wildlife, illicit connections, leaking sewer lines, and NPDES permitted point sources. Increased urbanization of the watershed could result in increases in NPS fecal coliform load. This potential outcome of growth should be taken into account when establishing urban best management practices related to potential sources of fecal coliform, e.g., pet waste, failing septic systems, etc.

## WATER RESOURCE IMPACTS FROM RIDGELY

The Town of Ridgely is a small part of the watersheds and a minor contributor of nitrogen, phosphorus, and sediments to the receiving waters. Implementation of the Town's Comprehensive Plan will not significantly impact current non-point loadings in the watershed. At the same time, Town growth will affect future non-point loading contributions. If the Town continues to use land application technology to increases WWTP capacity to meet future demand the assimilative capacity of receiving waters will not be a limiting factor. Addressing the requirement that "all future treatment plants with a surface discharge have zero nutrient allocation and must therefore offset 100% of their nutrient load" will require the Town address offsets for any remaining nutrients in spray effluent. [30]

[29] *The Water Resources Element: Planning for Water Supply and Wastewater and Stormwater Management*, Maryland Department of Planning, Publication No. 2007-003, June 2007

[30] *The Water Resources Element: Planning for Water Supply and Wastewater and Stormwater Management,* Maryland Department of Planning,

The Upper Choptank Tributary Stream Strategy is making progress achieving its nutrient and sediment management goals through the implementation of agriculture BMPs but not urban BMPs. "Despite these successes, the report finds that agricultural land is still the major contributor of nitrogen, phosphorus, and sediment and as of 2004 implementation of urban BMPs has not been as successful, notably those dealing with stormwater management (overall, approximately 12% of Tributary Strategy goals) and urban nutrient management plans (no progress)."[31]

Unless Tributary Stream Strategy nutrient and sediment reduction goals are achieved the receiving waters for nonpoint source loading from Ridgely will not have the assimilative capacity to support the Town's planned growth. Furthermore, if consideration for infill and redevelopment in Ridgely is not included in the Tributary Strategy goals (or TMDLs when established) assimilative capacity in receiving waters may be a limiting factor for future growth.

Publication No. 2007-003, June 2007

[31] Maryland Tributary Strategy Choptank River Basin Summary Report for 1985-2005 Data August 2007, Maryland Department of Natural Resources, Tidewater Ecosystem Assessment.

## IMPLEMENTATION RECOMMENDATIONS

Descriptions and other details regarding implementation are contained in Chapter 9 of this Comprehensive Plan.

**RECOMMENDATION #1:** Implement urban Best Management Practices or BMP's for Ridgely as recommended by Tributary Strategies and the Implementation Chapter of this Comprehensive Plan.

**RECOMMENDATION #2:** Update and/or revise Ridgely's *Stormwater Management Ordinance*, programs, and other development standards to require environmental site design (ESD) techniques that optimize

- Conservation of natural features (e.g., drainage patterns, soil, vegetation);
- Minimize impervious surfaces (e.g., pavement, concrete channels, roofs);
- Decrease runoff to maintain discharge timing; and
- Increase infiltration and evapotranspiration and use other nonstructural practices or innovative technologies approved by MDE.

**RECOMMENDATION #3:** Work with Caroline County to develop watershed planning and management guidelines and relate all development to its impact on the County's water resources.

**RECOMMENDATION #4:** Encourage Caroline County to develop a program and dedicate funding to assist in connecting septic systems in or near existing sewer service areas. This also may include establishing a retrofit program funded by the Bay Restoration Fund to upgrade failing septic systems in the County to advance bio-nutrient reduction systems in the Chesapeake Bay.

# Chapter 7 Heritage Preservation

One primary goal of the *Ridegly Comprehensive Plan* is to preserve the features that define the Town and its unique sense of place. These resources include valuable historic sites and structures; archeological areas; and key scenic, natural, and cultural landscapes.

**GOAL & OBJECTIVES**

**GOAL:**

Preserve Ridgely's heritage resources.

**OBJECTIVES:**

Encourage the appropriate preservation of historical, cultural, archeological, natural, and scenic resources.

Improve Ridgely's inventory of historic sites, structures, and heritage attractions.

Designate a list of Landmark Historic Sites and Structure for the Town and address policy/regulatory mechanisms to preserve these sites and structures.

Encourage and support heritage preservation through mapping, planning, and regulatory mechanisms.

Coordinate strategies to achieve mutual County/Town heritage preservation goals and objective.

Encourage the development of Historic Scenic Highways for Ridgely and the region.

Encourage industries that support heritage preservation.

## BACKGROUND

Heritage resources within Ridgely are an important legacy for the Town and Caroline County. Heritage resources include sites and structures of significant historic value as well as cultural elements that define Ridgely's character, its genesis, and development through the 19th and early 20th centuries. Heritage resources include the Town's historic architecture, scenic settings, and the many natural resources that make this setting attractive.

The preservation of heritage resources in Ridgely is vital, not only because these sites and structures provide Town character and cultural roots, but they also provide economic benefits. Heritage resources are one of Ridgely's primary attractions, providing significant and tangible value to the Town. Their loss or degradation potentially threatens to diminish future economic returns.

## HISTORICAL SIGNIFICANCE

Ridgely is unique because the Town did not evolve from a crossroads village, like traditional Chesapeake Bay communities, but was planned and designed to become a large regional trading city. Ridgely was envisioned as a future "boom-town" and it was designed on a grid-pattern to allow for structured expansion. The Town was founded in the post Civil War period, as land speculation and railroad expansion booms were initiated across the Delmarva Peninsula. With the end of the Civil War, northern railroads were able to continue their expansion plans and investors and merchants looked for new markets and sources of supplies for urban areas. With its rich agricultural bounty, Ridgely was considered a prime source of supply for these urban markets.

The land around the present day community of Ridgely was purchased in 1867 by the "Maryland and Baltimore Land Association" from Thomas Bell, who was a local farmer. The gentlemen who owned the Land Association had a vision of a large community that would stretch from the railroad southward to the Choptank River, a distance of about four (4) miles. The town was named after Reverend Greenbury W. Ridgely, who was instrumental in the formation of the Town. The beautiful wide tree-lined main-street of downtown Ridgely harkens back to the 19th Century in picturesque style.

According to the *Historical and Industrial Edition: The Founding of Ridgely and the Early Days of its History*, published in 1912 by the Ridgely based "Caroline Sun," the Land Association was only able to attract a few individuals to its site in 1867 and the railroad did not actually arrive in Ridgely until 1868. However, during the first year and before the Land Association went bankrupt, the current layout of Ridgely's streets were established. The wide streets and the Town's grid pattern were intended to serve as the heart of a major trading city that the Land Association hoped to create and unite the railroad with the Choptank River.

That first year also saw the erection of several buildings. Among them were a railroad station and the Saulsbury family store and residence. The latter survives as the Ridgely House at Central Avenue and Railroad Street, purchased by the Commissioners of Ridgely in 2002. The building serves today as the Town Hall, anchoring the redevelopment of the downtown business district. The railroad station was replaced in 1892 with the present building.

Once the deeds and financial arrangements of the Land Association had been cleared, Ridgely began to slowly grow as a rural commercial and industrial center on the Maryland and Delaware Railroad line. This line connected Easton and the towns along the railroad with the main Pennsylvania Railroad trunk line that ran down the center of the Delmarva Peninsula in Delaware. From the beginning of its actual growth until the middle of the 20th Century, Ridgely had a number of industrial operations related to processing local crops. There were several canneries and basket factories. Most of the local farmland was used to produce fruits and vegetables for urban markets, which were either processed in Ridgely or hauled north in refrigerated railcars for sale as fresh goods for processing in the larger urban factories.

By all accounts and after its initial slow start, Ridgely was very prosperous. Throughout most of its history, there was at least one hotel near the railroad and the commercial strip along Central Avenue contained its fair share of clothing, furniture, jewelry, and stores for household dry goods. There also were specialized repair and manufacturing utilized by the local population. Ridgely was able to support several doctors and there was a small rural hospital located in the Ridgely House. An interesting note to the success of Ridgely is that many of those who helped start the Town, and who purchased building lots in and around the community, were not natives of Caroline County or of the Eastern Shore. Many of the new residents came from Pennsylvania and New York. Others came from New England and the upper Midwest. A significant percentage of the new residents were not of English ancestry but were of German ancestry.

One industrial plant that might have had a dramatic impact on Ridgely, if it had remained open, was the construction of the Armour Company Food Processing Plant on the lower portion of Bell Street. Begun in 1911, the plant employed almost 1,000 people at its peak of operation. In addition to the main plant building and its associated support buildings, the Armour Company also constructed housing for its employees at the plant site. The plant processed two million quarts of strawberries per year. It was considered the largest such plant in the world. The plant was intended to handle the initial processing of strawberries and other local berries, which would be capped and cooked in cooper kettles and packed into five-gallon containers for shipment to other Armour plants for final processing. The plant was only in operation for six or eight years. It was closed by the Armour Company in response to an anti-trust suit filed against the company by the United States Government.

Both before and after the Armour plant was in operation, the Ridgely Fruit Growers' Association maintained a fruit exchange for area producers. The Association was established to help local farmers market their crop and ensure that satisfactory prices would be paid for their produce. The Association also helped with transportation arrangements with the railroad. The Association seems to have been disbanded sometime in the 1920's, as the cost of harvest labor rose beyond the market's ability to cover the costs of production.

The next largest industrial venture in Ridgely was the 1939 opening of the Breyer Ice Cream Plant on upper section of Belle Street. This plant was used by the company to process local milk for use by the company's ice cream plants located elsewhere. This plant was designed to convert 90,000 to 100,000 gallons of milk per day. The plant remained in operation until 1961, when the Breyer Company stopped processing its own milk and began to purchase it from suppliers.

Change and the current size and condition of Ridgely came with the general shift from railroad transportation to highways and trucks in the 1950s. As business and industry began to concentrate in larger urban areas, the factories and processing plants in Ridgely could no longer compete with larger and more modern facilities operated by regional and national corporations. There is only one food processor curently operating in Ridgely, the Hanover Foods Freezing Plant, on the western side of Ridgely. The other major commercial operation is a fulfillment center, New Roads, currently in the process of downsizing or even possibly eliminating their presence in Ridgely. Their headquarters building is located in the former Bryer Company's plant on Bell Street.

## RIDGELY RESOURCE INVENTORY

Resource inventories assist public and private entities to catalogue valuable historic sites and structures and other heritage resources. For the purpose of this Plan, resource inventories are based on information contained in the Maryland Historical Trust's (MHT) database and the Maryland Historical Trust's *Inventory of Historic Sites in Caroline County, Maryland*, produced in association with Michael Bourne in 1980. Noted historic sites and structures are included in Ridgely's Geographic Information System (GIS Mapping System).

There are several important elements to the development of an effective program for the protection of heritage resources. First is to inventory heritage resources. This includes a strong need to update the Caroline County Inventory of Historic Sites in coordination with the County's Historical Society and the MHT. Updated inventories can be digitized and mapped to provide a modern database.

The second involves a designation of the most significant resources or "Landmark Historic Sites and Structures." These resources are critical areas for future preservation because they represent the County's most valuable resources. Many of these sites are eligible for listing on a Federal, State, or local register of historic places.

The third element involves specific policy and regulatory actions to protect heritage resources and build heritage tourism infrastructure. This includes the development of a local Historic Preservation Plan, Historic Preservation Ordinance, and designation of a Historic Preservation Committee to oversee activities. Historic Districts can be voluntary.

According to *Article 66B of the Annotated Code of Maryland* (Planning & Zoning Enabling Act), Sections 8.01 to 8.17, "Historic Area Zoning," local jurisdictions, such as Ridgely, may designate "boundaries for sites, structures, or districts, which are deemed to be of historic, archeological, or architectural significance." Local heritage preservation planning allows property owners in designated historic preservation districts to access significant tax credits, low-interest loans, and grants to repair, restore, and/or renovate important historic properties.

### TOWN OF RIDGELY, MARYLAND HISTORIC CORE

**Town of Ridgely Historic Core (1870's-1900's) Eligible for Listing on the NRHP:** Much of Ridgely is the product of the late Victorian railroad age and represents a planned Eastern Shore community as opposed to the traditional crossroads village development pattern evident in the region. The Town of Ridgely has many sites and structures of historic importance. Many homes located within the Town are eligible for listing on the National Register of Historic Places.

A survey/inventory of historic sites and structures in the Town of Ridgely is important. The Maryland Historical Trust has developed a preliminary analysis of the historic architecture of Ridgely and concluded that there is a potential historic district present in the Town. This potential historic district includes Central Avenue, Railroad Avenue, Maryland Avenue, Caroline Avenue, Park Avenue, and portions of Maple Avenue. When appropriate, a study should be undertaken to determine the extent and areas of significance for the potential "Ridgely Historic District."

**FIGURE 7-1:** The Ridgely Town Hall is located in the historic "Ridgely House" in the downtown area.

The designation of a Ridgely Historic District will greatly assist property owners to meet the financial burdens for the maintenance of these old homes through grants, tax credits, and, in some cases, low interest loans from the Maryland Historical Trust (MHT). Ridgely's many valuable heritage resources are economic resources for a growing industry in heritage tourism on the Eastern Shore.

## LANDMARK HISTORIC SITES - RIDGELY, MARYLAND

Several historic sites in the Town of Ridgely have been listed in this Comprehensive Plan as "Landmark Historic Sites." These sites, and their historic structures, have been cited by the Town as important areas for future preservation. Landmark historic sites provide prominent historic, cultural, architectural, and/or archeological value in regards to the Town's heritage. In addition, landmark sites and structures provide the core character and integrity of Town, creating a tangible economic value for its residents.

Landmark Historic Sites and Structures often are eligible for listing on the National Register of Historic Places (NRHP) in coordination with the Maryland Historical Trust (MHT). These sites and structures provide a setting of historic, cultural, architectural, and archeological importance to the Town. In addition, site characteristics include a unique natural and scenic setting with mature old growth deciduous trees and a prominent setback. Landmark sites and structures often form an intricate and vital part of the Town's street façade.

Mechanisms for the protection and preservation of Landmark Historic Sites and Structures should be addressed in Ridgely's Zoning Ordinance, Subdivision Regulations, and Design Guidelines.

The current list of Landmark Historic Sites and Structures for Ridgely includes the following:

1. Ridgely Town Hall;
2. The Cow Barn Site and Structures;
3. The Ridgely Railroad Station and Boxcar;
4. Sites and Structures located and facing along Central Avenue (Main Street); and
5. Central Business District structures.

This list may be amended from time to time by Town officials as the research and analysis of valuable historic sites and structure continues. Most of the Town's most valuable sites are located in the Town Center and the Central Business District.

**FIGURE 7-2:** Ridgely's historic downtown area presents unique opportunities for the Town to capitalize on heritage tourism.

## PROMINENT HISTORIC SITES IN THE RIDGELY REGION

**Oak Lawn - White Hall (1783) National Register of Historic Places – NRHP 337/CAR 2:** Oak Lawn was built in 1783 by Benjamin Sylvester and is located just north of the Town of Ridgely. Sylvester was a large land-owner in Caroline County during the Revolutionary War period. The plantation was re-surveyed in 1790 and re-named as "Whitehall." The brick mansion has a gable-roof and is two and half stories. Three sides consist of common bonded brick construction but the main façade consists of header bond, a unique and uncommon architectural attribute. At one time in the 19th Century, Oak Lawn was owned by Greenbury Ridgely, the founder of the Town of Ridgely.

**Marble Head (1780's) Eligible for Listing on the NRHP/CAR 19:** Marble Head was constructed in the late Georgian and early Federal periods (circa 1770 - 1780). The mansion was owned by the influential Boone family (John Boone) and is the sister of Cedarhurst, another prominent brick home that also belonged to the Boones.

The mansion is composed of two large two-story brick sections connected at right angles by a one story hyphen. The back portion of the house is possibly the oldest section, having been constructed in the 1770's with the front portion and main façade area constructed in the 1780's. Marblehead remained in the Boone family until 1904 and then fell into disrepair in the 20th Century. Years of deterioration had taken a toll on Marblehead but with the assistance of the Caroline County Historical Society, the house was recently purchased and is being restored to its former glory.

**Cedarhurst (1727, 1782) Eligible for Listing on the NRHP/CAR 20:** Cedarhurst was constructed in the late Georgian and early Federal periods (late 18th Century) from 1781 to 1783. Like Marblehead, the mansion was owned by the Boone family and was built by Jacob Boone. The difference between Marblehead and Cedarhurst is reflected in the growing influence and wealth of the Boone family. Marblehead was constructed of common bonded brick, while Cedarhurst was laid in Flemish-bond.

**Castlebury (1780's) Eligible for Listing on the NRHP/CAR 25:** Castlebury is located on a 400 acre tract of land originally owned by Thomas Hardcastle and his sons, Aaron and Mathew. Thomas Hardcastle, a prominent figure in Caroline County's early history, heralded from a great tidewater plantation family. Prior to the Revolutionary War, Hardcastle was a member of the Caroline County Committee of Safety, a political body, which was given authority to raise troops for the colonial militia. In 1776, he was elected quartermaster of the West Battalion of Caroline County troops. Hardcastle also served as a Justice of the Peace and a Justice of the County Court.

The original house was a substantial brick dwelling, two stories in height and three bays long, resembling nearby Cedarhurst. In the 19th Century, a large brick wing and three story tower were added on the west wing. In this regard, Castlebury is a unique "one of a kind" architectural structure on the Eastern Shore.

**Brick Mill Landing/Hardcastle Mill House (1790's) Eligible for Listing on the NRHP/CAR-26:** Located on a winding dirt road near Castleburry and the Choptank River is the Hardcastle Mill House (circa 1790). The structure is a small mill house with similar fenestration as Castlebury. The Federal-style structure has a primary façade in Flemish-bond brick. The building is three-bays wide with a gable roof. Like Castlebury and Castle Hall (in north Caroline County), the Brick Mill Landing house is associated with the Hardcastle family, an early Caroline County patriot and colonial personage.

**Boonsboro Church-Zion Church (1880's) Eligible for Listing on the NRHP/CAR 119:** Trinity Boonsboro is a small rural village located south of the Town of Ridgely. Today, it is primarily composed of African Americans. Boonsboro existed prior to Ridgely as an early settlement within Caroline County. The late 19th Century church was originally constructed by white Methodists. The Boonsboro Church was L-shaped with a square tower and later moved to its present site.

**Ridgely Railroad Station (circa 1892): CAR-81:** The Ridgely Railroad Station is an important reminder of the Town's past, as it relates to the railroad industry, agriculture, and local canneries that provided goods to urban markets in the North-East. The structure is a one and half story five-bay by two-bay brick building. The Railroad Station is owned by the Town of Ridgely and is currently being restored for public uses along the Town's Rail to Trail system that links the Town with Tuckahoe State Park and Adkins Arboretum.

**St. Paul's Reformed Church (circa 1880): CAR-86:** St. Paul's is a frame gothic structure constructed under the direction of Reverend J.K. Hannaberry in the late 19th Century. The most notable architectural detail is the two unmatched entrance towers of the Church.

**Ridgely House (circa 1885): CAR-87:** The Ridgely House is a two and half story two-sectioned frame building in the late Victorian style. The house has a porch, gothic central dormer window, and parts of it reflect Georgian Revival elements.

**Cherry House (circa 1880): CAR-117:** The Cherry House is a three-bay, two-story gable roofed farmhouse with a gambrel roofed "barn-like" structure attached. The Cherry House represents an interesting architectural anomaly for Caroline County through the combination of a gable and gambrel roof. According to the Maryland Historic Trust, it is unknown whether the gambrel roof section is an earlier house, used as a workshop by past owners.

**J. Butler House (circa late 18th Century): CAR-118:** The older portion of the J. Butler House is laid in Flemish bond brick, being two stories and three-bays by one-bay. Original rooms have fine woodworking, including paneling, mantels, and built-in cupboards. The Victorian addition is a smaller frame structure with a wrap-around porch. Local legend states that the J. Butler House was originally one of the Boone Family houses along with Cedarhurst and Marblehead.

**Tilghman O-Neill House (circa mid-19th Century): CAR-120:** The Tilghman O'Neill House is a frame farmhouse, which is a composite of older structures. Alterations appear to span the 18th, 19th, and early 20th Centuries for Caroline County architecture.

**Ober Farmhouse (circa late 19th Century): CAR-128:** The Ober Farmhouse is interesting regarding its historical and architectural significance. Its architectural character appears to be Greek Revival (a vernacular style for the late 19th Century) with an octagonal tower added in the Queen Anne style. This house forms a hybrid architectural style uncommon in the area.

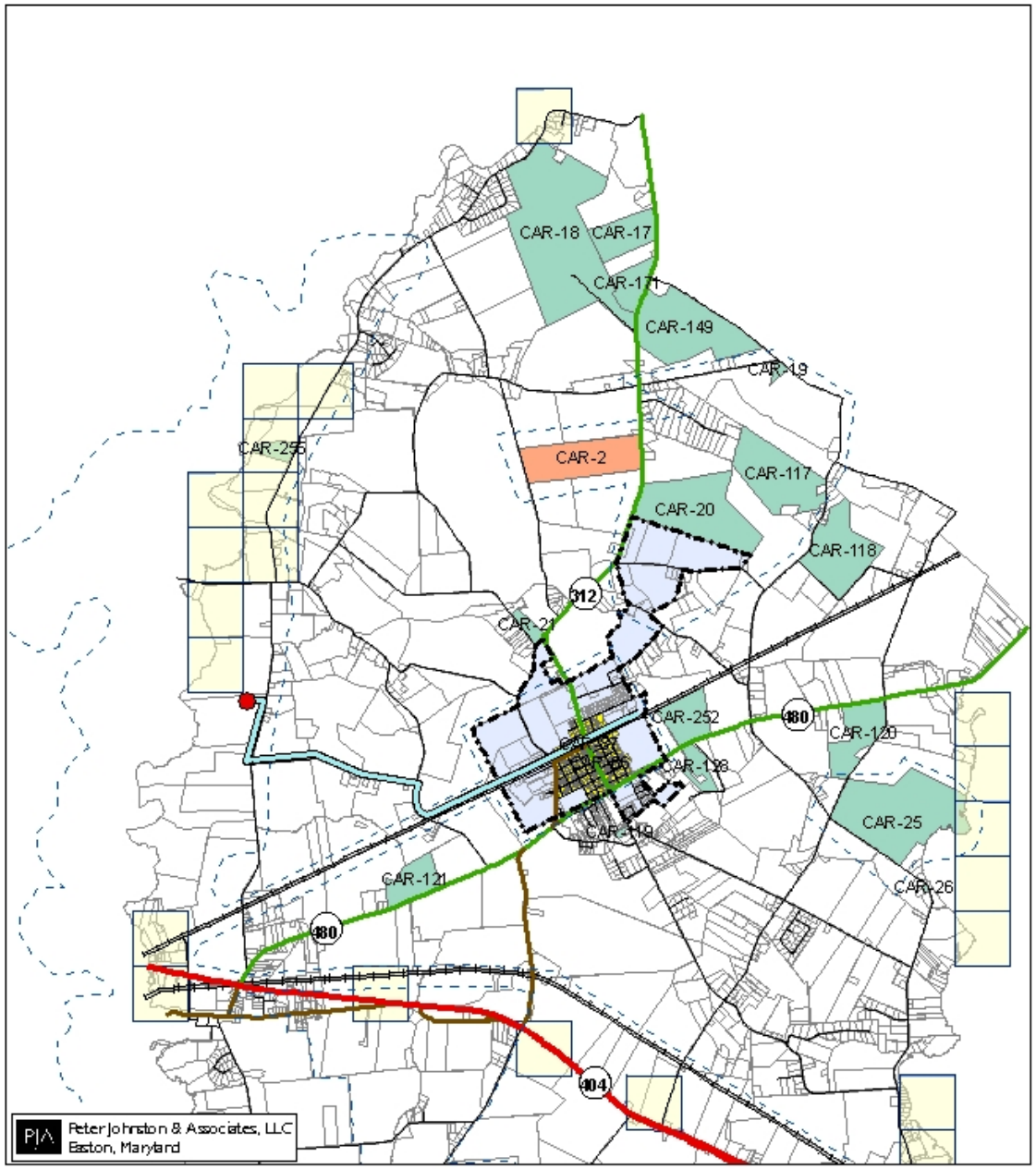
**Coursey Edwards House (circa early 19th Century): CAR-149:** The Coursey-Edwards House is a two-story gambrel roofed dwelling. Neighboring Queen Anne's County has many examples of gambrel roof historic structures, however, very few have survived in Caroline County.

**Edwards Farm House (circa 1910): CAR 171:** The Edwards Farm House exhibits architectural elements of early 20th Century vernacular Eastern Shore design. It is likely that the present house was a reconstruction in the early 1900's of a much older existing house. As tastes and trends changed over the past years on the Eastern Shore, this is not an uncommon trend for rural farmhouses. Owners often sought to incorporate the "architectural design of times" but they also used common sense in making use of existing historic structures to save money.

**Rudolph Peterson Log House (circa 1850): CAR-252:** Log houses are rare in Caroline County. A few existing examples, such as the Webb Cabin and the Greensboro Log Cabin, are important historical footnotes of mid-19th Century housing construction methods in the region. The Rudolph Peterson Log House is a one and half story 20' by 20' building, likely moved to its present location. Construction used saddle notching and a post, mortise, and plank technique. Current status of the structure is unknown.

**Morris Farm House (circa 1900): CAR-255:** The Morris Farmhouse is location on the west-side of Cherry Lane in the present day Tuckahoe State Park. It is a two-bay three story structure with a two-story rear addition.

# MAP 7-1: HERITAGE PRESERVATION HISTORIC & CULTURAL RESOURCES




**LEGEND:**

- Adkins Arboretum Visitor Center
- Adkins Arboretum Trail Connection
- Heritage Area Target Investment Zone
- Other Principal Arterial
- Local Road/Street
- Railroad Line
- National Register of Historic Places
- Archeological Areas
- Ridgely Historic Area
- MHT - MD Inventory of Historic Sites
- 2008_wc_cadastre

**Maryland Historical Trust (MHT): 1980 "Inventory of Historic Sites in Caroline County, Maryland"**

Town of Ridgely - Historic Resources:

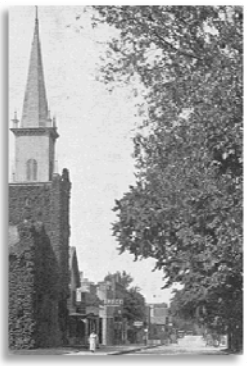
Town of Ridgely Historic Core
Ridgely Railroad Station: CAR-81
St. Paul's Reformed Church: CAR-86
Ridgely House: CAR-87

Ridgely Region - Historic Resources:

Oak Lawn: NRHP-337/CAR-2
Marble Head: CAR-19
Cedarhurst: CAR-20
Castlebury: CAR-25
Hardcastle Mill House: CAR-26
Boonsboro Church: CAR-119
Cherry House: CAR-117
J. Butler House: CAR-118
Tilghman O'Neil House: CAR-120
Ober Farmhouse: CAR-128
Coursey Edwards House: CAR-149
Edwards Farm House: CAR-171
Rudolph Peterson Log House: CAR-252
Moris Farm House: CAR-255

# HERITAGE PRESERVATION INITIATIVES

Many heritage preservation initiatives are currently occurring in Caroline County and the Ridgely region. These initiatives present opportunities to capitalize on the history of the Town to promote heritage tourism. More importantly, they represent opportunities to seek public and private investment to restore and rehabilitate heritage structures.



## STORIES OF THE CHESAPEAKE HERITAGE AREA

Under the Maryland Heritage Areas Program administered by the Maryland Heritage Areas Authority (MHAA), the Counties of Caroline, Kent, Queen Anne's, and Talbot have partnered with the Eastern Shore Heritage Incorporated (ESHI – a public private partnership) to create the "Stories of the Chesapeake Heritage Area." Partners in the Heritage Area also include 21 municipalities within the region. The "Stories of the Chesapeake Heritage Area" is one of the largest in the State.

ESHI is a non-profit organization tasked to manage the Heritage Area and implement a Heritage Area Management Plan. As a guiding policy, the *Stories of the Chesapeake Heritage Area Management Plan* seeks to promote heritage preservation and tourism for economic development. In 2005, the Stories of the Chesapeake Heritage Area became "Certified" by the Maryland Heritage Areas Authority. Certified Heritage Area Status confers many benefits, including grant funding for local projects and historic rehabilitation tax credits for property owners. Ridgely is part of the Heritage Area

This Plan recognizes the importance of the certification status of the "Stories of the Chesapeake Heritage Area," comprising heritage sites and places in Kent, Caroline, Queen Anne's, and Talbot Counties. This status recognizes Ridgely's unique heritage and offers the Town the opportunity for coordinated and enhanced tourism activity. Consequently, the *Stories of the Chesapeake Heritage Area Management Plan* is hereby incorporated in the *Ridgely Comprehensive Plan*, and may be amended from time to time.

## REGIONAL SCENIC & CULTURAL RESOURCES

In January 2004, Caroline County in coordination with ESHI and Scenic Maryland prepared the *Cultural Landscape & Scenic Resource Assessment: Landscape Assessment Volume 1 for the Stories of the Chesapeake Heritage Area*. The Resources Study is oriented by region and sub-region based on physiographic characteristics, including islands, maritime lowlands, maritime highlands, and interior farmlands. Districts were formed from these sub-regions for the purposes of evaluation, with criteria based on the *National Register Bulletin 30: Guidelines for Evaluating and Documenting Rural Historic Landscapes*.

The West Caroline County region included three significant districts, the Ridgely District, Tuckahoe River District, and the Upper Choptank River District. These were rated by public workshop groups formed from citizens in the Heritage Area region. The Ridgely District is located in the Interior Farmlands region. The region is dominated by flat topography, open farm fields (primarily corn and soybeans), granaries, historic small towns related to farming and the railroad industry, as well as some forested areas.

A series of maps were developed as part of the Scenic & Cultural Study to rate overall resources including Visual Preference; Scenic Resources – Magnitude, Distinctiveness, and Intactness; Scenic Resource Assessment; Cultural Resource Assessment; and Scenic Cultural Landscapes. In addition, a series of individual maps were developed including Natural Resources Heritage; Colonial and Early Colonial Heritage; Small Town Heritage; Religious Heritage; African-American Heritage; Agricultural Heritage; Maritime Heritage; and Travel and Transportation Heritage. Although, highly rated for agriculture, the Ridgely District rated moderate to low for scenic and cultural resources.

The Scenic & Cultural Study is largely subjective. Overall the West Caroline County region is highly rated for cultural and scenic resources. It consistently ranked medium to high in almost all categories. In this regard, the Scenic & Cultural Study provides valuable information concerning the aesthetic value of resources for the public abroad and heritage tourism as a whole.

## HISTORIC SCENIC BY-WAYS

Under the National Scenic By-Ways Program, Caroline County, in coordination with Dorchester County, is engaged in designating several State highways as Historic Scenic By-Ways. The program is designed to recognize highways that are outstanding examples of scenic, historic, recreational, cultural, archeological, and/or natural qualities and provide special benefits, including the promotion of heritage tourism. “Scenic By-Way” projects include the Underground Railroad Scenic Byway, which includes the Town of Ridgely.

## HISTORIC PRESERVATION PROGRAMS

A number of programs exist to help individuals and groups temporarily or permanently protect sites and structures considered significant. Historic preservation programs include the inventorying, researching, restoration, and ongoing protection of sites and structures having a significant local or national historic interest. Historic and cultural resource preservation and enhancement through sensitive land use planning and other administrative means would provide Ridgely with a number of benefits including:

- Promotion of a strong sense of community pride for Town residents.
- Community and economic revitalization through the renovation or adaptive reuse of older structures.
- Increased property values and tax revenues as a result of renovation and restoration.
- Increased revenues generated from heritage tourism.

More detailed information on programs including the National Historic Landmark, National Register of Historic Places, Conservation and Preservation Easements, and Historic Overlay Districts can be found from various historic preservation organizations such as the Maryland Historical Trust.

**Maryland Historical Trust**

The Maryland Historical Trust (MHT) is a state agency dedicated to preserving and interpreting the legacy of Maryland's past. The Trust maintains the "Maryland Inventory of Historic properties," a broad-based catalog of historic resources throughout the State. The Inventory consists of written, photographic, cartographic, and other graphic documentation of over 14,000 historic districts, buildings, structures and sites that serve as a physical reminder of Maryland's history. The Inventory is constantly expanding through contributions from the Trust's Statewide Architectural Survey Program, which works with county and local governments and other institutions to identify and document historic resources. Listing in the Inventory does not limit or regulate the property owner in what can or cannot be done with the property.

**Maryland Historic Preservation Easement**

A state-held historic preservation easement monitored by the MHT is an excellent means of perpetually preserving a historical structure and property for future generations. Such easements "run with the land" and transfer to future owners. The benefits for a property owner to donate his land to the MHT include income, estate, inheritance, gifts and property tax benefits. In exchange, the owner gives the MHT the right to review and approve proposed alterations on the property. The MHT will only accept easements on properties it determined to be eligible for listing on the National Register.

**National Register of Historic Places**

In 1966, Congress established the National Register of Historic Places as the Federal Government's official list of properties, including districts, significant in American history and culture. In Maryland, the Register is administered by the Maryland Historical Trust. Some benefits resulting from a listing in the National Register include the following:

- National recognition of the value of historic properties individually and collectively to the Nation.
- Eligibility for Federal tax incentives and other preservation assistance.
- Eligibility for a Maryland income tax benefit for the approved rehabilitation of owner-occupied residential buildings.
- Consideration in the planning for federally and state assisted projects.
- Listing does not interfere with a private property owner's right to alter, manage or dispose of property.

## IMPLEMENTATION RECOMMENDATIONS

**RECOMMENDATION #1:** Promote historic rehabilitation and revitalization tax credits and other historic preservation measures to improve the existing housing stock.

**RECOMMENDATION #2:** Continue to build heritage tourism attractions in Ridgely such as the Ridgely Railroad House, the Cow Barn, and the Rails-to-Trail, while also promoting the revitalization of the Town Center and Central Business District.

**RECOMMENDATION #3:** Seek ways to ensure that the Eastern Shore vernacular architecture found along Ridgely's streets is maintained and preserved as a valuable economic asset and an important heritage resource.

**RECOMMENDATION #4:** Consider the preparation of a "Ridgely Historic Preservation Plan," including the mapping, documenting, and inventorying of current heritage resources and scenic and cultural landscapes. This includes designating a list of official landmark historic sites and structures, encouraging the establishment of a local historic district, and promoting recognition through the awarding of plaques.

**RECOMMENDATION #5:** Update and revise planning policies and regulatory mechanisms, including Design Guidelines, to assist in the preservation of heritage resources in Ridgely.

**RECOMMENDATION #6:** Adopt flexible zoning provisions that promote the adaptive reuse of historic structures for public and private uses including, but not limited to, bed and breakfast establishments, craft/gift shops, small retail operations, cafes and restaurants, museums, and studio space for artisans, when such uses minimize exterior structural alterations.

**RECOMMENDATION #7:** Assist property owners in identifying financial incentives for rehabilitation and/or adaptive reuse of older buildings that exhibit important or traditional architectural features. New construction of commercial and residential buildings, including new development, infill and redevelopment, should reflect the characteristics of Ridgely's best historic architecture, where appropriate.

**RECOMMENDATION #8:** Establish mechanisms through partnerships to supply technical and professional assistance regarding heritage resources, including assistance to property owners for the rehabilitation and/or restoration of heritage structures in Ridgely.

**RECOMMENDATION #9:** Encourage the protection and rehabilitation of historic homes and buildings by evaluating the use of Façade Easements, Enterprise Funds, and Rehabilitation Tax Incentives, as well as working with the Maryland Department of Housing and Community Development, the Maryland Historical Trust, and the National Trust for Historic Preservation to obtain financial support for rehabilitation.

**RECOMMENDATION #10:** Partner with local entities such as the Eastern Shore Heritage Incorporated (ESHI), Caroline County Government, the Caroline County Historical Society, and the Caroline County Economic Development Corporation to promote and enhance heritage preservation and tourism initiatives in Ridgely.

**RECOMMENDATION #11:** Partner with Caroline County and the Maryland State Department of Transportation (MDOT) - State Highway Administration (SHA) to promote Ridgely in regards to the benefits from Scenic and Historic Byway designations.

**RECOMMENDATION #12:** Work with Caroline County to explore ways to provide local funding to assist with heritage preservation, neighborhood revitalization, and tourism in Ridgely and other municipalities.

# Chapter 8 Transportation

The efficient and effective movement of people and goods is an important concern in any community's growth plan. Providing a safe and efficient transportation network with minimal disruption can sometimes be difficult to achieve. It requires that transportation planning be closely coordinated with other elements of the Comprehensive Plan. This assures that transportation plans and policies complement and promote other elements.

**GOAL & OBJECTIVES**

**GOAL:**

Provide for the safe and efficient movement of people and goods and encourage regional and local coordination of transportation decisions.

**OBJECTIVES:**

Improve the transport of people and goods along MD Route 404 (Shore Highway) and major collector systems;

Improve safety for motorists by controlling access along State and County roads;

Ensure development of appropriate vehicle and pedestrian circulation systems to serve designated growth areas and greenbelts;

Minimize the need for extensive capital investment in upgrading County roads outside of designated growth areas and greenbelts;

Encourage the location of jobs close to population centers in order to reduce vehicle miles of travel; and

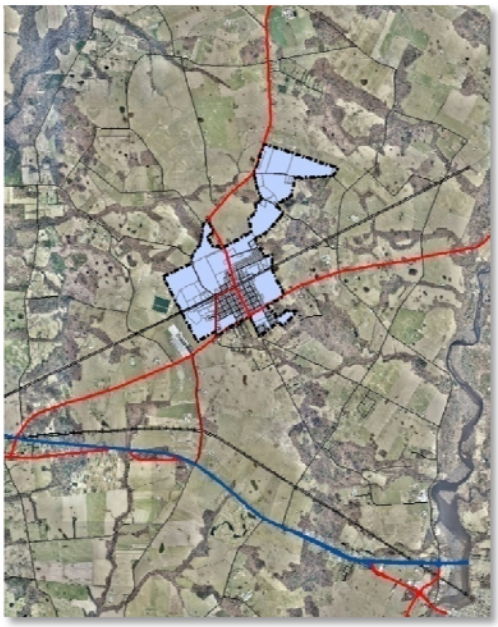
Provide for alternative modes of travel, where appropriate, within designated growth areas and greenbelts such as pedestrian and bicycle routes.

## BACKGROUND

The Town of Ridgely is located near the border between Queen Anne's and Caroline Counties along MD Routes 480 and 312. The primary transportation route near Ridgely is MD Route 404 (Shore Highway), which connects with U.S. Route 50 in Maryland and U.S. 13 in Delaware. Shore Highway is a major arterial route for the region. Minor routes serving Ridgely include Cow Barn, Log Cabin, Racetrack, Hog Lot, Ninetown, and Mason Branch Roads. As the control of transportation systems is divided among the State, Caroline County, and the Town of Ridgely, managing transportation facilities to ensure adequate capacity will require coordination and cooperation among these various levels of government.

Rural routes exhibit scenic characteristics in the Ridgely area. Ridgely also serves as a central location for local land uses including agriculture, surface mining, and proximity to the Mid-Shore Regional Landfill. Each of these land uses, combined with municipal traffic, contributes to increased vehicular volumes on highways, streets, and roads. Impacted areas include MD Routes 480 and 312. Truck traffic from mining operations and the regional landfill will place future burdens on municipal roads and streets, including Main Street in Ridgely's Historic Core (MD Route 312/Central Avenue). Alternatives, including a Ridgely Bypass, should be planned to lessen traffic related impacts from these County activities.

## LOCATION & ACCESS



Ridgely is located on Maryland's Eastern Shore in the western portion of Caroline County, Maryland. Caroline County borders Dorchester, Queen Anne's, and Talbot Counties in Maryland and Kent and Sussex Counties in Delaware.

Major arterials for the region include MD Rt. 404 (Shore Highway), U.S. Route 50, and U.S. Route 13 in Delaware. Primarily, Ridgely is served by MD Rt. 404 and U.S. Rt. 50. State roads, which link to these arterials, include MD Rt. 480 and 312. Urban areas near Ridgely are Dover, Delaware; Annapolis, Maryland; Baltimore City, Maryland; and the District of Columbia (Washington DC). Other nearby metropolitan areas includes Wilmington, Delaware; Philadelphia, Pennsylvania; and New York, New York.

The nearest metropolitan areas are Annapolis, Maryland and Dover, Delaware. These urban areas represent potential places of employment for Town residents. The Town is centrally located on the Eastern Shore being approximately equal distance from the capital of Maryland (Annapolis) and the capital of Delaware (Dover). According to "Map Quest," approximate travel times and distances to large metropolitan centers are as follows:

- Dover, Delaware is 47 minutes and 31 miles;
- Annapolis, Maryland is 51 minutes and 41 miles;
- Baltimore City, Maryland is 1 hour and 19 minutes and 67 miles;
- Washington DC is 1 hour and 26 minutes and 70 miles;
- Wilmington, Delaware is 1 hour and 26 minutes and 71 miles;
- Philadelphia, Pennsylvania is 2 hours and 102 miles; and
- New York, New York is 3 hours and 26 minutes and 188 miles.

The existing State highway system provides for easy connections to higher order roads that access metropolitan, such as US Routes 50, 301, and 13. Ridgely is within easy driving distance of major metropolitan centers in Delaware and on the western shore of Maryland. Access to metropolitan areas will be enhanced when MD Route 404 is dualized. The closest regional cities include Dover and Wilmington, Delaware; Philadelphia, Pennsylvania; Annapolis and Baltimore, Maryland; and Washington D.C., all located within 1 to 3 hours driving time.

With the exception of MD Rt. 404, State highways, County roads, and Town streets meet the current vehicular travel needs of residents. For a predominately rural area, the system operates at acceptable levels of service (LOS). Travel demand and safety considerations are low enough on County roads and Town streets that no major capital improvements are planned at this time.

# TRANSPORTATION SYSTEM INVENTORY

The arterial system is MD Rt. 404 (Shore Highway), which bi-sects Caroline County from East to West connecting with Federal highways in Maryland (US 50) and Delaware (US 13). A major collector system of State maintained "feeder" highways connects to MD Route 404 and includes MD Routes 480 and 312. County maintained roads and Town streets form the minor collection system, branching from State arterial and collector routes. The Functional Classification System of roads includes the following:

**Table 7-1: HIGHWAY & ROAD STATISTICS WEST CAROLINE COUNTY REGION**

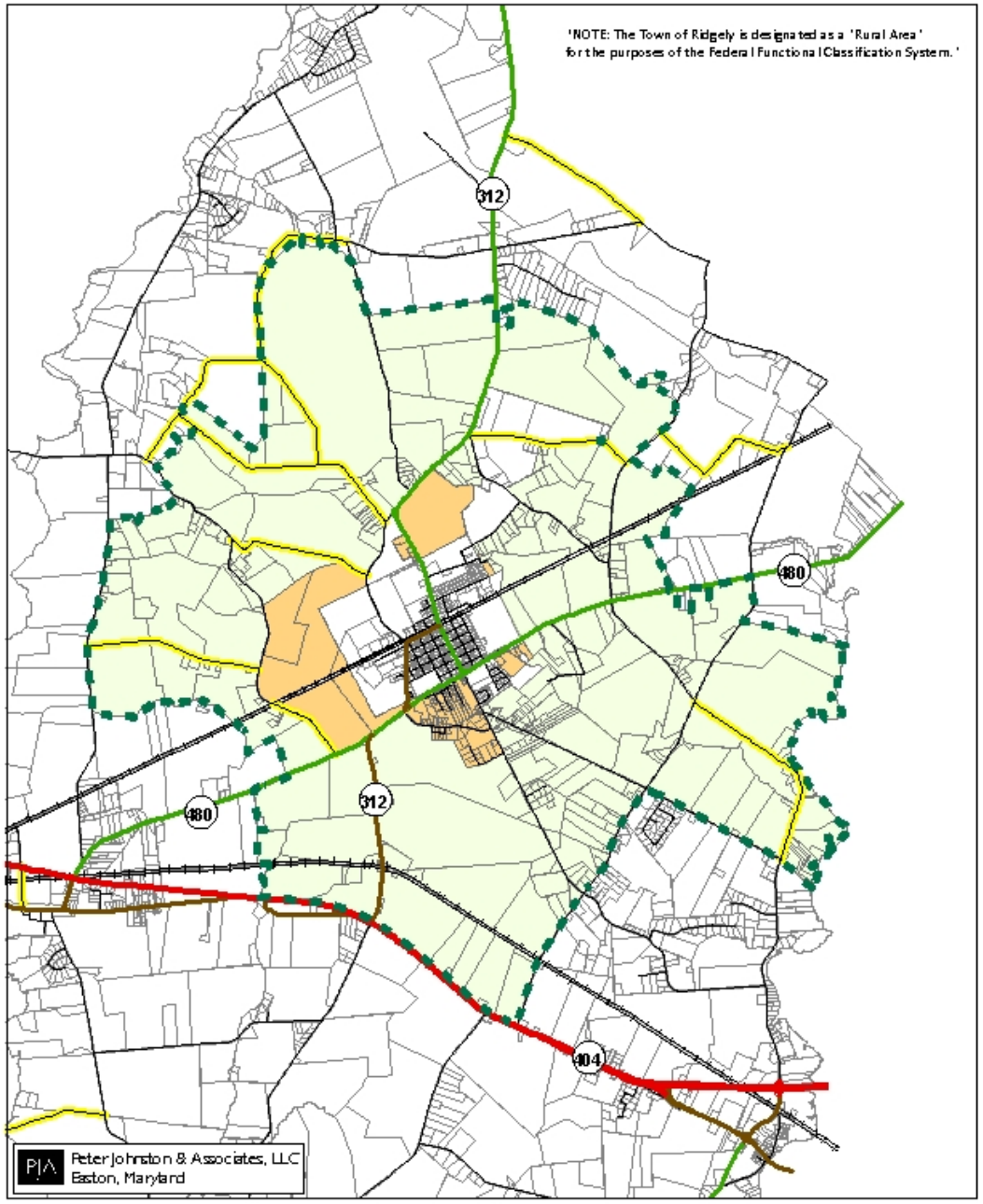
| Classification | Miles | % of Total |
|---|---|---|
| Other Principal Arterial | 6.95 | 5% |
| Major Collector | 18.45 | 13% |
| Minor Collector | 6.82 | 5% |
| Local Roads/Streets | 107.68 | 77% |
| **TOTAL** | **139.90** | **100%** |
| Ridgely Streets | 13.36 | N/A |
| Unpaved Roads | 18.57 | N/A |
| Paved Roads | 89.11 | N/A |

*Note: Town streets include some State Highways and Caroline County Roads.

- Arterial Road: A primary major road that carries heavy traffic volume between towns, major communities, or other counties.
- Major Collector Road: A road providing access to properties. In addition, a major collector road moves moderate traffic volume between neighborhoods, areas of major development, or from one area to another.
- Minor Collector Road: A road providing access to properties. In addition, a minor collector road collects light traffic from, or distributes to, a series of roads in a neighborhood.
- Local Roads/Streets: A road intended to serve and provide access to properties that is locally controlled. A local road does not carry through traffic.
- Commercial and Industrial Road: A road that primarily provides access to commercial and industrial areas.

As shown on Map 8-1, the defined study region for the Transportation Chapter is the western portion of Caroline County, where the Town of Ridgely is located. The highway and road system serving this area totals approximately 140 miles. The major and minor collector systems include approximately 25 miles of State highways maintained by SHA. The highway system also includes 7 miles of arterial highway (MD Route 404-Shore Highway), which is maintained by the State. Arterial highways carry a high volume of intra-county traffic, providing access to and from higher-level arterial roads such as U.S. Route 50.

The major collector system serves travel needs and provides access to lower order County and Town roads, which provide direct access to properties. The local roads/streets system includes approximately 108 miles of roads maintained by the County and Ridgely. Town streets are the lowest order in the road system. The primary function of County roads and Town streets is to provide access to properties. Ridgley roads and streets total approximately 13 miles. Local roads and streets in the area include the following key roads: Tuckahoe, Reed, Log Cabin, Willow Pond, Saulsbury, Sawmill, Crouse Mill, Ninetown, Sparks, Eveland, Cow Barn, Racetrack, Holsinger Lane, Hog Lot, River, Mason Branch, Dean, and Marble Head. Several municipal road connections exist for Ridgely within the State and County system. Ridgely roads include MD Routes 480 and 312, which bisect the Town. County roads serving Ridgely include Central Avenue, Seward Road, Holsinger Lane, and Sunset Boulevard, which connects to Cow Barn Road




## MAP 8-1: FUNCTIONAL CLASSIFICATION FEDERAL TRANSPORTATION SYSTEM

**LEGEND:**

- Ridgely Greenbelt Boundary
- Other Principal Arterial
- Major Collector
- Minor Collector
- Local Road/Street
- Unpaved Roads
- Railroad Line
- Ridgely Greenbelt
- Ridgely Growth Area

# TRANSPORTATION PLANNING & PROGRAMMING

Major transportation issues identified by Ridgely are as follows:

- Future improvements to MD Route 404 including highway dualization as well as major collectors including MD Routes 480 and 312;
- Defined need for planning and feasibility studies for a proposed Ridgely By-Pass to accommodate regional commercial truck traffic, particularly in regards to the planned Landfill;
- Defined need for planning and feasibility studies for railroad right-of-ways in relation to tourism facilities and trail head connections;
- Lack of appropriate overall transportation design standards for arterial and major collector systems as well as designated Growth Areas;
- Poor control of visual impacts for gateway corridors and scenic routes (on State and County roads), such as appropriate road-side buffers, development of rural design guidelines for new development, improved and attractive signage and landscaping; and
- Limited access controls especially along the arterial and major collector system including the negative impacts caused by excessive curb cuts and strip development along highways.

## TRANSPORTATION PLAN

The Transportation Plan includes recommendations to increase route choices by providing for additional access such as the proposed Ridgely By-Pass (See Map 8-2). The Pedestrian Plan includes recommendations to improve pedestrian connectivity to activity centers such as the Ridgely greenway/trail (e.g., the Town Center and Central Business District). Route choice and pedestrian mobility should apply in the Growth Area.

### Responsible Agencies & Entities

The primary agency responsible for implementing transportation improvements in Caroline County and the Ridgely area is the Maryland Department of Transportation (MDOT). MDOT meets with local officials each year to review capital project priorities in the County. These projects are then programmed in the MDOT's six year “Consolidated Transportation Program (CTP).” Much of the local contact with MDOT occurs through the Maryland State Highway Administration (SHA) local office in Denton, Maryland. Transportation for regional local roads and streets is the responsibility of the various public works departments in Caroline County and the Town of Ridgely.

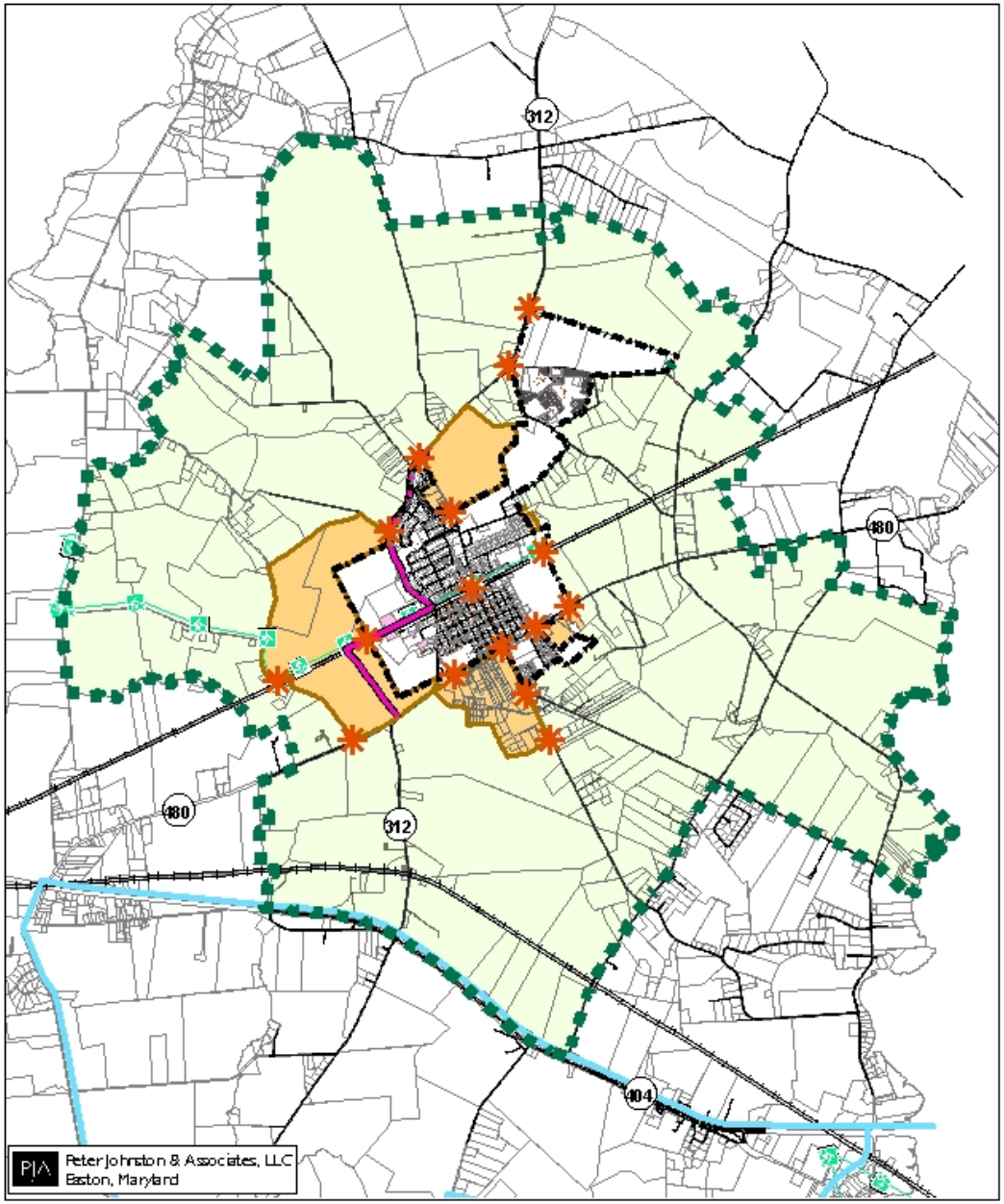
**MD Route 404 Improvements**

With the increase in traffic volume for MD Route 404 (Shore Highway), the highway requires major improvements to ensure safety. MD Route 404 begins in Wye Mills, Maryland and runs to the Delaware line (approximately 25 miles). MD Route 404 traverses Caroline, Queen Anne's, and Talbot Counties. MDOT and SHA have planned the dualization of MD Route 404 to provide a major arterial connection to US Route 50 in Maryland and US Route 13 in Delaware. Every county in Maryland has a dualized major arterial connection except Caroline County.

Traffic congestion problems have escalated as travel to beach resort areas has grown. In 2002, traffic volumes indicate 16,700 vehicles per day during non-vacation months and 21,700 vehicles per day during the vacation season. The primary reason for traffic volume escalation is through traffic for shore points in Maryland and Delaware. By 2025, SHA has projected an increase in volume to 22,400 vehicles per day for non-seasonal months and 27,700 vehicles per day for seasonal months. Impacts include increased vehicular accidents (safety concerns) and a limiting effect for the efficient movement of people and goods on the major collection system.

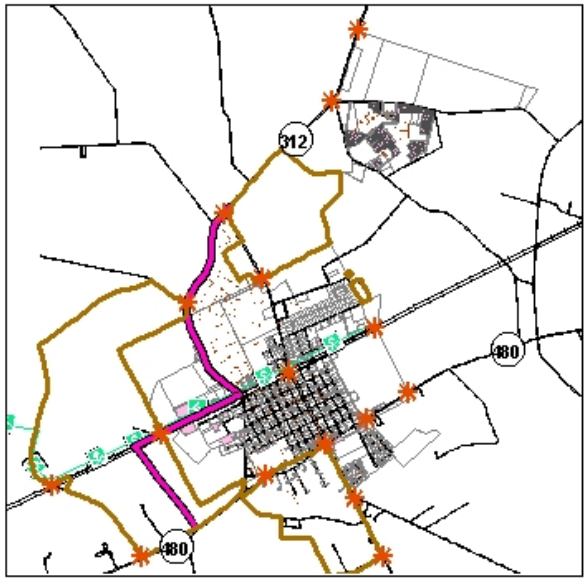
Current SHA plans call for the dualization of MD Route 404 to a 4-lane divided highway from US 50 to the MD Route 16 near Denton (approximately 12 miles). Coordination includes Caroline, Queen Anne's and Talbot Counties. Current efforts are focusing on dualization on the East-side of Denton from the Denton by-pass to MD Route 16 (Denton/Preston Road).

## MAP 8-2: TRANSPORTATION PLAN




**LEGEND:**

- Municipal Gateways
- Ridgely Greenbelt Boundary
- Maryland Scenic Byway
- Proposed Ridgely By-Pass
- Rails-to-Trails/Greenway
- Growth Area Boundary
- Railroad Line
- Ridgely Greenbelt
- Ridgely Growth Area
- Parking Areas
- Sidewalks
- Ridgely Roads



## Transit

Delmarva Community Services Inc. (DCS) provides limited public transit in the region. According to the *2000 Transportation Development Plan for Caroline, Kent, and Talbot Counties*, a report prepared for the predecessor provider, the region demonstrates a need for transportation services for disadvantaged residents.

## Pedestrian Systems

Ridgely sidewalks total approximately 5 acres, dispersed throughout the Town. Conceptual sidewalks in Ridgely, for proposed new development (Ridgely Park/Business Technology Park), total an additional 8 acres. Sidewalks are provided in only few areas of "Old Town" because of low traffic volumes and resident sentiments that have inclined Town officials to forego capital projects that add sidewalks to local streets. Sidewalks are or will be more prevalent in new subdivisions.

## Underground Railroad Scenic-Byway

The *Underground Railroad Scenic By-Way Corridor Management Plan* (Corridor Management Plan), in coordination with Caroline and Dorchester Counties, SHA, and the Maryland Office of Tourism Development, focuses on the rich heritage in the area regarding the Underground Railroad, the Civil War, and the Eastern Shore's prominent African-American history and culture. Primarily located along MD Routes 16 and 313 in Caroline County, the Scenic By-Way also includes a loop portion of MD Route 404.

As shown on Map 8-2, the route is approximately 17 miles and follows Shore Highway to Hillsboro then it follows Tuckahoe Road to Reed and Willow Pond Roads, reconnecting with MD Route 404 in West Denton at the Maritime Museum Visitor Center. This route links Harriet Tubman's history with the Underground Railroad to Frederick Douglas, the great advocate of slavery emancipation and architect of the Underground Railroad.

The Corridor Management Plan provides comprehensive planning to preserve and enhance these rich historical, cultural, and scenic qualities. The eventual goal is classification in the Federal Highway System as a National Scenic By-Way. The Underground Railroad Scenic By-Way qualifies for this classification given the prominence of national history. The Federal classification also provides the County with numerous funding and assistance opportunities to promote heritage preservation and tourism.

## Transportation, Tourism, and Economic Development

Economic development trends indicate that the Eastern Shore region is becoming a service and tourism based economy. This includes heritage tourism as well as eco-tourism, the enjoyment of natural amenities such as local rivers and creeks. Therefore the strengthening of historic, cultural, natural, and scenic qualities is essential for promoting tourism.

Investing in tourism initiatives, such as the Ridgely Greenway to Adkins Arboretum, provides valuable links for potential tourists to experience important elements of the County's national history. However, the development of each of heritage initiative can provide a link to build a critical mass of tourism destination sites. Many areas in the region, such as Chestertown and Easton, are experiencing reinvigorated economies due to tourism.

Transportation related initiatives for heritage preservation and tourism near Ridgely include the following:

1. Providing visitor services in key locations, including the Maritime Museum Visitor Center in West Denton and Adkins Arboretum in Tuckahoe State Park;
2. Enhancing highway and road connections to visitor center locations for enhanced tourism services, including potential upgrades to Eveland, Sawmill, and Bell Roads; and
3. Providing a pedestrian, bicycle, and trail connections from Ridgely to Adkins Arboretum (via Sawmill to Bell Roads); and

The creation of linkages via highways, roads, and trails provides tourists an opportunity to experience Caroline County's rich rural heritage. It also provides valuable economic development components for building a tourism-based economy. As shown on Map 8-2, a Ridgely connection to Adkins Arboretum and Tuckahoe State Park can supply a valuable amenity for the new Ridgely Business & Technology Park, assisting in the enticement of new businesses. Connections to tourism facilities and services also provide Town and County residents with useful amenities. These important initiatives should be examined in detail.

Sawmill Road currently maintains a 30 foot road right-of-way. Therefore, bicycle and pedestrian connections for Adkins and Ridgely via Sawmill Road will require the purchase/donation of additional road right-of-way easements. In addition Sawmill Road will require paving if a paved pedestrian trail is planned.

**Streetscape Improvements and Design Guidelines**

The overall improvement of scenic and aesthetic qualities along arterial and major collector systems is an important economic development and quality of life initiative. Improving the appearance of town streetscapes and rural residential development along major and minor collector systems also is critical.

Street Improvements: Street improvement include increased parking, connectivity to public spaces, improved curb, sidewalks, and gutter systems, as well as street tree plantings, and improving the overall aesthetic appearance of the Town. Technical assistance includes working with SHA for street funding. In addition, the Town is located within a "Certified Heritage Area" under the Maryland Heritage Areas Authority (MHAA) *Heritage Tourism and Preservation Program*. Designation as a Certified Heritage Area provides Ridgely with priority status in State designation for projects.

Rural Design Guidelines: Caroline County should develop design guidelines for rural development. These should include residential, commercial, and industrial uses. Primary application should be along the County's arterial and major collector routes.

The development of Design Guidelines will greatly enhance the appearance of development along the arterial and collector systems. Standards should include appropriate buffering with natural vegetation, adequate location and setbacks for new development to minimize curbcuts, stormwater drainage problems, and pollution. Design Guidelines also include architectural standards to ensure integration with existing rural characteristics for the preservation of important scenic and cultural viewsheds. Design Guidelines should apply to both major and minor subdivisions for new development as well as potential new commercial and industrial sites. Design Guideline criteria should be integrated in the development review process.

Design Guidelines are critical in municipal Growth Areas and Greenbelts to limit the effects of adverse land uses, such as large-scale rural residential development and surface mining. These areas serve as transitional areas from rural to urban and suburban land uses. In addition, the preservation of municipal gateways in Greenbelt areas is an important public initiative for preserving the County's scenic and aesthetic qualities.

**Ridgely By-Pass**

Ridgely serves as a central location for a many land uses in the region including agriculture, surface mining, and proximity to the Mid-Shore Regional Landfill, planned for Holly Road near the Town. Each of these land uses, combined with municipal traffic flow, contributes to increased vehicular volumes on highways, streets, and roads. Impacted areas include MD Routes, 404, 480 and 312. It also includes Main Street/Central Avenue (MD Route 312), which bi-sects the Town.

Several potential routes were determined for a Ridgely Bypass. The first is located on the west side of town and includes Cow Barn Road to Sunset Boulevard. The second is located on the east side of Town and includes upgrades to Racetrack Road to River Road with final connection to MD Route 480. These areas should be studied in detail.

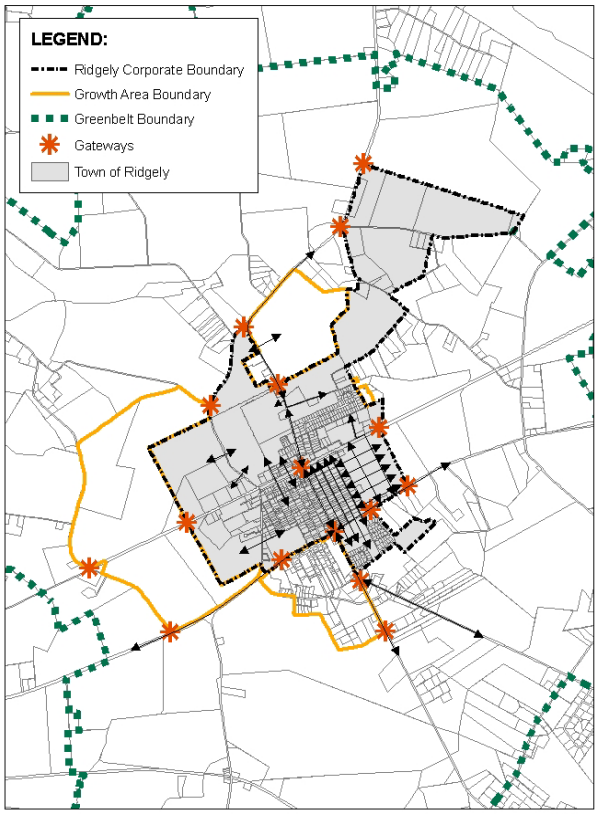
Commercial truck traffic from mining operations and the regional landfill will place future burdens on municipal roads and streets, especially Main Street in Ridgely's Historic Core. A Ridgely By-Pass should be planned to lessen traffic related impacts from increased commercial activities related to the described land uses. As indicated on Map 8-2, a potential route was determined for a Ridgely Bypass. The route is located on the west side of Town and includes Cow Barn Road/MD Route 312 to MD Routes 480 and 404. The route is approximately 2 miles.

The proposed bypass route for Ridgely is located in the Town's Growth Area. At a minimum, Ridgely policies and regulations should stipulate that any proposed development within the by-pass route be required to donate easement(s) to the Town during negotiations. A detailed transportation feasibility study of the potential Ridgely By-Pass route is required. Ridgely should seek assistance from Caroline County and the State of Maryland for such an initiative. Any route will require upgrades beyond simple paving. The Town should work cooperatively with Caroline County and State agencies and entities to determine the feasibility of the by-pass route.

## DEVELOPMENT PATTERNS

From a transportation perspective, landmarks in the landscape, whether natural or manmade, provide wayfinding for visitors and residents alike. In Ridgely, these landmarks form gateways to and from the Town. Gateways can be buildings, signs, natural features, etc.

**RIDGELY CONNECTIONS & GATEWAYS**



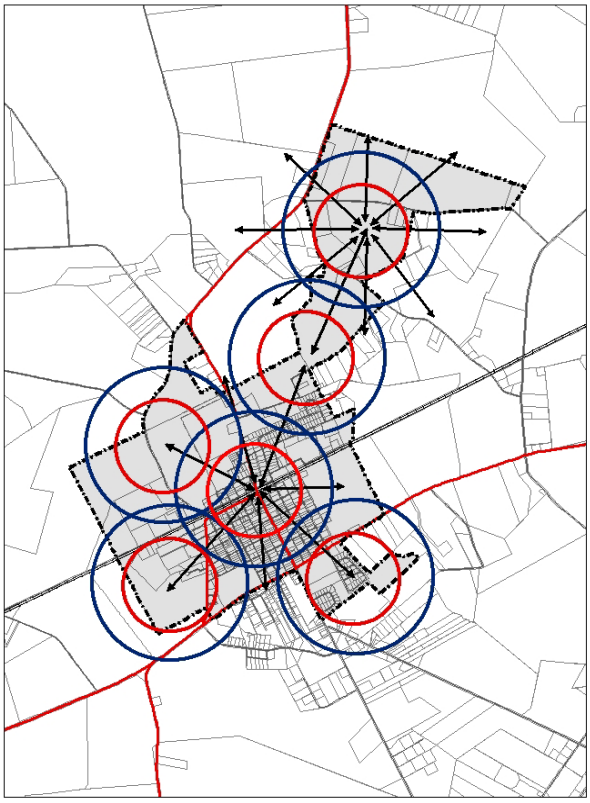

Villages and towns in Colonial New England utilized landmarks for travelers to determine their location. Finding one's way on overland routes not only included maps and compasses but also physical markers that jutted out in the New England landscape, such as church steeples. These taller buildings stood above the tree line and provided markers.

Gateways: Small towns on the Eastern Shore of Maryland share similar c_haracteristics to those in New England. Although, land on the Eastern Shore is relatively flat, local landmarks provide gateways to our small historic towns. In the case of Ridgely, it the grain silos located on MD Route 480, upon entering the Town. It is also the large expanses of open agricultural lands that can be found on all side of the Town, whether entering or exiting.

These gateway areas not only demarcate entrances and exits but also provide identity. As the Town grows, gateway areas also expand when new land is annexed. Gateways in Ridgely have been identified on Map 8-2 and are illustrated in detail on the above figure. In the future, these areas will require special attention and design treatment to ensure that cultural and historical identity is not diminished but rather enhanced. Aesthetic design is important because attractive gateways provide favorable first impressions to visitors. Gateways invite tourists into the Town and provide the setting that makes visitors feel comfortable in their surroundings. Other benefits include resident appeal and an improved tax base.

Linkages/Connections: The following figure to the right describes the central areas of Ridgely and a predefined distance from center to edge. Generally, 800 feet to 1,200 feet is a comfortable walking distance (approximately 10 minutes). The figure provides analysis on where central activities are likely to occur in the Town. They also define specific neighborhood areas for further analysis regarding land use trends, development patterns, and design considerations.

**RIDGELY CENTERS, NODES, & CIRCULATION**



Both gateways and linkages combine to form an integrated and broad design schematic for neighborhood and street connections. Neighborhood linkages are provided from center to edge and center to center (from one neighborhood area to another). This includes areas where neighborhoods overlap, indicating where the Town Center influences surrounding areas and where new development will likely require its own center. In addition, connections also are indicated for Ridgely's street networks. This includes the extension of the Town's traditional grid system or thoroughfare connections, such as parkways, from one neighborhood to another.

With the current high cost of gas and a future national outlook that envisions rising energy costs, pedestrian and bicycle modes of transportation will play a prominent role in planning. Future development patterns may be more like traditional patterns.

## IMPLEMENTATION RECOMMENDATIONS

Descriptions and other details regarding implementation are contained in Chapter 9 of this Comprehensive Plan.

**RECOMMENDATION #1:** Adopt the Federal Functional Classification System to maintain a balanced system of streets and provide guidelines for redevelopment of existing streets and the construction of new streets.

**RECOMMENDATION #2:** Initiate an Infrastructure & Facilities Plan following the adoption of the Comprehensive Plan, to provide details regarding infrastructure improvements, transportation networks, the proposed Ridgely Bypass, multi-modal transportation opportunities, and a capital improvements component. Such a Plan can be integrated with the Town's Capital Improvements Plan (CIP). At a minimum, the Plan should review the following:

- Major Collectors - Traffic capacity for the near future and what street improvements may be warranted. Improvements could include installation of curb, gutter, sidewalks, and bike lanes where none exist including planting space between curb and sidewalk.
- Minor Collectors - Although, existing streets classified as local collectors may not be able to be improved to meet recommended standards, all future minor collectors in Ridgely should conform to standards set forth in the *Ridgely Subdivision Regulations* and other Town standards and specifications.
- Residential Streets - A "Capital Improvements Program" should be undertaken to upgrade existing local streets. Such a program should include installation of sidewalks, curb and gutter, and other streetscape improvements, where feasible. Priority streets for improvements should be detailed. Traffic calming measures should be studied and implemented in key locations.
- New Streets - Infill and redevelopment projects within Ridgely should be required to expand the modified grid street system and connect to other existing streets as appropriate.
- Public Parking – The Land Use Plan emphasizes infill and redevelopment, including development of small-scale retail establishments in the Central Business District. The Town should identify opportunities for public parking.
- Pedestrian & Bike Systems - New and upgraded pedestrian and bike systems should focus on providing safe access to the Town Center, Central Business District, other shopping areas, the Ridgely Elementary School, and parks and recreation facilities in Town.

**RECOMMENDATION #3:** New developments should be required to provide sidewalks, including sidewalks along property frontages as well as bike and pedestrian trails, where feasible and appropriate.

**RECOMMENDATION #4:** Maintain and develop a road network that calms traffic in residential areas and gives appropriate consideration to the needs of pedestrians and bicyclists.

**RECOMMENDATION #5:** Design new streets and sidewalks to fit with existing neighborhoods and facilitate circulation through the community.

**RECOMMENDATION #6:** Improve existing streets with walkways, where necessary, to accommodate pedestrian and bicycle movement. Maryland SHA policy is to make all State routes bicycle compatible to promote alternative modes of transportation, which also includes walking and carpooling. The SHA "Sidewalk Retrofit Program" can assist the Town with multi-modal transportation objectives.

**RECOMMENDATION #7:** Work with appropriate local and State agencies to provide assistance in repairing or reconstructing sidewalks and roads in the community.

**RECOMMENDATION #8:** Evaluate vacant lots to see if they can be used for off-street parking lots, especially near neighborhood commercial uses.

**RECOMMENDATION #9:** Adopt provisions for Ridgely regulations that insure that all future development provides adequate off-street parking.

# Chapter 9 Implementation

The 2008 *Ridgely Comprehensive Plan* is intended to help the Town achieve its vision for the future. It provides a policy basis for a wide variety of actions and development related decisions by both public officials and private landowners. It also provides general guidelines for the local community so that decisions can be properly evaluated against their long-range impacts on the community.

The core chapters of the Comprehensive Plan include the Land Use Plan, Municipal Growth Element, Water Resources Element, and Implementation. The Land Use Plan indicates the proposed or conceptual development pattern of the community, expected through 2030. It is not a detailed blueprint but rather a guide, which can permit the orderly and economical growth of the community. Ridgely's future growth expectations, as expressed in the Municipal Growth and Water Resources Elements, include impacts and limitations on the envisioned development pattern.

The Implementation Chapter is the culmination of analyses contained in the other chapters of this Comprehensive Plan. It provides detailed strategies to actualize goals and objectives. The ultimate purpose is to develop a Comprehensive Plan that can more efficiently address community needs.

## COMMUNITY DESIGN

Facing the prospect of significant growth, Ridgely is understandably concerned about the impacts of growth on the existing community character. Planning policies addressing community character must attempt to translate a rather broad and sometimes vague term into more specific public guidance.

In an article entitled *Great Neighborhoods: Places that Stand-Out for their Character, Livability, and Positive Community Feeling*, a survey was conducted to determine the characteristics of a great neighborhood.[1] Respondents cited the following identifiers:

1. Has a variety of functional attributes that contribute to a resident's day-to-day living (residential, commercial, mixed uses);
2. Accommodates multi-modal transportation (pedestrian, bicyclists, drivers);
3. Has design and architectural features that are visually interesting;
4. Encourages human contact and social activities;

**FIGURE 9-1:** Traditional Neighborhood Design-TND or "mixed use" development replicates the historic subdivision patterns of the past, when services needed to be located nearby for convenience, facilitating community interaction.

[1] American Planning Association *Planning* Magazine, January 2008

5. Promotes community involvement and maintains a secure environment;
6. Promotes sustainability and responds to climactic demands; and
7. Has a memorable character.

Protecting and enhancing these qualities in Ridgely is an objective of the Comprehensive Plan. The concepts embodied in "place making," as guiding principles for a community, are consistent with and reflective of these public sentiments. Because the scale of new development in the Town will strongly influence the look and feel of Ridgely tomorrow, establishing guidance for development design is important.

## DESIGN GUIDELINES AS PLACE MAKING PRINCIPLES

**FIGURE 9-2:** Ridgely Park is a planned mixed use community in the Town.

Ridgely favors planned projects that relate well to their surroundings. Instead of subdivisions, the Town encourages projects that result in new neighborhoods, which will fully integrate into the existing physical and social fabric of the Town. Some precedent has already been established for design guidance including the *Ridgely Design Guidelines* and a traditional neighborhood development, the Ridgely Park project. In order to further achieve this end, the Town should judge the quality of new development based on the following place-making principles:

Character: Place making should respond to the existing natural and developed features of the environmental context. A place that enhances the distinctive local landscape and sense of place and history, while also providing a quality living environment will establish a rich environmental character unique to its locality.

Continuity and Enclosure: The form and fabric of a place defines the living environment and establishes a hierarchy of both public and private spaces, providing clarity of function and movement.

Quality of the Public Realm: Good urban design provides a sense of well being and amenity by ensuring recognition of the natural context and the functional requirements of the community as well as responding with public spaces and routes that are lively and pleasant to use.

Ease of Movement: Ease of movement for residents and visitors is reinforced by consideration of connectivity and permeability.

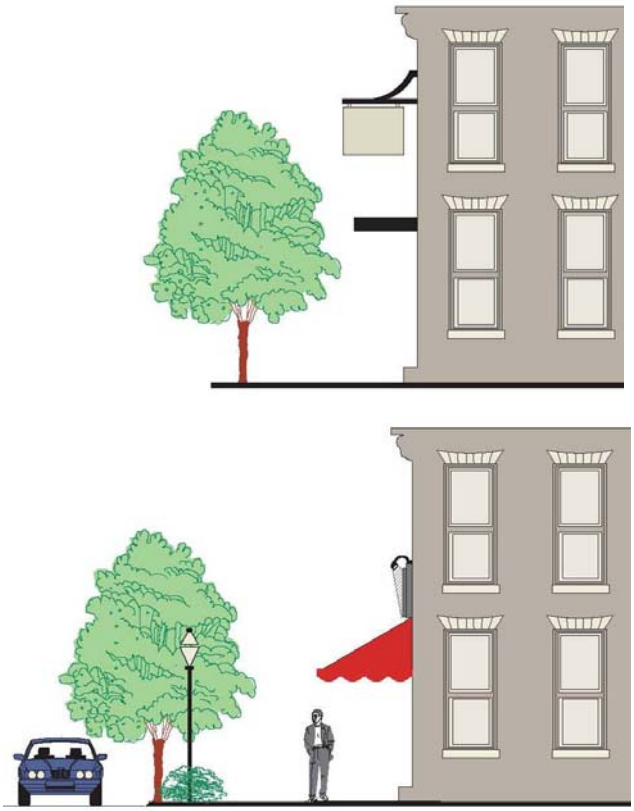
Legibility: Legibility principles establish an understanding of place and way-finding for residents and visitors. A discernable planned structure ensures that the living environment has a clear image and is easy to understand.

Adaptability: Provisions for changing lifestyles and community needs enhances the future social and economic sustainability of a community. Adaptable space provides for flexible uses, gradual change,

where buildings and areas adapt to a variety of present and future uses, including the reuse of historic buildings and spaces.

Diversity: Diversity of space and function provides a range of experience and choice. This can be achieved through a different functions and land uses such as a broad cross section of the community and its cultural values, a variety of built forms and development character, and opportunities for biodiversity.

The following general guidance further clarifies the Town's expectation for the design of new neighborhoods:



STORE-FRONT SIGN EXAMPLES

- Natural features and site constraints should suggest natural "common-sense" design solutions. This includes designing with nature, not fighting, controlling, or dominating natural and ecological processes;
- The automobile should not be the dominant force that dictates the layout and design of residential communities. New residential streets should be as narrow as possible to discourage fast moving through traffic, well-landscaped with shade trees, and recognized as the principal public spaces that they are. In view of their visual and functional importance; thought, deliberation, and investment in landscape and streetscape design should be evident;
- Substantial landscaping should be included in common open spaces. Landscaping should provide shade, shelter from wind, and visual screens or buffers from unsightly elements on adjoining properties such as parking lots, loading areas, dumpsters, or utility structures. Landscaping can also provide wildlife habitat and linkages to forested and natural areas, greenways, and walking paths;
- Parking should not be a dominant site feature. Parking areas should be small scale, highly landscaped, attractive and inviting. Whenever possible, it is better to give preference to green space over asphalt and paved parking. This also assists in achieving the Town's water quality objectives;
- Signage should be informative without being intrusive. Signs should not dominate the visual landscape. Signs should be compatible with their purpose. Signs should be clear, concise, and as small as reasonably possible to enhance aesthetics;

- Architecture and styles proposed should be in keeping with the best building types and styles that have evolved in the Ridgely region, albeit taking advantage of new building material and techniques associated with "green building". The Town should strongly encourage traditional designs and materials so that new developments blend seamlessly with the old. Modern materials and layouts need not conflict with the character of Ridgely, if developers and builders are sensitive to the overall appearance of their creation;
- The views of a site and from a site should be clearly considered by developers and addressed.

**FIGURE 9-3:** Ridgely's Victorian architecture is an important component of the Town's character.

Large-scale development projects should be designed to achieve the following characteristics:

- ❖ Architectural harmony, including compatibility in styles, materials, colors, and building size and setbacks;
- ❖ Variety in housing types, density, and cost;
- ❖ Parks, squares, and other common open spaces for residents to interact and recreate, and to provide a setting for the architecture of the development;
- ❖ Neighborhood centers and civic spaces, which, depending on the scale of the development, can include places to shop, work, learn, or worship;
- ❖ An interconnected street system, which is based on a modified grid system;
- ❖ Sidewalks, street trees, and substantial on-street parking, providing distinct separation between pedestrians and traffic;
- ❖ Streets and sidewalks that are spatially defined by buildings in a regular pattern, unbroken by parking lots;
- ❖ Traffic calming, including more narrow streets with shorter turning radii than suburban streets, and medians, circles and related features along prominent streets;
- ❖ Lighting which is designed for safe walking and signage which has a pedestrian orientation; and
- ❖ A system of land subdivision and development which links one neighborhood to another and can logically be extended.

## ACCESS, CIRCULATION, & PARKING DESIGN

The layout of access and circulation systems in new developments must balance the mobility, safety and other needs of pedestrians, bicyclists, and vehicular traffic. Achieving this end requires more than simply complying with street standards and specifications. Successful design of access, circulation, and parking systems in new developments requires considerable effort.

Streets may be the most important public spaces in neighborhoods. Streets must be thought of as an integral part of the overall design of communities. Interconnected streets encourage people to walk by providing a variety of route options. Small blocks encourage people to walk by maintaining a human scale environment. A fine-grained system of streets, pedestrian ways, and bicycle routes helps disperse traffic and reduce congestion. Multiple streets provide opportunities to connect new neighborhoods with old neighborhoods. Pedestrian walkways, bicycle lanes, and other amenities enhance the desirability of walking and bicycling.

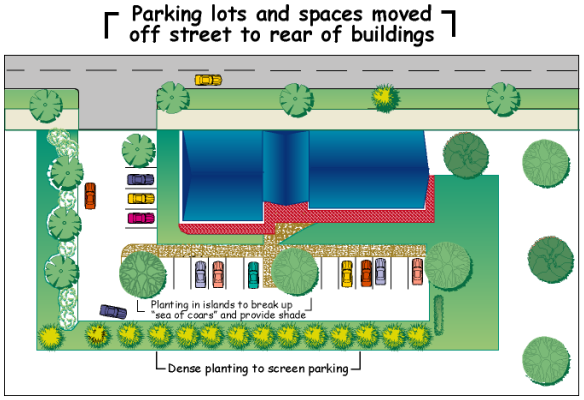



**FIGURE 9-4:** In planned mixed use areas, parking and utilities should be located in the rear of the building, whether commercial or residential, to present the building façade to the street, which improves visual aesthetics and traffic circulation.

New development design should be based on a modified grid system, consisting of a simple and logical hierarchy of streets that contributes to the sense of place and helps orient people. Every lot should be afforded a reasonable means of ingress and egress for emergency vehicles and property access. No direct driveway access should be provided onto an existing or planned major collector street from a residential lot. Vehicles should be able to enter and exit without posing any substantial danger to themselves, pedestrians, or vehicles traveling on abutting streets. This includes interfering with the free and convenient flow of traffic on abutting or surrounding streets.

Alleys provide opportunities for parking in the rear of housing and contribute to the overall permeability of the road network. Alleys should be considered for all residential neighborhoods. Alleys provide rear access, rear utilities networks, and additional parking areas for commercial uses.

Streets should connect with surrounding streets to permit the convenient movement of traffic between neighborhoods or to facilitate access to neighborhoods by emergency service vehicles or for other sufficient reasons. The street layout should serve the needs of the neighborhood and discourage use by through traffic. At the same time, the layout should provide appropriate vehicular and pedestrian connections between residential neighborhoods and shopping and employment areas.

As shown in this example from the *Kennedyville Village Master Plan* (Kent County, Maryland), the street layout should present an attractive streetscape. An interesting streetscape for pedestrians encourages more people to walk. Buildings should front on the street. Structures, whether residential, commercial, or office, should form a continuous street edge, a vertical wall that contains the street and encloses space. In this regard, most streets need to be designed so that they are usable and frontable. The street layout should permit the safe, efficient, and orderly movement of traffic while meeting the multi-faceted needs of drivers, pedestrians and bicyclists. Street rights-of-way should be adequate to serve all functions including carrying motor vehicle, bicycle and pedestrian traffic, allowing on-street parking, and serving as a link in the town's drainage system.

When required, parking lots should consist of heavily landscaped small lot segments that are unobtrusive. In commercial areas, parking should consist of ample on-street parking and small lots located to the side or rear of buildings and screened from the main commercial street. Access to parking should be provided from rear driveways where possible. All parking lots should be screened from adjacent residential uses.

**BEFORE**

View of existing firehouse parking lot and open space from the north

**AFTER**

Street trees, sidewalks, and storefronts create an inviting downtown-like atmosphere as well as visual interest and sense

The design of circulation systems in all new developments should be consistent with the recommendations of this Comprehensive Plan. Proposed new streets should provide for the appropriate extension of existing streets and key links of planned collector roads. The street layout should respect natural features, should relate appropriately to the topography, and be designed to facilitate drainage and storm water runoff.

The design of residential streets should discourage motorists from traveling above the intended speed and reflect their function in the system hierarchy. In particular, horizontal and vertical alignment should not be conducive to excess speed. Residential streets will be designed to manage the speed and volume of traffic in residential neighborhoods using traffic calming methods that encourage speeds of 25 mph or less. Lower order streets should be less than 1/3 mile in length, so that motorists will have no incentive to speed.

Appropriate facilities for bicycles should be provided at key commercial, civic and recreation locations. To ensure this, the Town Zoning and Subdivision codes should be amended to require non-residential uses to provide bicycle storage/parking facilities to encourage and support this alternative mode of travel.

## DESIGN: "A BRIDGE" TO REGULATORY UPDATES

The Comprehensive Plan is the first step in outlining Town policies that will ultimately be reflected in Ridgely's regulations. The Comprehensive Plan provides the broad context with which all other plans will be developed. This includes more detailed development plans (master plans), design guidelines, transportation and infrastructure plans, etc. Detailed planning often follows the adoption of the Comprehensive Plan.

Ridgely's "Design Guidelines" are an important document, providing public and private entities and individuals alike with an illustrated guide for development and redevelopment expectations in the Town. Design guidelines form a conceptual bridge from planning to implementation. Generally, design policies are developed prior to updating Town ordinances because these guidelines establish a blueprint for future development.

**FIGURE 9-5:** The *Crisfield Strategic Revitalization Plan* followed the City's Comprehensive Plan, providing master planning for revitalizing the City's Uptown and Downtown areas. The Plan also includes an economic assessment and policy/regulatory analysis.

As shown in Figure 9-5, Crisfield, Maryland developed a "Strategic Revitalization Plan" following the adoption of its Comprehensive Plan to target specific areas of the City, which are deteriorating.[2] Preparing a strategic revitalization plan with a design component can assist in further defining the community's vision for new development and redevelopment. It also addresses key issues that may be impacting the community and stifling implementation, such as economics, housing, ineffective policies, inadequate regulations, etc. Developing a detailed plan for the community can provide more certainty for those seeking to invest and/or reinvest in a Town.

[2] *Crisfield Strategic Revitalization Plan*. Prepared by Peter Johnston & Associates, Thomas Point Associates, and John Moynahan Urban Design & Planning in coordination with the City of Crisfield, 2008.

# DEVELOPMENT REGULATIONS, STANDARDS, & GUIDELINES

In light of possible new development in the future, as well as infill and redevelopment in Ridgely, it is important to ensure that development codes and regulations guide development in a manner that is consistent with the recommendations of the Comprehensive Plan. This includes promoting place-making principles through good design practices. Significant attention and activity should be devoted to reviewing the various land use regulations in the Town. Currently, these regulations may be an impediment to the effective implementation of the policies expressed in this Plan.

At a minimum, the Zoning Ordinance should accomplish the following:

1. Promote, in accordance with present and future needs, the safety, morals, order, convenience, prosperity, and general welfare of the citizens of Ridgely, Maryland and its environs;
2. Provide for efficiency and economy in the process of development;
3. Require appropriate and best use practices for land, including convenience of traffic and circulation of people and goods, the use and occupancy of buildings, and convenient distribution of population;
4. Foster good civic design and arrangement; and
5. Ensure adequate public services, utilities, and facilities by regulating the location and use of buildings, structures, and land for trade, industry, and residence and regulating and limiting or determining the height and bulk of buildings and structures, the area of yards and other spaces, and the density of use.

## GENERAL RECOMMENDATIONS

### Design guidelines

The current *Ridgely Design Guidelines* should seek to achieve consistency with the goals and objectives of the Comprehensive Plan. Following adoption of the Comprehensive Plan by Ridgely, the Town should review and update its Design Guidelines. This includes incorporating the concepts expressed in the Plan as well as developing a program to ensure broad public involvement. One way to better determine design parameters and solicit community involvement is to prepare a detailed revitalization plan. This includes a designation of the community districts or areas to be examined, interaction with citizens and stakeholders to determine desires, an economic analysis of needs, and a policy and regulatory overview to provide specific actions for the Town.

### Zoning Regulations

The current Ridgely zoning regulations reflect efforts for zoning designations to match conditions, when they were established in years past and as they change in the present. These regulations should be thoroughly reviewed, updated, and potentially revised to ensure that compatible uses are created consistent with this Comprehensive Plan. Regulations also should ensure that growth and development is properly channeled into appropriate areas.

The specific zoning regulations that deal with lot size and setbacks should be examined to ensure encouragement of the type of village development appropriate to Ridgely. This also will ensure that property owners of existing buildings, rebuilding on small lots commonly found in the older sections of Town, are given the flexibility needed to accomplish infill and redevelopment. In consideration of the need to provide affordable housing, the zoning regulations should permit accessory dwellings, where appropriate and if infrastructure is available.

**Zoning for Commercial Uses**

Ridgely should develop design guidelines for commercial development. These should include the design of the building, landscaping, parking requirements, lighting, and signage. All such buildings should be compatible with the scale and character of the Town. Great care should be exercised to ensure that the entrances into Ridgely do not deteriorate into an unattractive strip of commercial uses and/or storage facilities. These "gateways" provide the first impressions of the Town to outsiders.

**Building Character**

The appearance and architectural character of new construction and renovation is a subject that warrants some discussion and guidance. While Ridgely has no intention to legislate style or taste, it recognizes a responsibility to guide the overall appearance of the built environment. Toward that end, the Town wants to ensure that additions to the community complement, blend with, and improve the general attractiveness and appearance of Ridgely.

New construction should take design inspiration from the forms and building masses that are prevalent in the area. Commercial buildings should retain as much of a residential "flavor" as feasible. This can be accomplished in ways such as breaking up the façade of larger buildings to give the appearance of smaller structures that are grouped together, including generous roof pitches (and avoiding flat roofs), and using window, door, and siding details that are similar to styles commonly found in residential construction. Parking should be screened, landscaped, lit with pedestrian scale lighting fixtures, and distributed around the sides and rear of commercial buildings. Ridgely does not want large parking lots that present a "sea of asphalt" in appearance. Shade trees and flowering shrubs should be combined with berms and evergreens to soften both building edges and parking areas.

**Landscape Standards**

Ridgely should revise its development codes to include appropriate landscape standards. The objective is to ensure that landscaping is used to accentuate the natural and built environment, establish visual connectivity and community identity, and provide environmental and public health benefits. Landscaping is more than just greenery because it is used to "dress up" a place. Landscaping should relate to the overall community structure and protect water quality. Trees will effectively delineate space, highlight focal points, and provide buffer and transitional elements in addition to providing shade. Landscape master plans should be required for all major developments.

## Environmental Protection

The Eight Visions for Maryland, as expressed in Article 66B of the Annotated Code, encourage stewardship of the land as a universal ethic. In addition, the Planning Act of 1992 requires the Town to adopt policies for the protection of sensitive environmental areas. The Zoning Ordinance should be reviewed to determine if standards meet expectations for stream buffers, non-tidal wetlands, steep slopes, erodible soils, and the habitats of threatened and endangered species, consistent with State law. In addition, the Town should encourage development design that maintains or enhances green infrastructure, incorporates low impact design through stormwater management techniques for water quality and quantity management. The Town also should encourage LEED (Leadership in Energy and Environmental Design) technology to promote sustainable building practices, conserve energy, and improve water and air quality.

## Historic Preservation

Article 66B of the Annotated Code of Maryland allows local jurisdictions to adopt a Historic District Ordinance and establish a Historic District Commission. The preservation of Ridgely's historic sites and structures is important, both from a community identity and economic perspective. Ridgely may wish to consider a locally-zoned historic district, which is an overlay on the existing zoning ordinance of a specified area. This district, legally allowed by Section 8.01 of Article 66B in the Annotated Code of Maryland, is designed to maintain the visual character of the community. It may allow an appointed Commission to monitor changes, alterations, and demolition of buildings and structures of architectural or historic significance. The main purpose of such zoning is to:

- Safeguard the heritage of Ridgely by preserving the areas of the town that reflect elements of its cultural, social, economic, political or architectural history.
- Stabilize or improve property values in such a District.
- Foster civic beauty.
- Strengthen the local economy.
- Utilize Historic Districts for the education, welfare, and pleasure of the residents of the county or municipal corporation.
- Prevent demolitions and incompatible alterations in a Historic Zone.

It is important to balance historic preservation with energy conservation. Recent Maryland laws call for a reduction in energy consumption, supporting the concepts of "green" construction materials and practical energy-saving methods. These laws should be harmonious with historic preservation initiatives. Not all historic structures require museum-like restoration. In fact, many historic structures serve utilitarian functions, being places for business or worship. Providing a flexible range for use is appropriate. Historic preservation for non-landmark sites and structures should be tempered with the integration of modern and compatible construction methods, particularly the integration of energy-saving materials.

Ridgely should determine which historic structures in Town should receive local landmark status. These structures are integral parts of the Town's identity and should be preserved in a state consistent with their historic character. The Town should review the present Zoning Ordinance, as it relates to historic preservation, and develop public guidelines of acceptable "green" construction materials and practices for non-landmark historic structures.

**Annexation**

Ridgely's long range growth plan identifies land outside of the corporate boundaries that is planned for annexation in the future. Future annexations must address State laws contained in Article 23A and the additional requirements from Maryland House Bill 1141. Although these properties are not needed to meet the Town's projected growth-related land demand to 2030, the Town has articulated several reasons in the Municipal Growth Element (MGE) of this Comprehensive Plan why annexation is important. As of October 1, 2009, all annexations must be consistent with the Town's MGE. At a minimum, annexations policies should include the following:

1. Require an "Annexation Agreement" be executed between landowner(s) and the Town;
2. Address potential impacts to community facilities and services through appropriate impact studies, including water and sewer, as well as environmentally sensitive areas;
3. Identify development funding responsibilities between identified parties;
4. Outline issues to be addressed in a Developers Rights and Responsibility Agreement (DRRA);
5. Require development form be consistent with the Ridgely Comprehensive Plan, i.e., compact development meeting smart growth density targets.

The long-term development policy for Ridgely strongly embraces the "Eight Visions" that comprise the State's Economic Growth, Resource Protection, and Planning Policy. Future development will be in accordance with the principles of Smart Growth. Consequently, the residential development expected in the future should be consistent with the density requirements of the State's Priority Funding Areas and the principles of Smart Growth in general. Development should be planned in a manner that makes efficient use of the land with runoff and other negative impacts minimized.

**Planned Unit Development (PUD)**

When large parcels of land are annexed, Ridgely should encourage communities that include a mix of uses, providing a full range of opportunities and services. To accomplish this end, the Town should review and update provisions for planned mixed-use communities in the zoning ordinance. PUD provisions apply to large vacant tracts in Town and to annexed land. The PUD ordinance should promote "smart neighborhoods," exhibiting the following characteristics:

- Integrated mix of uses, including residential, commercial, employment/office, civic, and open space;
- Range of housing types and densities;
- Compact design;

- Interconnected streets designed to balance the needs of all users, with sidewalks and on-street parking;
- Density and design of new development should be such that these developments support themselves financially;
- Open spaces integral to the community; and
- Location adjacent to and extending the fabric of existing development.

**Neighborhood Redevelopment & Revitalization**

The Comprehensive Plan identifies redevelopment areas where the Town wants to encourage appropriate infill and redevelopment. In order to enable this outcome, the Zoning Ordinance will need to include standards and guidelines for infill and redevelopment projects in these designated areas. This can be accomplished through the Town's "Infill & Redevelopment Overlay Zone" that allows the Ridgely Planning and Zoning Commission to judge the merit of a proposed infill or redevelopment project against design objectives and provide administrative relief for projects that meet established criteria. This Ordinance should be reviewed and updated as appropriate to achieve consistency with the Comprehensive Plan.

**Neighborhood Conservation**

The Comprehensive Plan identifies existing neighborhoods as areas in need of protection. The primary objectives for these areas involve maintaining the existing residential character of the neighborhoods and allowing compatible infill and redevelopment. Particular concerns that should be addressed through appropriate zoning standards and guidelines include:

- Connectivity – appropriate vehicular and pedestrian connections between on-site and off-site transportation systems.
- Circulation – consistency with the area wide vehicular and pedestrian circulation concepts of the Comprehensive Plan.
- Parking – flexible parking requirements.
- Compatibility – essential elements of compatible project design, e.g., design, pattern, alignment, size, and shape.

## SPECIFIC RECOMMENDATIONS

**Zoning Ordinance**

New zoning provisions should be created to implement the Land Use Plan, including the creation of zoning district standards for the following: Town Center Residential District, Central Business District; Neighborhood Residential District; Highway Commercial District; Business Employment District; Planned Unit Development (PUD) District; and Conservation District.

## 1) LAND USE PLANNING AREAS IN THE REGULATORY CONTEXT

### Town Center Residential District

Land Use & Regulation: Land uses in this Planning Area should be limited to detached single family residential and customary accessory uses. Conversion to multi-family use of residential buildings, not specifically designed and intended as multi-family structures, should not be allowed. Because of the historic importance of this Planning Area, the Town should consider adopting a local historic district or adequate local processes to address historic preservation and context sensitive infill and redevelopment. At a minimum, strict appearance and development standards should apply to infill and redevelopment.

The Town Center Planning Area is one of the chief economic assets of Ridgely. It supports the general health, safety, and welfare of the community. For this reason, streamlining current regulations and creating appropriate guidance can promote compatible design as well as reinvestment in the existing built environment. Regarding infrastructure, the Town should consider improvements that increase public access, expand public parking, and improve vehicular and pedestrian safety. Particularly, capital improvements should address issues related to pedestrian and traffic safety to ensure a pedestrian-friendly environment as well as adequate on and off-street parking. Capital investments should focus on infrastructure upgrades including water and sewer and utilities, as well as aesthetic enhancements.

Growth Management Strategy: The growth management strategy for the Town Center is to preserve single-family residential homes and strengthen attractiveness. It also includes the concept of extending the historic core's grid system for nearby planned development areas. This will provide cohesiveness and connectivity. Public investment within the Town Center will emphasize improvements to address traffic, pedestrian safety and circulation, parking, streetscape improvements and aesthetic features, public amenities, enhanced public access, and utilities.

Ridgely should discourage additional single-family home conversions to multi-family dwellings. In addition, the Town should encourage the conversion of existing apartment units back to single-family uses, where appropriate. This is designed, however, to encourage single-family occupancy and not to discourage their use as single- family rental units. Ridgely recognizes that a well-maintained and adequate supply of rental housing is an important asset that allows a diverse population to live within the Town. At the same time, Ridgely should make the conversion of single-family homes into owner-occupied "bed and breakfast" accommodations easier and more economically viable. Presently, there are no overnight hotel/motel or bed and breakfast beds available in the Town.

In order to promote economic development and strengthen revitalization in the Town Center, Ridgely should make it easier to convert existing single-family homes and multi-family housing to home-office uses or other low-intensity home-based businesses. Provisions also should be made for accessory apartments or "granny flats" to be used by family members thus making it easier for property owners to adapt their homes for use by related members of the family that require special care. However, such

accessory uses should not be used as a means of increasing the population density by using former "granny flats" for rental housing by non family members. Strict regulations should be applied to accessory dwellings.

A "Village Overlay Zone" for defined and older portions of the Town of Ridgely (Old Town Village) can provide local guidance and regulations in regards to development, redevelopment, adaptive reuse, and exterior alterations in the Town Center or to landmark historic sites and structures. The purpose and intent of any overlay zone and ordinance should be "to preserve the patterns of design and development within said Overlay Zone and ensure the preservation of a diversity of land uses, together with the protection of buildings, structures, or areas, the destruction or alteration of which would disrupt the existing scale and architectural character of the Town." The primary goals and objectives of any overlay zone should accomplish the following:

1. To create compact, identifiable neighborhoods with distinct yet compatible character to the rest of Town.
2. To integrate appropriate details in building design including protection of the village's architectural massing, composition and styles as well as neighborhood scale and character.
3. To encourage compatibility of new construction and structural alteration with the existing scale and character of surrounding properties.
4. To encourage existing types of land uses that reflect the mixture and diversity of uses that have historically existed in the community.
5. To preserve the village streetscape.

Applicability can include all new construction involving structural alterations and new structures on land in the designated overlay zone. Enforcement applies to new construction and alterations. In addition, it should stipulate that impacts to the street façade and any change of use should be reviewed for compliance by the Ridgely Planning Commission."

**Central Business District**

Land Use & Regulation: Development regulations for the CBD should be designed to achieve the following objectives:

1) Regulations should encourage and allow for a broad range of uses including businesses, retail sales, services, and offices in existing buildings.
2) Development standards for infill and redevelopment in this Planning Area should be flexible for new commercial, business retail, and service uses.
3) New single family uses should not be allowed, but at the same time, regulations should not unduly impede redevelopment of existing single family dwellings.
4) Residential apartments should only be permitted on the second and third floors of existing businesses.

5) Conversion of buildings into apartments should not be allowed, where it preempts first floor non-residential use.
6) New multi-family residential structures should not be allowed.

Accommodations such as country inns or bed and breakfasts may be permitted as an adaptive reuse of existing buildings. Infill and redevelopment standards, including height, lot area, and yard requirements should be flexible to encourage appropriate infill and redevelopment. Parking standards also must take into account nearby public parking and allow for alternative parking solutions such a satellite and shared parking arrangements.

Development standards should encourage infill and redevelopment of vacant and underutilized sites to maintain an attractive diversity but also ensure compatibility with adjacent land uses. This includes utilizing the concepts of adaptive reuse for existing structures and context sensitive infill and redevelopment for vacant and underutilized sites. Adaptive reuse and infill and redevelopment standards will be prepared mindful of the need to find an appropriate balance between historic preservation and sustainable energy and environmental protection policies.

The CBD is the chief economic asset of Ridgely. For this reason, streamlining current regulations, creating flexible development standards, and providing appropriate guidance can promote compatible design as well as reinvestment in the existing built environment. The Town should consider infrastructure improvements to increase public access, expand parking, and improve vehicular/pedestrian safety. Capital improvements should address issues related to safety to ensure a pedestrian-friendly environment and on and off-street parking.

Growth Management Strategy: Much like the adjacent Town Center, it is Ridgely's intent to promote the Central Business District as the primary location for community activity and to strengthen its role as a major determinant of the Town's identity. The growth management strategy for the CBD is to accommodate existing single-family residential homes, while strengthening and promoting neighborhood commercial uses. Public investment will emphasize improvements to address traffic, pedestrian safety and circulation, parking, streetscape improvements and aesthetic features, public amenities, and enhanced public access. Capital investments should focus on infrastructure upgrades including water and sewer and utilities upgrades.

An additional growth management strategy for the CBD is to support and promote neighborhood commercial uses. Historically, the CBD has been the primary location for commercial uses catering to residents and visitors. The purpose of this Planning Area is to protect the downtown business district by preserving the historic character and ensuring it continues to function as a center of commerce. This includes actions for the continued viability of the CBD as a pedestrian-oriented commercial center.
Ridgely should support retention of existing commercial uses and buildings as well as limiting the conversion of existing commercial structures to non-commercial uses. If residential conversion occurs, it should be relegated to second and third story areas only, maintaining the first floor for commercial use.

Design objectives and incentive-based processes can assist to maintain and/or enhance the existing architectural character.

Parking is always a prime consideration within commercial areas. Currently, on-street parking is the primary method used within this planning area. When the existing commercial properties were historically constructed, off-street parking was not a requirement or a necessity because of the smaller number of automobiles in private hands. However, it is a pressing concern in most communities and it will be in Ridgely in the years to come.

Currently, only a few businesses have enough land to provide off-street parking. As commercial development continues within the CBD, every effort should be made to provide for a mix of on-street and off-street parking. However, Ridgely should not encourage the removal of buildings for the creation of off-street parking. Rather, creative solutions should be sought through the use of flexible zoning regulations that encourage the use of on-street parking for customers and rear lot off-street parking for owners and employees. Because many of the existing lots within the CBD are very deep and the buildings tend to be closer to the street, there is usually ample room for off-street parking in the rear of lots, which are accessible through the well-developed alley system that exists in the Town.

Past public efforts have been made to revitalize and protect the businesses and buildings within the CBD. They have included sidewalk replacement, financial incentives arranged through the State of Maryland, and local enforcement of building codes and other regulations to ensure buildings are maintained and in good condition. Ridgely should encourage owner and investor interest in the CBD and work with property and business owners to plan organized and well-planned revitalization efforts. This might include street furniture improvements, improved trash removal and cleanup efforts, design guidelines specifically for commercial building construction and improvement, signage, and an owners' associations or voluntary booster groups for common advertising and promotions.

Ridgely should participate in government/regional incentives to promote business development and encourage new commercial entities and service providers to locate in Ridgely. Therefore, it is the intent of the Town to work with local and potential merchants to examine ways in which the Town can promote and enhance businesses in the CBD. This includes the visual character of the street-front along Central Avenue (Main Street) and Railway Street. Providing for linkages to other Town Planning Areas in order to make the CBD accessible to all residents is important. This is particularly true of the proposed Ridgely Park development just north of the CBD.

**Neighborhood Residential District**

Land Use & Regulation: Regulations for the Neighborhood Conservation Planning Area should provide for single-family detached and semi-detached residences and supporting uses. It also is intended to provide for the minor infill of neighborhoods, consistent with existing character. This Planning Area includes some vacant properties that could be candidate sites for infill and/or redevelopment projects.

Zoning for these areas should address the need to protect existing residential areas from incompatible uses and activities. Design guidelines should encourage small building footprints, such as a preference for 2 story dwellings with similar architectural features to surrounding land uses. In order to promote infill and redevelopment, the Town will need to review current zoning and eliminate impediments to infill and redevelopment projects.

Growth Management Strategy: The growth management strategy for this Planning Area is the preservation and retention of the existing single-family homes as well as support for existing land use patterns. As much as possible, Ridgely should discourage additional single-family home conversions to multi-family and should encourage the conversion of the existing apartment units back to single-family use. This is designed to encourage single-family occupancy and promote neighborhood stability.

The growth management strategy also includes the concept of extending the Town's historic grid system for neighboring planned development areas to create connectivity. This will provide cohesiveness with neighborhood conservation areas. Public investment will emphasize improvements to address traffic, pedestrian safety and circulation, parking, streetscape improvements and aesthetic features, public amenities, enhanced public access, and utilities.

Ridgely should make it easier to convert existing single-family homes to home-office uses and other low-intensity home-based businesses. Provisions also should be made for accessory apartments or "granny flats" to be used by family members thus making it easier for property owners to adapt their homes for use by related members of the family that require special care. However, such accessory uses should not be used as a means of increasing the population density within this area by using former "granny flats" for rental housing by non family members. Strict regulations should be applied to ensure that accessory dwellings are used by family members only.

Preserving existing land use patterns also includes supporting public facilities and services in this Planning Area. The government service function is that land used by the Ridgely Elementary School and operated by Caroline County. School children from Ridgely who attend public schools are assigned to this school. In recent years, this school complex has been expanded because of increased enrollment. It is likely that Caroline County will be required to enlarge the school in the future. Ridgely should cooperate in the expansion of the school within the guidelines of this Comprehensive Plan and other regulations and policies of the Town.

**Highway Commercial District**

Land Use & Regulation: Regulations for this Planning Area should protect existing commercial uses and business employment, while also allowing for the planned expansion of such uses for infill and redevelopment sites. Uses should be confined to service oriented commercial uses. Industrial and high-intensity commercial uses should not be permitted due the Planning Area's location, direct proximity to the Town Center and other residential neighborhood areas.

The Town should consider establishing a highway corridor overlay zone that includes appropriate development standards and design guidelines. These would be applicable to new and existing commercial uses. Development standards and design guidelines should address things such as access management, road buffers and landscaping, signage, parking and lighting etc. These special development design standards are appropriate for regulating highway uses and should be developed to ensure that public concerns are adequately addressed for safety, access, and appearance.

As a primary gateway to Ridgely, the Town should require appropriate signage and landscape buffers between businesses and MD Rt. 480 to improve the visual character along the corridor. Improving the appearance and attractiveness of this Planning Area is important. The addition of landscaping and buffer requirements, appropriate architectural design guidelines, and improved site plan submission requirements and review guidelines, will assist to accomplish these objectives. Consideration of improved signage and lighting in commercial areas also should be addressed.

Growth Management Strategy: The growth management strategy for the Highway Commercial Planning Area is to promote general and business commercial uses. Commercial and business uses locate here to take advantage of the highway frontage and exposure on MD Rt. 480. Such uses typically serve regional markets as well as providing services for motorists. Special design considerations include visual impacts on the Town's primary gateways from east to west and north to south, traffic operations and safety, and protecting adjacent residential neighborhoods.

Commercial uses in this Planning Area should avoid adverse impacts to existing and future residential neighborhoods. Much of this mitigation can be accomplished with good design. Design standards or guidelines should be developed to enhance landscaping, buffering, lighting, signage, and architecture. Improving the visual corridor along MD Rt. 480 is important because it is the primary entrance and exit to and from the Town Ridgely. Given the location of existing residential neighborhoods, and the Town's emphasis on protecting existing character, Ridgely should pay special attention to the potential impact of regional commercial development on local traffic circulation (positive and negative), visual impressions at gateways, and the potential cost and benefits of such uses to the Town.

**Business Employment District**

Land Use & Regulation: The Planning Area is principally suited for either industrial or intensive commercial uses. This area is important for Ridgely's economic future. The existing industrial operations provide needed employment for residents and revenue for the Town. This area also has the potential to provide some services to the community. One of those services is a proposed fire station and community facility. Both of those uses should be encouraged. However, the Town should have sufficient flexibility to accommodate intensive commercial or industrial uses within this Planning Area.
Buffers should be employed to safeguard different land uses. If mixed uses continue in this Planning Area, adequate buffer areas must be created to separate each use and to ensure that one use does not hamper the development of other uses and activities. Development regulations for the Planning Area should permit a broad range of light industrial and business uses. Incentives should encourage

development as planned business parks or planned redevelopment for infill and redevelopment sites. This will ensure good design and appropriate safeguards.

If commercial or industrial uses are proposed for the vacant land in this Planning Area, a careful analysis of minimum lot size and setbacks should be considered by the Planning Commission and Town Commissioners. The analysis should be flexible to allow for the highest and best use of property so that future enjoyment by property owners, and Ridgely residents, is not harmed.

Growth Management Strategy: Much of this Planning Area, located along West Bell Street in Ridgely, has existing commercial and industrial establishments. This includes the main offices and buildings of Hanover Foods, a local produce canning company. However, several properties in this Planning Area are vacant and underutilized. These properties are prime candidates for planned infill and redevelopment. Providing appropriate access for this Planning Area will be a challenge. Alternative access routes that eliminate the need for truck traffic in the Town Center are needed but will likely require State approvals, coordination with Caroline County, and major capital infrastructure investment.

The development of vacant and underutilized properties in the Planning Area presents an opportunity to increase local employment within the Town, while also improving appearance. It is adjacent to the Town's planned Rails-to-Trails system (Greenway). This Greenway runs the length of the Town from east to west. It links the old railroad corridor to the Town Center and Central Business District. Ridgely is already initiating improvements along the Greenway for resident and visitor enjoyment, including landscaping and restoration of an old railroad station, post office, and railroad car for site attractions. Eventually, trail plans include connecting this system from Ridgely to Bell Road in Caroline County. In turn, this will connect to Crouse Mill Road, Sawmill Road, and Eveland Road, linking Ridgely to Tuckahoe State Park and Adkins Arboretum.

The amenities offered by such as connection, to residents and visitors alike, is a tremendous economic boon for Ridgely. In addition, this connection provides unique amenities to attract investment and boost property values. Special design considerations should be considered along this corridor. These primarily include visual impacts on the Greenway from east to west. They also include traffic and pedestrian safety in relation to the Greenway.

Commercial and industrial uses in this Planning Area should avoid adverse impacts to the Greenway. Therefore, attractive streetscaping along this corridor is critical. Mitigation can be accomplished with good design. Design standards or guidelines should be developed to enhance landscaping, buffering, lighting, signage, and architecture for commercial and industrial street facades. Improving the visual corridor along the Greenway is important because it is a unique and valuable amenity to Ridgely. Much like the Highway Commercial Planning Area, Ridgely should pay special attention to the potential impact of regional commercial and industrial development on local traffic circulation (positive and negative) and visual impressions to and from the Greenway.

Development of the Ridgely Airport and Business Technology Park, to the north of Town along MD Rt. 312, presents a unique opportunity for Ridgely and Caroline County. The Business Technology Park project is funded by the Maryland Department of Business and Economic Development. The Airport project is being funded by the Federal Aviation Administration.

Major investments have occurred in both projects and represent long-term economic development engines. The Airport is a County transportation hub that has the potential to further regional economic development initiatives. The Business Technology Park is closely linked to the Ridgely Airport as an adjacent site. The Business Technology Park has the potential to provide higher wage jobs in technology or satellite governmental industries for local residents. It also allows them to work closer to home.

An important component to support the Business Technology Park, and ensure its long-term viability, is the potential subdivision and development of the McNomee Farm. Currently, a residential development of approximately 400 dwelling units is proposed for this site, Ridgely Park. This area is indicated in the Land Use Plan for a mixed use/planned neighborhood development. It is the desire of the Town that the housing options provided by such a development and the public amenities generally offered in Ridgely will attract investors, new businesses, and new residents. In addition, development will assist the Town in upgrading its infrastructure, primarily water and sewer. This is needed to serve residential and commercial/industrial development alike in the Town. This includes the Business Technology Park.

**Planned Unit Development District**

Land Use & Regulations: Regulations should facilitate planned development as opposed to by-right zoning. Development in this Planning Area, and on any significant addition to the Town, should be based on principles of urban design inherent in all great places. Urban design is directly related to the community character. Urban design is the attempt to give form, in terms of function and beauty, to entire areas or whole towns or cities. The focus is on the massing and organization of buildings and on the spaces between them, rather than on the design of individual structures. Its principle features are:

1) Neighborhoods have a center and edge;
2) Walkable—usually five-minutes from center to edge;
3) Contain a mix of uses and building types;
4) Have an integrated street network; and
5) Reserve special sites for special buildings.

It is Ridgely's intent that new large-scale developments become linked and integral parts of the existing Town, reflecting the scale and character of the existing community. This can be best accomplished by establishing a flexible design process based on traditional place making principles. These include:

- Neighborhoods accommodate and promote pedestrian travel equally as much as motor vehicle trips;
- Design results in residentially scaled buildings fronting on, and generally aligned with, streets;

- ❖ Neighborhoods contain a diversity of household types, age groups, and income levels;
- ❖ Building and site development patterns reflect the traditional patterns found in the Town, including an interconnected and rectilinear pattern of streets and blocks, which balance the needs of pedestrians and automobiles alike;
- ❖ Neighborhoods are functionally diverse, but visually unified, and focused on central squares;
- ❖ Social interaction is promoted through the use of neighborhood greens, landscaped streets, boulevards, and "single-loaded" parkways woven into street and block patterns to provide space for civic activity, parks, and visual enjoyment;
- ❖ Buildings for civic or religious assembly or for other common or institutional purposes that act as visual landmarks and symbols of identity are provided;
- ❖ Open space, sensitive environmental systems, scenic vistas, and natural areas are preserved; and
- ❖ Design flexibility is permitted in order to achieve an appropriate mix of residential and non-residential building uses.

Development standards for this Planning Area should provide for a master planned development process. Some specifications may include the following:

1) Allow density of up to 3 dwelling units per net acre for a Planned Development.
2) Require a minimum of 20 percent open space.
3) Development standards that reflect development capacity limitations, where present.
4) Require accounting for the Conservation Planning Area, as shown on Map 2-3 below (Conservation Areas may not be counted against minimum open space requirement).

Growth Management Strategy: The growth management strategy for this Planning Area is to extend the historic development patterns evident in the Town. Many areas for planned development are located near the Town Center and Neighborhood Conservation Areas. Therefore, the basic Ridgely street grid pattern and its alley system should be extended into these areas, where appropriate and as development occurs.

The land that is not used for residential housing in this Planning Area, as a result of cluster and/or traditional neighborhood development, should be devoted to either active or passive recreational use. Every effort should be made to provide for open space and recreational uses for any new developments proposed in this Planning Area. Mixed uses, including low-intensity commercial development, can be permitted. However, commercial uses should not be out of scale with the requirements of the residents of Ridgely. It should rather be scaled appropriately for surrounding residential neighborhoods.

**Public & Semi-Public Land**

Land Use & Regulation: A large portion of the land in this Planning Area is used as part of the spray fields for the Town's sewage treatment system. Because much of this area is not directly tied to the Town Center, this land can be used for a variety of agricultural, residential, and recreational uses. There is no direct encouragement to convert agricultural land into residential uses. If residential development does

occur, both cluster and traditional single-family housing are appropriate uses. In addition, because this area is not directly tied into the existing street pattern, there is no requirement to develop a grid system or an alley system as part of residential development. Strip development along Cow Barn Road should be discouraged. Regulations for the Town Expansion Planning Area should protect existing uses.

Growth Management Strategy: The growth management strategy for this Planning Area is to continue to provide services and facilities to the public. This includes those services and facilities for recreation as well as those connected to protecting the public health, safety, and welfare. Protecting environmentally sensitive areas also is important. This includes properties owned by the public that are heavily forested and may indicate the presence of non-tidal wetlands.

Much of the land in this Planning Area is owned by the Town of Ridgely or some other public/semi-public entity. This includes land used by the Town for the spray application of wastewater effluent. A portion of land in this Planning Area, along Cow Barn Road, is a Little League Park and a major County/Town recreational facility. Because of the proximity of the Town's wastewater treatment plant, care must be exercised in permitting residential development in this particular area.

Ridgely should seek to consolidate lands used for the spray irrigation of wastewater effluent under Town control. This includes annexing the current wastewater treatment site and spray irrigation lands outside, but adjacent to, the Town's existing corporate boundaries. This will allow the Town greater control and oversight regarding such lands. It also could facilitate processes associated with water and sewer at the County and State levels.

A variety of parks and open space should be provided as public land. Parks and open space are a purposeful component of design and should be prominently displayed. Special views and vistas should be framed or enhanced. Greens or commons should be located in each neighborhood to function as community gathering areas. Dignified or classical parks can complement civic architecture.

Parks should serve the active and passive recreation needs of Town residents. Parks should be located within easy walking distance (500 feet to 800 feet) of every residence. Parks and open space should be linked together by walking paths to the maximum extent possible. In all cases parks should be easily accessible and highly visible. Ideally, neighborhood parks or greens will be fronted on at least two sides by residential units so that residents can clearly see park activities.

The design of parks should respond to user needs. As a general rule, park design should adhere to the following principles:

- Everything should have an identified purpose;
- Design must be for "people", not a simple application of standards;
- Both function and aesthetics must be satisfied;
- Nothing should be randomly placed;
- Satisfy the technical requirements, e.g., for play fields, ball courts, etc.

- Use the most cost efficient design; and
- Provide for ease of use and supervision.

Current park facilities are adequate in Ridgely to serve the needs of the existing population. New developments should be required to provide a variety of park and open space facilities to address the needs of the new neighborhoods or a fee in lieu for existing park maintenance, if parks are available to new residents nearby. Parks will range from small, vest-pocket parks located within the neighborhoods to larger community parks serving all Town residents, as deemed appropriate. In this regard, regulatory open space requirements should be reviewed and, if necessary, updated/enhanced.

**Conservation District**

Land Use & Regulation: The Conservation District is a natural resource protection overlay zone based on existing drainage patterns and proximity to nearby sensitive areas. This includes sensitive environmental features such as forests and sensitive species habitat, wetlands, streams and buffers, etc. The purpose of the district is to protect water quality and sensitive environmental areas in the Ridgely area.

The Town should encourage policies and regulations that maintain or enhance its "green infrastructure" as an important component of local ecological functions. In addition, Ridgely should encourage Caroline County to promote the preservation of green infrastructure in the County, not only for environmental protection, but also to provide separation between urban/suburban and rural areas.

The district should be used to implement a no net forest loss policy. Within the district only low intensity uses (including very low density residential use) that maintain the forest cover and protect sensitive environmental features will be permitted. Non-contiguous density transfer can be allowed for properties under single ownership.

Growth Management Strategy: The use of flexible development regulations to promote innovative and environmentally friendly site design is important for maintaining aesthetic, scenic, and ecologically important community features. In addition, conservation design techniques for development are critical for preserving precious resources. The core concept of the Conservation District centers on buffering sensitive environmental areas and clustering development in higher density patterns. Buffering is an important component of development design. When integrated with clustering, it produces an effective combination. Buffering provides numerous environmental benefits as well as aesthetic ones.

## 2) ZONING MAP

The Town's Official Zoning Map should be updated to reflect current corporate boundaries. The Official Zoning Map also should be updated to reflect the policy direction of this Comprehensive Plan, following review and updates to the Zoning Ordinance. GIS digitization will allow for the copying of existing hard copy maps to a computerized format, which provides a ready and reliable source for reproduction, security, and storage. This process has largely replaced traditional mapping production methods.

### 3) ZONING PROVISIONS

Specific zoning provisions should be updated to simplify the Zoning Ordinance and improve current processes and procedures. These include, but may not be limited to, the following:

Height Area & Bulk Requirements: Zoning standards for such things as minimum lot size, building setbacks and maximum height should be examined to ensure they are not an impediment to appropriate infill and redevelopment. Special infill zoning provisions that create incentives for context-sensitive infill and redevelopment should be included in the Zoning Ordinance. This will ensure that property owners of existing buildings rebuilding on small lots can be given the flexibility needed to accomplish infill and redevelopment.

Subdivision Checklist: Ridgely should include a detailed subdivision process and checklist. This will assist with administrative review as well as clearly defining roles and responsibilities.

Table of Permitted Uses: Ridgely should include a "Table of Permitted Uses" in the Zoning Ordinance. This will codify accepted and permissible uses from those that require further process, such as special exceptions, in an easy to understand tabular format. A thorough review of uses in the Town is suggested.

Reference Table: Include a "Reference Table" for lot size/area and minimum setback requirements to assist developers, homeowners, and Town staff and officials.

Sensitive Areas Protection Standards: The Town's emphasis on protecting natural resources supports a pro-active approach to managing sensitive environmental features. The following protection standards should be added to the Zoning Ordinance to achieve the Town's objectives in this regard:

1. Require stream buffers of at least 100-foot wide naturally-vegetated areas on either side of streams, wherever possible. Where this buffer adjoins sensitive soils (e.g., hydric soils) it should be expanded.
2. Adopt additional standards to protect identified Federal Interior Dwelling Species (FIDS) habitat. This may include adoption of a natural resource protection overlay zone that strictly limits clearing of forest cover and only permits very low density residential development (e.g. one dwelling unit per 25 acres).

Landscape Standards: The Town's landscape objective is to ensure that landscaping is used to accentuate the natural and built environment, establish visual connectivity, enhance community identity, and provide environmental and public health benefits. Landscaping should be used to effectively delineate space, highlight focal points, and provide buffer and transitional elements in addition to providing shade.

Ridgely should revise its development codes to establish appropriate landscape performance standards. Minimum landscape standards should be established for all land uses and include bufferyard standards between zoning districts of conflicting intensity, parking lot and perimeters landscape standards, street tree requirements, and special landscape treatment at gateway locations.

## SUBDIVISION REGULATIONS

The current *Ridgely Subdivision Regulations* do not adequately prepare the Town for growth. Ridgely should review its subdivision regulations to ensure that its provisions are consistent with the objectives outlined in this Comprehensive Plan. Among other things, the Town should review development standards for roads and streets to ensure that new impervious surfaces are minimized and consistent with the policy objectives of the Plan. In addition, traffic calming measures are important, particularly for residential neighborhoods. Traffic calming measures should be a basic design requirement.

Ridgely also should review current subdivision regulations for their impact on the character of the existing community. In addition to infrastructure requirements, any new and large scale development should not follow a sprawling, suburban development pattern. Therefore, the Town should encourage developments that are extensions of the existing built environment and not developments that do not match the scale and character of Ridgely.

An essential part of the subdivision regulations should be that the owners and developers of all new subdivisions be required to post surety for the proper and timely construction of all water and sewer systems, fire protection systems, all roads and sidewalks, and all other necessary and required improvements. Surety also should be posted for the appropriate completion of any other public feature or amenity that might be proposed by developers. This might include such things as recreational facilities, community halls, street lighting, and street furniture. The developers should be required to post bonds for the successful and timely completion of all buildings started in a development.

## BUILDING CODES

If Ridgely has not already adopted the *2000 International Building Code*, it should do so. As part of the enforcement of building codes, the Town's building inspector views the exterior of each property and develops a list of those properties that require remediation. Those that have obvious and major defects are noted and their property owners are given a written listing of deficiencies.

Property owners are thus given an appropriate time limit within which to make the necessary repairs. If a property is too deteriorated that it causes a danger to the health and safety of the community and a hazard of residents, the Town can initiate condemnation proceedings against the property owner as provided in the building codes and by Maryland law and civil procedure.

## CAPITAL IMPROVEMENTS

Ridgely should prepare a five and ten-year plan for capital improvements or "Capital Improvement Program (CIP)," which can be used by various administrative departments of the Town's government or for the general benefit of the community. The CIP should identify needs, provide a justification for purchase or construction, and identify the sources of funds that will be used to pay for the project or item. The CIP should allow for alteration of the plan to meet changing needs.

## ADEQUATE FACILITIES PROVISIONS

As a primary policy, Ridgely should ensure that there is adequate water and sewer capacity for infill, redevelopment, and new development in the existing corporate boundaries of the Town. The Town also should ensure that there are sufficient roads and other infrastructure needs available for development. If the Town determines that it does not have adequate facilities for development, it should explore methods to acquire the needed facilities. Chief among the options available is to require that the owners of proposed development areas provide sufficient funds to build such required facilities.

Updating the Town's Capital Improvement Program-CIP, preparing infrastructure studies (including water and sewer plans), and developing an impact fee structure are all critical. These are particularly important prior to the annexation of any new land outside current corporate boundaries for development.

Public Water & Sewer: Currently, Ridgely controls its own water and wastewater system. Water and sewer system upgrades are important to serve infill and redevelopment areas as well as any potential new development in the future. As indicated by the "Future Population Projections" contained in the Municipal Growth Element of this Comprehensive Plan, there is every reasonable expectation the population of the community will increase. Maryland regulations and policies have been adopted to encourage development in and around existing communities with adequate infrastructure and the capacity to support new projects (Smart Growth).

An important recommendation is achieving effective inter-jurisdictional coordination with Caroline County and State entities responsible for water and sewer processes and regulatory oversight. Ridgely should prepare a Water and Wastewater Capacity Management Plan in conjunction with the Town's Capital Improvement Plan to determine needs, review infrastructure, recommend necessary upgrades, and detail associated costs. Water and wastewater capacity management plans are updated regularly. The development of official sewer allocation policies for the Town can assist with administrative and review processes.

Stormwater Management: Ridgely should periodically review and update stormwater management regulations to incorporate new techniques and requirements. In addition, Ridgely should vigorously enforce its Stormwater Management Ordinance.

# ADMINISTRATION & ENFORCEMENT

## STREAMLINING THE DEVELOPMENT REVIEW PROCESS

Development review of infill and redevelopment projects within the old town portions of Ridgely should be streamlined by amending the Zoning Ordinance to give the Town Planning and Zoning Commission greater authority to vary certain development standards for proposed projects that meet voluntary design guidelines.

## INNOVATIVE DEVELOPMENT TECHNIQUES

The Town's planned unit development provisions within the Zoning ordinance should be reviewed to ensure consistency with the Comprehensive Plan. Any amendments to the Zoning Ordinance should add special provisions for planned developments. Standards and guidelines should establish a development and design framework for mixed-use projects, including commercial and business uses appropriate to a neighborhood context. The process also should include a requirement that a "Developer Rights and Responsibilities Agreement" (DRRA) is executed as part of the zoning approval process.

## COMPREHENSIVE PLAN UPDATES

The ability of a municipal government to develop comprehensive plans and land-use regulations are based on the laws of the State of Maryland and on the specific charter and ordinances passed by the Town. This Comprehensive Plan provides a guide for the management of Ridgely and should be followed by the Town government.

The Ridgely Planning and Zoning Commission, appointed by the Town Commissioners, is charged with ensuring that this Plan is followed. The Planning and Zoning Commission advises the Town Commissioners on changes that might need to be made to the Comprehensive Plan and its implementing regulations over the Plan's life. The Comprehensive Plan is not a document that should remain "on the shelf." Copies should be provided to all members of the Planning and Zoning Commission and the Town Commissioners; as well as all employees and consultants that have responsibilities governed by the Comprehensive Plan.

The Planning and Zoning Commission should also review the Plan every year to determine if implementation programs are making progress towards Plan goals. The Comprehensive Plan should be reviewed at six-year intervals to ensure that it still reflects and satisfies the needs of the Town and the citizens. The yearly review and the six-year review should be done as part of regular Planning and Zoning Commission meetings and as part of a public hearing on the Comprehensive Plan to ensure that appropriate citizen input is provided.

Because the central role of the Planning and Zoning Commission is guiding growth, development, and revitalization, it is important that it be composed of residents of the community. The Planning and

Zoning Commission should be kept at full strength at all times and the Town should ensure that they remain current with changing State laws and policies, with Caroline County's laws and regulations, and with the management of Ridgely, providing the proper advice and guidance.

In addition, The Planning and Zoning Commission should have at least the following responsibilities:

- Maintain a current and accurate Comprehensive Plan and enforcement regulations;
- Review all decisions made by both Ridgely and other agencies that might affect the Town, the Comprehensive Plan, zoning regulations, subdivision ordinances, land-use regulations and guidance, and the future direction of the Town and its government and governance;
- Review and act on all requests for subdivision and other land-use change requests;
- Review and recommend changes on all revisions to the Ridgely Zoning Ordinance and associated maps;
- Assist the Town Commissioners in the development of a Capital Improvements Program-CIP;
- Activate and participate in all programs and recommendations in the Comprehensive Plan and in other regulations, ordinances, and resolutions that fall into areas of responsibility;
- Complete other tasks and responsibilities that might be assigned to it by the Town Commissioners; and
- Recommend changes to the Comprehensive Plan, zoning regulations, subdivision ordinances, and other land-use policies, regulations, and guidance.

## HERITAGE PRESERVATION

Implementation recommendations for heritage resources are designed to assist Ridgely in preserving significant resources. Recommendations also assist the Town in developing broad strategies to enhance resources and promote compatible economic initiatives that benefit the Ridgely's tax base. Several conceptual actions are listed below. The ultimate purpose of these various proposed planning initiatives is to provide enhanced access to State and federal funds for heritage preservation and tourism as well as the improvement of the Town's aesthetic appearance.

### LOCAL HERITAGE PRESERVATION INITIATIVES

Heritage preservation in Ridgely is important because historic sites and structures are valuable resources. Of particular importance are those "landmark" historic sites and structures that define the core of Ridgely. Documenting, listing, and mapping these sites and structures will assist the Town in its preservation goals and objectives. In addition, a wide variety of tools/mechanisms should be developed at the local level to ensure the preservation of these sites and structures including the following:

- Assisting property owners to access State programs that provide or may provide grants, loans, tax credits etc. for historic preservation.
- Accessing local entities, programs, and funding for heritage preservation and tourism initiatives.
- Developing local implementation tools, such as Façade Easements, flexible regulations, adaptive reuse provisions, etc. to promote investment in historic sites and structures.
- Working with the Caroline County Historical Society to preserve historic sites and structures.
- Considering a Historic District Ordinance and Historic District Zoning District for Ridgely.

At the municipal level, the Town should continue to build heritage tourism attractions thereby building the local economy and assisting in the enhancement of existing resources. The Victorian architecture of Ridgely is a commodity. The Town should seek ways to ensure that the architecture found along Town streets in the Old Village (Town Center and Central Business District) is maintained and preserved as a valuable economic asset.

The development of planning policies and regulatory mechanisms, including Design Guidelines, will assist in the preservation of heritage resources. Another example of enhancing heritage resources is to encourage the protection and rehabilitation of historic homes and buildings by evaluating the use of an "Enterprise Fund" in combination with "Rehabilitation Tax Incentives." An Enterprise Fund can be established and paid for by new development or public/private partnerships. Funding initiatives also include working with the Maryland Department of Housing and Community Development, the Maryland Historical Trust, and the National Trust for Historic Preservation to obtain financial support for rehabilitation.

An Enterprise Fund can be used to provide low interest loans or grants to homeowners and business owners for necessary property and infrastructure improvements, such as restoration, renovation for adaptive reuse, or sidewalks. In combination with Historic Tax Credits available from the MHT, the Enterprise Fund can provide an effective mechanism for revitalization. Many tools exist to assist heritage preservation efforts and should be researched to determine which tools are best suited for Ridgely.

### HERITAGE PRESERVATION PLANNING

Ridgely should consider developing a municipal "Historic Preservation Plan" that provides specific goals, objectives, and recommendations for the preservation of historic sites and structures. This Plan is important because it examines detailed strategies for heritage preservation as well as which tools, programs, funding etc. may be best suited accomplish these tasks. The preparation of a Historic Preservation Plan will assist in the inventorying, mapping, and documenting of key resources such as critical landmark sites and structures and those that are secondary contributing resources (those resources that do not require stricter appearance standards).

As part of this process the Maryland Historical Trust's *Inventory of Historic Sites and Structures for Caroline County* (1979/1980) should be updated to include buildings in the Town that may have been demolished or altered since the survey was first prepared (a snapshot of the Town's current state in relation to its heritage resources). In addition, resources should be mapped into the Town's Geographic Information System (GIS) and over-layered on the Caroline County aerial files. This includes the updating of the digital database inventory.

The Maryland Historical Trust (MHT) provides grant funding for non-capital projects that include planning and outreach. In addition, a host of federal and non-profit foundation funds are available for planning projects as noted on the MHT website.

### REGULATORY MECHANISMS FOR HERITAGE PRESERVATION

Design Guidelines form a bridge between planning and regulation. Following the preparation of a Historic Preservation Plan, the development of "Design Guidelines" specifically for the Historic District can assist with appearance standards for new development, infill, and redevelopment. Updating regulatory mechanisms is encouraged including the adoption of building maintenance codes, stronger enforcement, and an assessment of the role of the Planning Commission in the Town's regulatory processes. Administrative enhancements also may be required to provide flexibility, innovation, and incentives. This could include an examination of whether a Historic District Ordinance and Commission are desired by Town residents or whether such duties can be effectively administered by the Planning Commission.

The adoption of zoning provisions that promote the adaptive reuse of historic structures for public and private uses is important. These include, but are not limited to, bed and breakfast establishments, craft/gift shops, small retail operations, cafes and restaurants, museums, and studio space for artisans, when such uses minimize exterior structural alterations. Heritage preservation should be balanced with energy conservation, allowing secondary contributing structures to integrate energy efficient building materials that still maintain a historic "look and feel." In addition, heritage preservation works best at the local level when regulations and associated processes are flexible enough to allow a meaningful dialogue between property owners and the municipal government.

### INFRASTRUCTURE IMPROVEMENTS THAT PROMOTE HERITAGE TOURISM

Ridgely should improve its infrastructure in the Town Center and Central Business District to promote a walkable and compact community. This includes sidewalks, period street lighting, greenways, street furniture, etc. Heritage area certification provides increased access to State funding through the Maryland Department of Transportation for infrastructure initiatives, such as the "Main Street and Neighborhood Conservation Program." This includes funding for parking, enhanced connectivity to public spaces, improved curb, sidewalk, and gutter systems, trail connections, as well as street lighting and street tree plantings and maintenance. The goal is to improve the overall aesthetic appearance of the Town to promote investment and reinvestment.

### REGIONAL HERITAGE PRESERVATION INITIATIVES

Ridgely should work with neighboring municipalities, Caroline County, and the State of Maryland to explore ways to assist heritage preservation, neighborhood revitalization, and tourism efforts in the Town and the region. Partnerships can create an "economies of scale" and allow for enhanced assistance. This is particularly important for property owners that may require assistance accessing State grants, loans, and tax credits for historic restoration/rehabilitation. Other non-public or semi-public partners could include the Eastern Shore Heritage Incorporated (ESHI), the Caroline County Historical Society, and the Underground Railroad Scenic Byway Board.

## COMMUNITY FACILITIES

Adequate community facilities and services are necessary to protect the public health, safety, and welfare. Ridgely should ensure that all residents of the Town have adequate public facilities and services and that such facilities and services are maintained and upgraded at reasonable costs to taxpayers.

### INFRASTRUCTURE PLANS & REGULATIONS

At a minimum, Ridgely infrastructure facilities reports, plans, policies, and regulations should be updated and/or revised. This includes, but is not limited to, the following for all new growth and development:

1) Require an "Annexation Agreement" be executed between landowner(s) and the Town;
2) Address potential impacts to community facilities and services through appropriate impact studies, including water and sewer, fiscal, as well as environmental;
3) Identify development funding responsibilities between identified parties;
4) Outline issues to be addressed in a Developers Rights and Responsibility Agreement (DRRA), which typically follows an Annexation Agreement, which may require the development of a Ridgely DRRA Ordinance;
5) Require development form be consistent with the 2008 *Ridgely Comprehensive Plan*; and
6) Create a specific regulatory provision that Caroline County Environmental Health must approve and sign plats before construction can begin and permits can be issued, officially verifying that water and sewer capacity exists to serve such developments.

Ridgely should specifically update its infrastructure plans to ascertain an accurate measure of capacity within existing systems and what upgrades will be required to accommodate growth and development. This includes mapping the Town's infrastructure and facilities systems in the Ridgely Geographic Information System (GIS). Infrastructure mapping consists of locating and illustrating water and sewer lines, utility networks, road and street networks, manholes and stormwater drains, curbs, gutters, and sidewalks, etc. Infrastructure mapping also details these features in the GIS database, such as the current condition of water lines or when upgrades are needed or were completed. This data should be

included in the Town's infrastructure plans and be regularly updated to track infrastructure and associated costs over time.

Developing a detailed *Ridgely Capital Improvements Plan* (CIP) and Water and Sewer Subsidiary Plans are an important first step in Ridgely to address community facilities and services. This includes meeting the requirements of the State for Water and Wastewater Capacity Management Plans, as stipulated by the Maryland Department of the Environment (MDE). MDE has produced guidelines for the preparation of Water and Wastewater Capacity Management Plans. According to the State, once a wastewater treatment plant reaches 75% capacity, detailed water and sewer planning is required to ensure that a new plant is being designed, engineered, and eventually constructed to meet demand. The State utilizes a 250 gallon per day (gpd) per dwelling unit (DU) to assess water and wastewater demand. Ridgely should consider using the State standard of 250 gpd per DU, if such a standard does not already exist.

Accurately updating facilities and service plans includes reviewing water and sewer service area classifications for Ridgely and ensuring these classifications are reflected in the *Caroline County Master Water & Sewer Plan* (County Water & Sewer Plan). Such service area classifications relate to approved planned developments in Town, future infill and redevelopment, and growth areas as shown in the 2008 *Ridgely Comprehensive Plan*. The Town should request an amendment to the County Water & Sewer Plan to include Ridgely Park and all other planned developments within the Town's boundaries, not currently shown in the Plan. Specifically, the Town should request appropriate service area classifications. Future amendments may be necessary to ensure that Ridgely's section of the County Water and Sewer Plan is accurate and up-to-date. This process includes initiating meaningful discussions with Caroline County Government and Environmental Health to facilitate water and sewer initiatives germane to Town growth and development plans.

**Water & Wastewater Planning**

In 2004, the Maryland Department of Planning (MPD) prepared a list of draft "Water & Sewer Planning Principles" to assist local jurisdictions (towns and counties) in preparation for annexation, development and growth management in regards to water and sewer planning.[3] These "Water & Sewer Planning Principles" were reflected in the *Caroline County Water Quality Report*, an unofficial document prepared by the Caroline County Department of Planning & Codes Administration in 2006.[4] It is important to note that much of Ridgely's planning for water and sewer as well as growth and development are consistent with these principles, albeit a need for more detailed planning on the Town's part.

The Water Quality Improvement Report defines these nine (9) primary planning principles for water and sewer. The principles offer guidance to water and sewer facilities owners as to how planning for existing systems and system expansions should be developed:

[3] *Draft Water and Sewer Planning Principles*; "Garrett County Water and Sewer Plan;" Prepared by the Maryland Department of Planning; July 18, 2003.
[4] *Caroline County, Maryland: Water Quality Improvement Report – Broad Policy Directives for Caroline County*; 14-15

- Principle 1 – Support Smart Growth: Water and Sewer Plans should be proactive in contributing to Smart Growth objectives of revitalizing existing towns and communities, promoting economic development in Priority Funding Areas (PFA's), and protecting rural areas from sprawl and leapfrog development. The Plan should do this by focusing on maximizing use of existing facilities through strong renovation and maintenance programs. Capacity increases should be based on documented needs and expansion of systems to new areas and should be in an orderly manner to areas contiguous to existing service areas. The Plan should present policies and practices that help reduce the cost of development on sewer and water relative to development on individual systems.

- Principle 2 – Maintain and Improve Existing Systems: Water and Sewer Plans should address how the physical and fiscal condition of existing water and sewer systems can be improved to support Smart Growth. This means that the Plan should give the highest priority to identifying and meeting needs for renovation and maintenance of existing systems in existing locations. This will help assure that there is adequate infrastructure to support revitalization and infill in existing communities.

- Principle 3 – Manage Service Area Expansions: Water and Sewer Plans should support any geographic expansion of existing systems only in existing PFA's and areas contiguous to existing service areas with densities no less than 1 unit/per acre and average densities sufficient to qualify for PFA designation (3.5 units/per acre). The Plan should indicate the staging of expanded areas with reference to specific timeframes. Techniques should be developed to discourage or prohibit physically preemptive low density development on individual systems in planned future service areas. As stated in State law, service should be shown for "…those parts of the county that can reasonably be expected to be served in the next 10 years." This provision is consistent with the PFA designation criterion which states: "PFA designation must represent a long-term policy for orderly development and efficient use of land and public services."

- Principle 4 – Expand System Capacity Based on Demonstrated Needs: Water and Sewer Plans should provide for adequate treatment and conveyance capacity for service areas that are delineated with "all practical precision." Capacity should be based on "reasonable" population, household and economic projections, in the context of local zoning as referenced in Principle 3. This will help to assure that capital, maintenance, and operating costs will be reasonable. Systems that have either too little or too much capacity in relation to realistic projected needs and/or geographic coverage can strain rate payers and local budgets and harm local bonding ability.

- Principle 5 – Present a Capital Program Based on Demonstrated Needs: Water and Sewer Plans should translate projected needs into specific projects for new, renovated, or expanded facilities for at least the 10 years following Plan adoption. These projects should be shown in tables with estimated costs and funding sources. Existing and planned major facilities and projects should be shown on the service area maps.

- Principle 6 – Allocate Capacity to Support Smart Growth: Water and Sewer Plans should describe capacity allocation policies and systems that serve the other principles and that maintain local control over available capacity. Allocations should be time limited and not transferable to avoid private control of capacity rights that are not used and to prevent the development of an unregulated market in these rights. Priority for allocations should be given to infill, redevelopment, and expansions into new areas that are contiguous to existing service areas and meet State PFA requirements.

- Principle 7 – Protect Water Quality and Water Supply Sources: Water and Sewer Plans should demonstrate how existing and proposed facilities, and the development patterns they support, will meet permit requirements for point discharges and stormwater. The Plan should describe its relationship and contribution to meeting the objectives of relevant watershed plans, TMDL's, and the Chesapeake Bay Agreement. In areas where sewage is treated by on-site disposal systems, promote the use of best management practices that reduce nutrient pollution without increasing housing density. For water supply, the Plan should identify that safe and adequate supplies are available for projected growth and describe programs to protect the integrity and quality of existing and planned ground and surface water supply sources.

- Principle 8 – Assure Adequate User Rate Structures: Water and Sewer Plans are mandated to address how systems will be adequately funded to assure protection of public health, water quality, and environmental protection. Recent Statewide studies of sewer and water infrastructure found extensive and expensive needs for renovation of existing systems that were leaking, overflowing, or otherwise inadequate to meet existing or planned future demands. A major finding of these studies was that rate structures are often inadequate for proper system maintenance. This has led to increasing risks to public health, water quality, and the environment. At the same time, the deterioration of older systems was found to be detrimental to Smart Growth.

- Principle 9 – Incorporate Subsidiary Plans: Water and Sewer Plans must by law, fully integrate planning and facilities for the county, municipalities, and other private and government entities that own or operate water and sewerage systems within the county or that serve more than one county. These entities must be full partners in the planning process to assure that their operating and capital program information, allocation policies and practice, and other required information is updated and that service areas reflect both county and municipal comprehensive plans. Issues related to future service areas and annexations around municipalities must be addressed and resolved to the maximum extent possible.

### PARKS, RECREATION AREAS, & OTHER COMMUNITY FACILITIES

Park and recreation facilities are an important local municipal component of the Community Facilities Element. Ensuring adequate park and open space land and facilities to meet current and projected demands is critical. Ridgely should require new developments to set aside land for neighborhood parks or provide a fee-in-lieu for existing park maintenance. Park facilities should be centrally located for

adjacent neighborhoods and easily accessible (pedestrians and vehicles) from anywhere within the Town.

Education (schools), emergency management, and other County provided facilities and services should be carefully coordinated with Caroline County Government. Fiscal, and other associated impacts from growth, will require multi-jurisdictional efforts. Forums such as the Caroline County Council of Governments provide an appropriate venue for such discussions amongst the County and its towns. Current local mechanisms to address fiscal needs such as impacts fees, excise taxes, and tax differentials can be appropriate discussion items at such meetings.

## TRANSPORTATION

Ridgely should seek to improve its transportation system consistent with the recommendations of this Comprehensive Plan:

1) Promoting the development of "Parkway Standards and Design" by the State/County for MD Rt. 404 including side access roads, adequate landscaping and buffering (native trees), enhanced "gateway" treatments, improved and attractive signage, as well as the development of local land use policies and regulations that limit strip development and minimize curb cuts.
2) Planning for collector systems providing access to Growth Areas/Greenbelts in conjunction with current initiatives including planning for a proposed Ridgely By-Pass, designation of Maryland "Scenic By-Way" status for MD Route 404, establishment of "trail heads" for visitor and tourism services along MD Routes 480 and 328 (Adkins Arboretum, Ridgely Railroad Park, and the West Denton Maritime Museum etc.), potential upgrades for Eveland Road (Adkins Arboretum/Tuckahoe State Park - enhanced pedestrian, bicycle), and trail connections from Ridgely to Adkins Arboretum/Tuckahoe State Park.
3) Discouraging the location of non-resource based land uses outside of designated Growth Areas. This will insure that traffic volumes in rural areas remain low. Roadway capacity may be a limiting factor for development, even at low densities although, some key capital improvements will be required to maintain even minimum levels of service.
4) Concentrating growth in existing population centers (Growth Areas), which supports the limited future expansion of infrastructure and services. When development occurs, road improvements will be needed within designated areas. Towns, the County, and State will need to coordinate in order to insure efficient expansion of road capacity, such as the Ridgely By-Pass.
5) Preserving the character of rural agricultural areas, historic cross roads villages, and towns, which are important assets in Caroline County. Strip development along highway corridors detracts from positive visual qualities and should be avoided. Standards should apply in the County and the Towns alike to ensure that new development along highways, near gateways, and within defined scenic viewsheds is properly designed, including, most importantly, appropriate access controls and buffers.
6) Enhancing the visual quality of Ridgely and other Towns through streetscaping, wayfinding, aesthetic improvements, etc.

## RESOURCE CONSERVATION

Implementation recommendations for resource conservation are designed to assist Ridgely in preserving significant resources but also developing broad strategies to enhance these resources and promote compatible economic initiatives that benefit the Town's tax base.

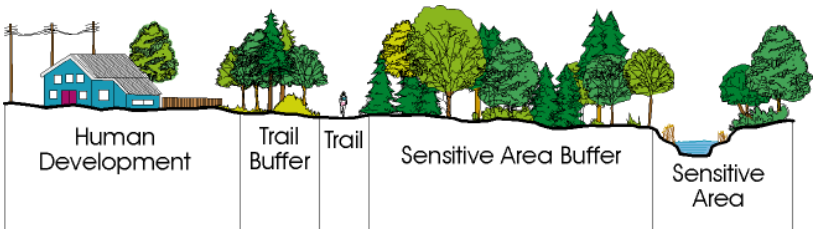



**FIGURE 9-6:** "Sensitive areas" include riparian streams that are best protected by a buffering program, including buffer requirements. This visual illustration shows how buffering works to mitigate harmful pollutants before they reach a tributary.

Streams & Stream Buffers: Although, Ridgely requires "Best Management Practices" (BMP's) to protect water bodies through its Forest Conservation and Stormwater Management regulations, more refinement is needed. This includes the establishment of a grading, erosion and sediment control ordinance and better stream protection standards. Adding the "Conservation Corridor" district to the Town's Zoning Ordinance, with standards, will ensure that streams and stream buffers are protected.

Green Building: Environmentally sensitive building and site-design, following LEED Guidelines (Leadership in Energy and Environmental Design), should be encouraged to minimize the potential negative impacts of such things as forest and habitat disturbance as well as stormwater flows on adjacent sensitive areas, aquatic resources, and water quality. Incentive programs for private citizens to incorporate LEED principles in all home construction, repair and renovation projects can be developed by the Town. LEED initiatives can help educate the public and ensure that the natural environment is disturbed as little as possible by the impacts of the built environment.

Watershed Planning: Existing watersheds within Ridgely are located on the northwestern and southern ranges of the Town. At the northern end, these watersheds fall toward Tuckahoe Creek. At the southern end, the watersheds flow toward the Choptank River. Although, some environmental impact statements and studies have been conducted on these watersheds, there is not sufficient information available on the nature of these watersheds to make specific management and planning decisions. Because of the nature of these watersheds, the County and State governments, in partnership with Ridgely, should evaluate the watersheds to determine their condition and future potential and develop a monitoring process to ensure their health and survivability.

Natural Resource Areas: There are a number of natural resource areas within the town limits of Ridgely. Some of these natural areas are actually part of the agricultural lands surrounding the community. Others are part of wooded areas on the edges of farm fields or part of undeveloped lands. As with the watersheds, there has not been a thorough systematic inventory of the inhabitants and the extent of natural resource areas in and around Ridgely. This could be an important planning and management tool.

Endangered Species: Ridgely should require proposed development activities address the protection of State and federally designated endangered species. The developer must determine through contact with the Town, the Maryland Department of Natural Resources (DNR), and the Maryland Fish, Heritage and Wildlife Administration (MFHWA) whether proposed activities will occur within or adjacent to identified endangered species habitats and whether such activities will affect the area.

If it is established that an activity will occur within or adjacent to an endangered species habitat, the Town should require that the developer provide protection measures in the project design. A written environmental assessment including site design plans and a description of measures to be taken to protect endangered species should be submitted to the Town as part of the development review process. The developer should work to establish species/site-specific protection measures. Protection measures may include:

- Designation of protection areas around the essential habitat of the designated species.
- Prohibition of development activities or other disturbances in the protection area, unless it can be shown that these activities or disturbances will not have or cause adverse impact on the habitat.
- Implementation of design strategies that work to protect the species and essential habitat, which could include (but are not limited to) restrictions on siting of structures, use of cluster design, establishment of undisturbed open space areas, restrictive covenants, and restrictions on noise levels and timing of construction activities.

Steep Slopes: Although steep slopes are limited in Ridgely, development should be regulated in these areas wherever they occur. Placement of structures or impervious surfaces should be severely limited on any slope with a grade of 25% percent or more. On slopes between 15% and 25%, good engineering practices should be required to ensure sediment and erosion control and slope stabilization before, during, and after disturbance activities and to minimize cut and fill.

## WATER RESOURCES

The "Water Resources Element" (WRE) provides goals and guidance for both Caroline County and Ridgely planning initiatives. Broad goals for water resources include the following:

1. Maintaining and protecting an adequate water supply to serve the residents of Ridgely through 2030;
2. Protecting water supply from pollution and encroachment;
3. Initiating steps to restore and protect water quality and contribute toward meeting water quality regulatory requirements in the Watershed(s);
4. Addressing water quality impacts as well as future impacts from land development and population growth; and
5. Protecting the habitat value of rivers and streams.

Meeting the WRE regulatory goals will entail requiring that new development implement Smart Growth development densities (smaller lot sizes). It also requires the following:

- Implementing water conservation measures;
- Staging growth to the availability of needed water resources;
- Clustering development while protecting forested areas (e.g., the recommended Conservation Corridor described in the Land Use Element of this Comprehensive Plan);
- Enhancing existing developed areas through infill and mixed use zoning; and
- Implementing Best Management Practices – BMP's.

Most importantly, Ridgely can make a positive contribution to improving water quality in the watershed by implementing urban BMPs as recommended by the Tributary Strategies.[5] BMP's the Town should require include the following:

- Limiting impervious surface areas to 10% in identified critical or sensitive areas;
- Permitting open section roadways in new developments;
- Incorporating the use of nonstructural BMPs such as natural conservation areas, roof and non-roof top disconnection, vegetated swales, sheet flow to buffer, reduced impervious cover to the maximum extent practicable, and promote environmentally sensitive design (ESD) or low impact development (LID) techniques;
- Maintaining existing forest cover and promoting the enhancement of contiguous forest areas;
- Working with Caroline County to address failing septic systems in areas that can be served by public water and sewer;
- Allowing narrower and shorter streets, rights-of-way, and sidewalks. Streets may be as narrow as 22 feet in neighborhoods serving low traffic volumes; open space designs and clustering will reduce street lengths; rights-of-way can be reduced by minimizing sidewalk width, providing sidewalks on one side of the road, and reducing the border width between the street and sidewalks;
- Allowing smaller radii for turn-arounds as low as 33 feet, using a landscaped island in the center of the cul-de-sac, and designing these areas to treat stormwater runoff;
- Allowing grass channels or biofilters for residential street drainage and stormwater treatment;
- Interpreting parking ratios as maximum number of spaces; permit shared parking arrangements; minimum parking stall width should be less than 9 feet and stall length less than 18 feet;
- Requiring parking lots be landscaped and relaxing setbacks to allow for bioretention islands or other stormwater practices in landscaped areas;
- Adopting flexible design criteria to allow developers to use clustered development and open space designs;
- Reducing minimum lots sizes;
- Relaxing setbacks and allowing narrower frontages to reduce total road length as well eliminating long driveways;
- Allowing for shared driveways and alternative impervious surfaces;

[5] Maryland Best Management Practices. http://dnrweb.dnr.state.md.us/watersheds/surf/bmp/bmp.asp?trib=chop.

- Requiring rooftop runoff be directed to pervious surfaces;
- Designating a minimum buffer width and providing mechanisms for long- term protection;
- Limiting clearing, grading, and earth disturbances to the minimum required for developing a lot;
- Promoting the use of native plantings;
- Providing incentives for conserving natural areas through density compensation, property tax reduction, and flexibility in the design process; and
- Implementing policies and education programs that encourage the reduction of fertilizer applications to grassed areas lawns in urban areas.

Integrating the techniques described above in local regulations assists with natural resource retention. Natural resource management requires the use of these current BMP's to enhance environmental attributes. Ridgely should seek to integrate many of these BMP's (some of which are state-mandated practices), such as Forest Conservation, Floodplain and Stormwater Management, and Erosion and Sediment Control regulations.

In addition, the *Ridgely Stormwater Management Ordinance* and other related development standards should require environmental site design (ESD) techniques that optimize conservation of natural features (e.g., drainage patterns, soil, vegetation), minimize impervious surfaces (e.g., pavement, concrete channels, roofs), decrease (slow down) runoff to maintain discharge timing and to increase infiltration and evapotranspiration, and use other nonstructural practices or innovative technologies approved by the Maryland Department of the Environment (MDE).

# ECONOMICS & HOUSING

### ECONOMIC DEVELOPMENT

The preparation of a strategic revitalization plan for Ridgely is recommended. This planning effort can create a cohesive and detailed vision for the future economic viability of the Town. In addition, such a plan can examine specific and targeted areas of the Town for revitalization. In the changing global market, developing a coordinated plan for the Town's economy with short-term, mid-term, and long-term strategic actions provides a sound policy basis to further enhance Ridgely's climate for investment and re-investment. Generally, this type of detailed plan is prepared following comprehensive planning and before the preparation of design guidelines and ordinance revisions/updates.

The strategic plan also could address details for the design of the Town's Planned Neighborhood Development areas, master planning for infill and growth areas, and targeted actions for the Town Center and Central Business Districts. With the advent of the Ridgely Business Technology Park and the Airport, as well as the large tracts of land within the Town for future new development, this type of a plan could further solidify Ridgely's vision for the future. Potential state and federal funding may be available and should be researched.

## HOUSING & AFFORDABILITY

Data collected on housing affordability in Ridgely indicates a significant percentage of the Town's population (including renters and homeowners) cannot afford the cost of housing. The availability of affordably priced homes and rental housing is a key to serving the needs of both first-time home buyers and low to median income households, who make up 68% of the Town's population. Statistics outlined in the "Existing Conditions Chapter" of this Comprehensive Plan reveal that a significant percentage of households, not just low-income households, struggle to meet housing costs.

The U. S. Department of Housing and Urban Development (HUD) defines "very low-income" families as those earning 50% of the median family income for an area. "Low-income," as defined by HUD, is 80% of the median family income for an area. The 2000 median family income for Ridgely was $38,929. Of the 351 family households in Ridgely, 9% met the HUD definition of very low income and an additional 9% met the definition of low income. Poverty and low income affect more than 20% of all people living in Ridgely and almost 20% of all families.

HUD also defines affordable housing as housing that costs 30% or less of the worker's wage. HUD determines that a household has a "housing cost burden" if it spends 30% or more of its income on housing. A household has a "severe housing cost burden" if it spends 50% or more of its income on housing. The housing cost burden combines renter and owner occupied housing statistics.

Owner housing costs consist of payments for mortgages, deeds of trust, contracts to purchase, or similar debts on the property; real estate taxes; fire, hazard, and flood insurance on the property; utilities; and fuels. Where applicable, owner costs also include monthly condominium fees. Renter calculations use gross rent, which is the contract rent plus the estimated average monthly cost of utilities (electricity, gas, water and sewer) and fuels (oil, coal, kerosene, wood, etc.). Household income is the total pre-tax income of the householder and all other individuals at least 15 years old in the household.

Using the HUD definition of affordable housing, more than a quarter (26.4%) of the homeowners and 25% of the renter households in Ridgely are cost burdened. This means, they are spending 30% or more of their income on housing. Including renters and homeowners, more than half of all households in the Town are experiencing housing cost burdens. Using the HUD definition of affordability, this means that more than half of the households in Ridgely cannot afford the housing they currently occupy. To appreciate the full impact of this data, bear in mind that household incomes include incomes from multiple wage earners, people working two jobs, income subsidies, etc. The problem of housing affordability in Ridgely is not just a problem affecting the poorest families; it also impacts working families with secure jobs and multiple incomes.

Rental housing is often the only housing option available to young families and low-income residents. While there is new housing development taking place in Ridgely, special consideration needs to be given to how to maintain existing homes so that they do not fall into decline. This includes not only the condition of the homes themselves, but also the yards and neighborhoods around them. In addition to

the condition of the existing housing stock, attention should be paid to the types of houses available in the Town both now and in the future. As the Eastern Shore's population continues to age, this segment of society will need to be considered in planning for new residential development to ensure that housing is suitable to the needs of the elderly. In addition to smaller houses on smaller lots, options such as condominiums, senior citizen apartments, and assisted living facilities should be made available.

Ridgely needs to address these issues if it wants to keep residents and attract new ones.

- Review the Town's regulatory policies and update regulations and/or requirements that do not sufficiently describe or enforce maintenance standards and occupancy limits for housing units. Possible changes may include increasing housing inspections from alternating years to an annual or twice annual schedule, which may necessitate the hiring of an additional part-time Town staff person.
- Consider the appointment of a Housing Commission to undertake regular inspections of housing conditions and oversee enforcement of housing regulations.
- Work with owners of older or dilapidated buildings to explore options for rehabilitation or redevelopment projects.
- In cases where cooperation from a property owner is not given, consider using Town authority to clean up a property and assess the costs to the property owner.
- Review the Town's regulatory policies to ensure they will support and not conflict with efforts to provide suitable housing choices for the elderly. This should include updating the Zoning Ordinance to accommodate special needs housing, including continuing care and assisted living facilities.
- Consider examining a Town inclusionary zoning ordinance that requires a portion of housing units in a new development be reserved for affordable housing for low income families and seniors. As appropriate coordinate this program with Caroline County.
- Maximize density in development or redevelopment projects where appropriate. This means permitting townhouse and multi-family units in the mix of residential units in a project.
- Implement public water and sewer projects that enable higher-density residential development and mixed-use neighborhoods in designated growth areas and encourage a mix of housing densities and types in new subdivisions through Planned Unit Development provisions.
- Work with property owners of vacant lots to have them cleaned up or prepared for development. Seek out the assistance of local business groups, individuals, and community organizations to help reduce the cost to the property owner when and where appropriate or in strategic areas.
- Consider allowing garage apartments and other kinds of secondary or accessory apartment units to increase the supply of affordable rental housing.

Accessory apartments, in-law apartments, and "granny flats" offer an opportunity to make adaptations to some single-family neighborhoods to accommodate changing housing needs. With the trend toward larger numbers of one and two-person households, accessory apartments provide opportunities for Town residents to make their housing available to the community at-large, including young couples, individuals, and senior citizens.

From a public policy perspective, accessory apartments provide an alternative to the popular "add-on" strategy of continually relying upon new construction (houses, streets, sewers, utilities and public services) to satisfy the needs of a growing community. They concentrate on preserving, refurbishing and making more efficient use of existing housing and the expensive community infrastructure, which is not maximized. Although likely dependent on the availability of public wastewater treatment facilities, this particular housing option offers a number of benefits:

- Creating new living units without the expense of new infrastructure;
- Generating a flow of new dollars within the community from home equity;
- Reducing the costs of medical care for the elderly, who can receive less-expensive “in-home” care services, while living in an accessory apartment rather than being forced to move to a more costly nursing home or long-term health care facility;
- Providing older homeowners with an opportunity to generate some additional income;
- Increasing the supply of low and modest cost rental housing;
- Providing young singles, couples, and single parents with another source of income. This option may allow them to buy into the housing market, maintain ownership of their present home, or make available modest-priced rental housing in neighborhoods, which provide a wholesome environment for children;
- Increasing modest economic activity in the private sector, which benefits commercial lenders, real estate agents, builders, and retail businesses;
- Resulting in small increases in property appraisals, which generate modest amounts of additional tax revenues,
- Creating an opportunity to continue to live in one's own home and maintain contact with the neighborhood (for older homeowners with a tenant). Tenants: 1) add a measure of security and alleviate the fear of break-ins; 2) provide companionship, particularly for the elderly; and 3) may be willing to provide personal services in lieu of rent including the performance of routine maintenance work around the house, maintaining the yard, shoveling snow, performing light housekeeping tasks, providing modest personal in-home health services, and providing occasional transportation.
- Consider incorporating refinements and safeguards into any code provisions permitting conversion to accessory apartments to prevent the occurrence of inappropriate or unsafe conversions to accessory apartments. Such refinements may include any of the following: 1) Restricting the conversion option to senior citizens over a specified age; 2) Requiring the homeowner to reside in one of the living units within the house; 3) Restricting the conversion to homes which were constructed prior to a given date; 4) Requiring a minimum square footage as a prerequisite for a house to be considered eligible for a conversion; 5) Specifying the particular zoning classifications, where conversions may be considered eligible; 6) Permitting conversions only by homeowners who have resided in the home for a designated number of years prior to making an application for a conversion; 7) Prohibiting exterior modifications to the house; 8) Specifying minimum or maximum floor sizes for accessory apartments requiring that a conversion not exceed a designated percentage of the total floor space of the house. Typically such floor areas required in ordinances establish a minimum of 400 to 500 square feet in size to a maximum of 900 to 1,100 square feet; 9) Placing a limit on the number of people who can occupy the accessory apartment or designating the

aggregate number of people who can occupy the entire house; and 10) Encouraging barrier-free design considerations for persons with handicaps or limited mobility.

Housing Programs and Resources: There are many Federal and State programs designed to address a variety of components of the housing issues facing the region. In addition, profit and non-profit organization may be underutilized resources in the community and/or offer opportunities for partnerships. Some actions the Town can consider include:

1. Forming a Housing Roundtable, a coalition of community organizations, local government representatives, private business owners (including builders and developers), and individuals who can assess and recommend housing policies for the Town.

2. Exploring avenues to significantly address better housing options, including:
   - zoning and design standards that increase the mix of uses and housing types;
   - employer-assisted housing;
   - housing trust funds solely to build affordable homes in low, moderate, and middle income brackets;
   - partnerships with nonprofit, semi-public developers, and other financers of affordable housing.

3. Contacting the Maryland Department of Housing and Community Development (DHCD) to investigate opportunities to participate in affordable housing program partnerships with the State. The Governor's Affordable Housing Subcommittee, working with the DHCD, made primary recommendations for State affordable housing programs in 2004, including:
   - linking workforce housing needs with local job creation/economic development strategies and projects;
   - maintaining and increasing resources for affordable housing (multi-family and single-family) through a dedicated revenue stream (Federal, State, local, private, foundations);
   - considering a pilot program of funding for housing units targeted to households between 60% and 100% of "Area Median Income"; and
   - encouraging, developing, and funding education programs including financial literacy, credit counseling, and homeownership counseling.

# APPENDIX A: IMPLEMENTATION MATRIX

The Implementation Matrix is a reference document that outlines the goals, objectives, and recommendations of the 2008 Ridgely Comprehensive Plan. The Matrix outlines goals, objectives, and recommendations for Chapters 2 through 8 of the Comprehensive Plan (Land Use & Growth Management; Municipal Growth; Community Facilities; Resource Conservation; Water Resources; Heritage Preservation; and Transportation).

| TABLE 1: LAND USE & GROWTH MANAGEMENT | | |
|---|---|---|
| **LAND USE GOALS** | **LAND USE OBJECTIVES** | **LAND USE RECOMMENDATIONS** |
| **PRIMARY GOAL:** Preserve the small town atmosphere and qualities that make Ridgely a desirable place to live and work. | **OBJECTIVE #1:** Preserve Town character and residential neighborhoods and ensure that new development is consistent with existing character. | **RECOMMENDATION #1:** Ensure that Ridgely's plans and ordinances conform with the recommendations of the Comprehensive Plan. |
| | **OBJECTIVE #2:** Improve property values and the climate for new investment and reinvestment by addressing key infrastructure issues, such as water and sewer, roads and streets, and other capital projects. | **RECOMMENDATION #2:** Ensure that all development and redevelopment is compatible with the existing character of Ridgely and encourage the revitalization and continued improvement of the Town with a special emphasis on the Town Center, Central Business District, and Neighborhood Conservation areas. To accomplish this goal, the Town Commissioners should specifically identify future revitalization areas. In addition, the Town should review the Zoning Ordinance, Zoning Map, and Subdivision Regulations to integrate safeguards for community character. |
| | **OBJECTIVE #3:** Protect sensitive environmental areas and landmark historic sites and structures. | **RECOMMENDATION #3:** Promote sensitive area protection and ensure that development employs best management practices to minimize adverse impacts on water quality and habitat. |
| | **OBJECTIVE #4:** Encourage the restoration, rehabilitation, and adaptive reuse of existing | **RECOMMENDATION #4:** Promote inter-jurisdictional coordination and future cooperative |

## TABLE 1: LAND USE & GROWTH MANAGEMENT

| LAND USE GOALS | LAND USE OBJECTIVES | LAND USE RECOMMENDATIONS |
|---|---|---|
| | buildings. | planning and zoning efforts with Caroline County:<br><br>• Work with the Caroline County Council of Governments (COG), which provides Ridgely a forum to discuss issues and opportunities with County officials. In addition, the County and Ridgely Planning Commissions should meet annually or periodically to discuss planning issues of mutual interest.<br>• Encourage Caroline County to refer plans of proposed development, zoning changes, and subdivisions located within two miles of the Town to Ridgely officials for review and comment.<br>• Work with Caroline County to ensure the adequacy of public facilities provided and that any new development adjacent to Ridgely minimizes impacts on the rural character surrounding the community. |
| | **OBJECTIVE #5:** Expand the tax base by encouraging appropriate infill and redevelopment of vacant and underutilized properties. | **RECOMMENDATION #5:** Encourage the continuation of agricultural uses adjacent to Ridgely to maintain the rural character of the community, where appropriate. |
| | **OBJECTIVE #6:** Encourage development of new well designed and properly located commercial and industrial facilities and promote the maintenance and revitalization of existing commercial and industrial uses. | **RECOMMENDATION #6:** Encourage the redevelopment and re-use of vacant buildings insuring compatibility with surrounding residential neighborhoods. |
| | **OBJECTIVE #7:** Maintain and create desirable residential environments based on “Smart Neighborhood” principles. | **RECOMMENDATION #7:** Encourage “Community Character Policies” that include the following |

| TABLE 1: LAND USE & GROWTH MANAGEMENT | | |
|---|---|---|
| **LAND USE GOALS** | **LAND USE OBJECTIVES** | **LAND USE RECOMMENDATIONS** |
| | | design principles:<br><br>• Establish architectural guidelines as well as yard setbacks, bulk standards, and height restrictions to retain or promote desirable community character;<br>• Retain or create site designs for a pedestrian-friendly community, which shall be encouraged and facilitated;<br>• Insure development retains the pattern, scale, and character of the surrounding neighborhood;<br>• Insure the review of development proposals to place priority on the protection of historic and culturally significant buildings, monuments, and spaces contributing to the Town's character; and<br>• Maintain connections to the rural landscape by encouraging the protection of farms and forested areas outside the Town boundary in the Ridgely Greenbelt. |
| | **OBJECTIVE #8:** Ensure new development is consistent with overall growth objectives by adopting appropriate development codes/standards and ensuring that all new development is appropriate in scale and size. | **RECOMMENDATION #8:** Continue to prepare a Planning Commission Annual Report in accordance with Section 3.09 of Article 66B to monitor plan implementation. |
| | **OBJECTIVE #9:** Improve coordination between Ridgely and Caroline County to promote inter-jurisdictional coordination and cooperation, as required by State law. | **RECOMMENDATION #9:** Consider detailed planning initiatives prior to regulatory updates and revisions, such as a strategic revitalization plan for Ridgely, to more clearly define Town goals and solicit broader public involvement in the |

| TABLE 1: LAND USE & GROWTH MANAGEMENT | | |
|---|---|---|
| **LAND USE GOALS** | **LAND USE OBJECTIVES** | **LAND USE RECOMMENDATIONS** |
| | | development of action strategies to address community needs and desires. |
| | **OBJECTIVE #10:** Ensure that residents and businesses have adequate public services and facilities to protect the health, safety, and welfare for an attractive live/work environment. | **RECOMMENDATION #10:** Review, update, and revise Ridgely's Design Guidelines, Zoning Ordinance, and Subdivision Regulations consistent with the Comprehensive Plan. |
| | | **SPECIFIC RECOMMENDATIONS ZONING ORDINANCE/SUBDIVISION REGULATIONS** |
| | | **RECOMMENDATION #1:** Update the Town's regulations consistent with the recommendations of this Comprehensive Plan including creating new zoning provisions to implement the Land Use Plan and adopting a new official zoning map, which include the digitization of the Ridgely Zoning Map in the Town's Geographic Information System-GIS. |
| | | **RECOMMENDATION #2:** Review, update, and revise (if required) special planning districts such as overlay and floating zones to encourage and facilitate context sensitive infill and redevelopment with an emphasis on appropriate design. |
| | | **RECOMMENDATION #3:** Establish development standards and guidance for infill, redevelopment, and new development that ensures compliance with the Town's design guidelines. |
| | | **RECOMMENDATION #4:** Promote the upkeep and maintenance of existing buildings by adopting and enforcing a building code, livability code, nuisance ordinance, and related items to improve and maintain the Town. |
| | | **RECOMMENDATION #5:** Ensure that the approval |

| TABLE 1: LAND USE & GROWTH MANAGEMENT | | |
|---|---|---|
| **LAND USE GOALS** | **LAND USE OBJECTIVES** | **LAND USE RECOMMENDATIONS** |
| | | of land subdivision, rezoning, special exceptions, variances, and capital expenditures are consistent with the Ridgely Comprehensive Plan. |
| | | **RECOMMENDATION #6:** Revise current development review processes. For other than permitted uses requiring a building permit, require all applicants to first submit a concept plan, including proposed building types and typical building elevations. Periodically update the development review and approval process to ensure that reviews can be carried out in a timely fashion and ensure appropriate decisions are made with regard to plan review and approvals required for projects. |
| | | **RECOMMENDATION #7:** Where possible, streamline current regulations and create flexible processes/procedures to promote investment and reinvestment in existing properties and promote context sensitive design for infill and redevelopment. |
| | | **RECOMMENDATION #8:** Establish development standards that are consistent with the existing lot and development pattern in surrounding neighborhoods and encourage the adaptive reuse of existing buildings. |
| | | **RECOMMENDATION #9:** Adopt or update zoning review fees that cover the cost of Town review, including the cost of any professional assistance the Planning Commission or Town Commissioners may need to adequately evaluate the merits of a |

| TABLE 1: LAND USE & GROWTH MANAGEMENT | | |
|---|---|---|
| **LAND USE GOALS** | **LAND USE OBJECTIVES** | **LAND USE RECOMMENDATIONS** |
| | | proposed development. |
| | | **RECOMMENDATION #10:** Update the *Ridgely Design Guidelines* and the *Ridgely Zoning Ordinance* based on the following basic design principles:<br><br>• Neighborhoods are compact, identifiable, and their boundaries are visually discernible;<br>• Neighborhoods are linear (cross-roads or grid patterned), with variations to enhance views and landmarks;<br>• Neighborhoods are visually coherent and character is established through consistent rules of organization and architecture;<br>• Street corridors are visually bounded and intimate in feeling. Street trees, sidewalks, and front yard design elements create visual layers and contribute to the intimacy of streetscape;<br>• Street blocks help describe component neighborhoods, suggesting the role of the street as a channel for neighborly interaction;<br>• Neighborhoods accommodate a mix of uses, where appropriate, even at the "town" scale;<br>• Parking is accommodated through a mix of on-street and unobtrusive off-street strategies. Large-scale parking lots are avoided, and older lots are redesigned into smaller landscaped segments;<br>• Most important, neighborhoods and their setting convey a strong "sense of place"; and |

| TABLE 1: LAND USE & GROWTH MANAGEMENT | | |
|---|---|---|
| **LAND USE GOALS** | **LAND USE OBJECTIVES** | **LAND USE RECOMMENDATIONS** |
| | | • Landmark historic sites and structures are protected. |
| | | **RECOMMENDATION #11:** Establish protection standards for "Sensitive Areas." |
| | | **RECOMMENDATION #12**: Ensure appropriate provisions to address flooding and stormwater management and encourage the use of innovative low impact stormwater management techniques, when feasible. |
| | | **RECOMMENDATION #13:** Eliminate the conversion of single-family homes to multi-family units by adopting a strong land use plan and implementing regulations that clearly differentiate housing types and densities. |
| | | **RECOMMENDATION #14:** Update the Planned Unit Development and Neighborhood Revitalization provisions of the Zoning Ordinance to reflect infrastructure limitations and to enhance process, procedure, and design. |
| | | **RECOMMENDATION #15:** For the Ridgely Zoning Ordinance: develop a Table of Permitted Uses and Subdivision Checklist; examine height, area, and bulk requirements to create consistency with the Comprehensive Plan; improve sensitive areas protection and landscaping standards; and include reference tables for lot size and setback requirements. |
| | | **RECOMMENDATION #16:** Update the Town's Subdivision Regulations consistent with the recommendations of this Comprehensive Plan. |

| TABLE 1: LAND USE & GROWTH MANAGEMENT | | |
|---|---|---|
| **LAND USE GOALS** | **LAND USE OBJECTIVES** | **LAND USE RECOMMENDATIONS** |
| | | **RECOMMENDATION #17:** Work with Caroline County to encourage strong land use controls on rural lands adjacent to Ridgely within the Growth Area and coordinate with the County in the review of development proposals near the Town. |

| TABLE 2: MUNICIPAL GROWTH ELEMENT | | |
|---|---|---|
| **MUNICIPAL GROWTH GOALS** | **MUNICIPAL GROWTH OBJECTIVES** | **MUNICIPAL GROWTH RECOMMENDATIONS** |
| **PRIMARY GOAL:** Determine the future pattern of growth and development in Ridgely and address associated impacts on facilities, services, and infrastructure. | **OBJECTIVE #1:** Perform a detailed impact analysis of new growth and development on Town services, facilities, and infrastructure. | **RECOMMENDATION #1:** Review, update, and revise Ridgely development standards, guidelines, regulations, processes, and procedures to achieve consistency with the Comprehensive Plan. This is particularly important for infill and redevelopment, annexation, and infrastructure. |
| | **OBJECTIVE #2:** Address potential impacts of growth and development in the Town's Capital Improvements Program (CIP), which should be updated annually. | **RECOMMENDATION #2:** Preserve the small town historic and rural character of Ridgely, while also preserving single-family neighborhood community identity by initiating local municipal policies and regulations to stabilize neighborhoods. |
| | **OBJECTIVE #3:** Initiate a Master Planning Program for Town infill (Planned Development Areas) and growth areas to define Town expectations for new development. | **RECOMMENDATION #3:** Initiate immediate planning, design, and engineering for infrastructure upgrades to accommodate planned developments and infill and redevelopment (water and sewer). |
| | **OBJECTIVE #4:** Improve inter-jurisdictional initiatives with Caroline County to coordinate growth and development for effective growth management. | **RECOMMENDATION #4:** Require new planned development assess their impacts, including fiscal and environmental impacts. |
| | **OBJECTIVE #5:** Update Town policies, processes, and regulations to address infill and redevelopment issues and opportunities including updating the Town's design guidelines. | **RECOMMENDATION #5:** Coordinate with Caroline County regarding County zoning, which surrounds the Town, and other planning initiatives such as watershed planning. Regarding County zoning, Ridgely should request enhanced coordination and cooperation from the Caroline County Department of Planning and Codes Administration to ensure compatible development with Ridgely's historic character and unique location. Low density residential development in Ridgely Growth Areas should be discouraged. |
| | | **RECOMMENDATION #6:** Coordinate with Caroline |

| TABLE 2: MUNICIPAL GROWTH ELEMENT | | |
|---|---|---|
| **MUNICIPAL GROWTH GOALS** | **MUNICIPAL GROWTH OBJECTIVES** | **MUNICIPAL GROWTH RECOMMENDATIONS** |
| | | County to amend the Ridgely Growth Area and Greenbelt as shown in the *West Caroline County Comprehensive Plan* to create consistency between the County and Town Comprehensive Plans. |
| | | **RECOMMENDATION #7:** Meet with the Caroline County Planning Commission to discuss the Ridgely Comprehensive Plan. |

## TABLE 3: COMMUNITY FACILITIES

| COMMUNITY FACILITIES GOALS | COMMUNITY FACILITIES OBJECTIVES | COMMUNITY FACILITIES RECOMMENDATIONS |
|---|---|---|
| **PRIMARY GOAL:** Provide an appropriate array of community facilities and services, required to maintain the public health safety and welfare of the residents of Ridgely. | **OBJECTIVE #1:** Assure the continued expansion of public facilities and services is commensurate with local financial capabilities and the capacity of each system. | **RECOMMENDATION #1:** Annex the Town's existing wastewater treatment site (WWTP), which currently lies outside corporate boundaries, and seek Priority Funding Area (PFA) status from the Maryland Department of Planning. |
| | **OBJECTIVE #2:** Assure the provision of community facilities and services to all living and working areas of Ridgely, accomplished in a manner which is least disruptive to the environmental qualities of the area. | **RECOMMENDATION #2:** Require adequate public facilities to serve any proposed new development. This includes assessing current fee structures and requirements. |
| | **OBJECTIVE #3:** Encourage the efficient use of natural resources in the area, such as water, waterways, and scenic areas for the benefit of all residents of Ridgely. | **RECOMMENDATION #3:** Update and/or revise Ridgely infrastructure facilities reports, plans, policies, and regulations including, but not limited to, the Capital Improvements Plan and Water & Sewer Subsidiary Plans, to:<br><br>• Map utilities systems in Ridgely including water and sewer facilities for the Ridgely Geographic Information System (GIS).<br>• Outline areas for future development to be incorporated in the Capital Improvements Plan and Water and Sewer Subsidiary Plans.<br>• Map water and sewer service area classifications for Ridgely in relation to approved planned developments, future infill and redevelopment, and growth areas, consistent with the Comprehensive Plan.<br>• Ascertain an accurate measure of capacity and costs within existing systems and what upgrades and/or expansions will be needed to |

## TABLE 3: COMMUNITY FACILITIES

| COMMUNITY FACILITIES GOALS | COMMUNITY FACILITIES OBJECTIVES | COMMUNITY FACILITIES RECOMMENDATIONS |
|---|---|---|
| | | accommodate growth and development. |
| | **OBJECTIVE #4:** Encourage the use of public lands and buildings for a variety of public purposes. | **RECOMMENDATION #4:** Upgrade and expand the Town's water and sewerage facilities and services to accommodate infill and redevelopment, as needed. |
| | | **RECOMMENDATION #5:** Conduct regular assessments of the Ridgely Fire Department to determine if expansion of facilities is needed as the Town's population increases. |
| | | **RECOMMENDATION #6:** Ensure adequate park and open space land and facilities to meet current and projected demands. |
| | | **RECOMMENDATION #7:** Coordinate planning and programming of community facilities and services with the appropriate Caroline County and State agencies and entities. |
| | | **RECOMMENDATION #8:** Request that the County update the *Caroline County Master Water & Sewerage Plan* to reflect the Town's planned water and sewer service areas and priorities. |

## TABLE 4: RESOURCE CONSERVATION

| CONSERVATION GOALS | CONSERVATION OBJECTIVES | CONSERVATION RECOMMENDATIONS |
|---|---|---|
| **PRIMARY GOAL:** Ensure sensitive areas protection in accordance with State laws and preserve the natural resources and features of the Town of Ridgely and its surrounding environs. | **OBJECTIVE #1:** Provide specific protection measures for sensitive areas as defined in State law. | **RECOMMENDATION #1:** Amend the *Ridgely Zoning Ordinance* and *Subdivision Regulations* to provide specific protection measures for sensitive areas as per the requirements of Article 66B of the Annotated Code of Maryland. |
| | **OBJECTIVE #2:** Minimize adverse impacts on water quality through "Best Management Practices" BMP's. | **RECOMMENDATION #2:** Assess future development proposals in light of the site's physical suitability to accommodate development, while protecting natural resources, sensitive areas, and the quality of the Town's groundwater and encourage Caroline County to develop similar policies and regulations |
| | **OBJECTIVE #3:** Assess future development proposals in light of the site's physical suitability to accommodate development, while protecting natural resources and the quality of the Town's groundwater. | **RECOMMENDATION #3:** Consider incorporating environmentally sensitive building and site-design guidelines that follow LEED (Leadership in Energy and Environmental Design) models into the subdivision review process to minimize the potential negative impacts of development on natural resources and sensitive areas. |
| | **OBJECTIVE #4:** Ensure new development and redevelopment minimizes on-site pollutant loadings/runoff through stormwater and sediment/erosion control plans. | **RECOMMENDATION #4:** Conserve forest and woodland resources, Forest Interior Dwelling Species (FIDS) habitat, and green infrastructure (hubs and corridors), and wherever possible, replenish them through tree conservation measures and replanting programs in compliance with the Maryland Forest Conservation Act. |
| | **OBJECTIVE #5:** Identify wetlands and floodplains in order to ensure the special protection they may need. | **RECOMMENDATION #5:** Amend Town regulations to incorporate the "Conservation Corridor" as described in the Land Use Plan to protect sensitive |

## TABLE 4: RESOURCE CONSERVATION

| CONSERVATION GOALS | CONSERVATION OBJECTIVES | CONSERVATION RECOMMENDATIONS |
|---|---|---|
| | | environmental areas. |
| | **OBJECTIVE #6:** Conserve forest and woodland resources and, wherever possible, replenish them through tree conservation measures and replanting programs. | **RECOMMENDATION #6:** Work with Caroline County to review development proposals near the Town and ensure that sensitive areas are addressed. |
| | **OBJECTIVE #7:** Promote the protection and preservation of valuable ecological lands (Green Infrastructure) around Ridgely. | |
| | **OBJECTIVE #8:** Protect the Town's natural scenic vistas by working with Caroline County to encourage strong land use controls on rural lands adjacent to Ridgely. | |
| | **OBJECTIVE #9:** Encourage Caroline County support for the greenway trail connection from Ridgely to Adkins Arboretum and Tuckahoe State Park. | |
| | **OBJECTIVE #10:** Update the Ridgely Geographic Information System-GIS for the mapping of natural resources and sensitive areas. | |

## TABLE 5: WATER RESOURCES

| WATER RESOURCES GOALS | WATER RESOURCES OBJECTIVES | WATER RESOURCES RECOMMENDATIONS |
|---|---|---|
| **PRIMARY GOAL:** Maintain and protect an adequate and safe water supply to serve current and future residents of Ridgely. | **OBJECTIVE #1:** Maintain and protect an adequate water supply to serve the residents of Ridgely and collaborate with Caroline County to serve current and future populations through 2030. | **RECOMMENDATION #1:** Implement urban Best Management Practices or BMP's for Ridgely as recommended by the Tributary Strategies and the Implementation Chapter of this Comprehensive Plan. |
| | **OBJECTIVE #2:** Restore and protect water quality and contribute toward meeting water quality regulatory requirements in rivers and streams in the Upper Choptank River Watershed, including addressing current water quality impacts as well as future impacts from land development and population growth. | **RECOMMENDATION #2:** Update and/or revise Ridgely's *Stormwater Management Ordinance*, programs, and other development standards to require environmental site design (ESD) techniques that optimize<br><br>• Conservation of natural features (e.g., drainage patterns, soil, vegetation);<br>• Minimize impervious surfaces (e.g., pavement, concrete channels, roofs);<br>• Decrease runoff to maintain discharge timing; and<br>• Increase infiltration and evapotranspiration and use other nonstructural practices or innovative technologies approved by MDE. |
| | **OBJECTIVE #3:** Protect the habitat value of rivers and streams. | **RECOMMENDATION #3:** Work with Caroline County to develop watershed planning and management guidelines and relate all development to its impact on the County's water resources. |
| | **OBJECTIVE #4:** Work with Caroline County to develop watershed planning and management guidelines that relate land use and development to their impacts on water resources. | **RECOMMENDATION #4:** Encourage Caroline County to develop a program and dedicate funding to assist in connecting septic systems in or near existing sewer service areas. This may include |

| TABLE 5: WATER RESOURCES | | |
|---|---|---|
| **WATER RESOURCES GOALS** | **WATER RESOURCES OBJECTIVES** | **WATER RESOURCES RECOMMENDATIONS** |
| | | establishing a retrofit program funded by the Bay Restoration Fund to upgrade failing septic systems in the County to advance bio-nutrient reduction systems in the Chesapeake Bay. |
| | **OBJECTIVE #5:** Work with Caroline County to develop a plan for addressing the needs of property owners with failing septic systems in Trinity Boonsboro. | |
| | **OBJECTIVE #6:** Develop Town-wide water conservation methods and policies and encourage innovative technologies for stormwater management such as bio-roofs, rain gardens, rain barrels, and street-side buffer areas for home and business owners. | |

## TABLE 6: HERITAGE PRESERVATION

| HERITAGE PRESERVATION GOALS | HERITAGE PRESERVATION OBJECTIVES | HERITAGE PRESERVATION RECOMMENDATIONS |
|---|---|---|
| **PRIMARY GOAL:** Preserve Ridgely's heritage resources. | **OBJECTIVE #1:** Encourage the appropriate preservation of historical, cultural, archeological, natural, and scenic resources. | **RECOMMENDATION #1:** Promote historic rehabilitation and revitalization tax credits and other historic preservation measures to improve the existing housing stock. |
| | **OBJECTIVE #2:** Improve Ridgely's inventory of historic sites, structures, and heritage attractions. | **RECOMMENDATION #2:** Continue to build heritage tourism attractions in Ridgely such as the Ridgely Railroad House, the Cow Barn, and the Rails-to-Trail, while also promoting the revitalization of the Town Center and Central Business District. |
| | **OBJECTIVE #3:** Designate a list of Landmark Historic Sites and Structure for the Town and address policy/regulatory mechanisms to preserve these sites and structures. | **RECOMMENDATION #3:** Seek ways to ensure that the Eastern Shore vernacular architecture found along Ridgely's streets is maintained and preserved as a valuable economic asset and an important heritage resource. |
| | **OBJECTIVE #4:** Encourage and support heritage preservation through mapping, planning, and regulatory mechanisms. | **RECOMMENDATION #4:** Consider the preparation of a "Ridgely Historic Preservation Plan," including the mapping, documenting, and inventorying of current heritage resources and scenic and cultural landscapes. This includes designating a list of official landmark historic sites and structures, encouraging the establishment of a local historic district, and promoting recognition through the awarding of plaques. |
| | **OBJECTIVE #5:** Coordinate strategies to achieve mutual County/Town heritage preservation goals and objective. | **RECOMMENDATION #5:** Update and revise planning policies and regulatory mechanisms, including Design Guidelines, to assist in the preservation of heritage resources in Ridgely. |
| | **OBJECTIVE #6:** Encourage the development of Historic Scenic Highways for Ridgely and the region. | **RECOMMENDATION #6:** Adopt flexible zoning provisions that promote the adaptive reuse of |

## TABLE 6: HERITAGE PRESERVATION

| HERITAGE PRESERVATION GOALS | HERITAGE PRESERVATION OBJECTIVES | HERITAGE PRESERVATION RECOMMENDATIONS |
|---|---|---|
| | | historic structures for public and private uses including, but not limited to, bed and breakfast establishments, craft/gift shops, small retail operations, cafes and restaurants, museums, and studio space for artisans, when such uses minimize exterior structural alterations. |
| | **OBJECTIVE #7:** Encourage industries that support heritage preservation. | **RECOMMENDATION #7:** Assist property owners in identifying financial incentives for rehabilitation and/or adaptive reuse of older buildings that exhibit important or traditional architectural features. New construction of commercial and residential buildings, including new development, infill and redevelopment, should reflect the characteristics of Ridgely's best historic architecture, where appropriate. |
| | | **RECOMMENDATION #8:** Establish mechanisms through partnerships to supply technical and professional assistance regarding heritage resources, including assistance to property owners for the rehabilitation and/or restoration of heritage structures in Ridgely. |
| | | **RECOMMENDATION #9:** Encourage the protection and rehabilitation of historic homes and buildings by evaluating the use of Façade Easements, Enterprise Funds, and Rehabilitation Tax Incentives, as well as working with the Maryland Department of Housing and Community Development, the Maryland Historical Trust, and the National Trust for Historic Preservation to |

## TABLE 6: HERITAGE PRESERVATION

| HERITAGE PRESERVATION GOALS | HERITAGE PRESERVATION OBJECTIVES | HERITAGE PRESERVATION RECOMMENDATIONS |
|---|---|---|
| | | obtain financial support for rehabilitation. |
| | | **RECOMMENDATION #10:** Partner with local entities such as the Eastern Shore Heritage Incorporated (ESHI), Caroline County Government, the Caroline County Historical Society, and the Caroline County Economic Development Corporation to promote and enhance heritage preservation and tourism initiatives in Ridgely. |
| | | **RECOMMENDATION #11:** Partner with Caroline County and the Maryland State Department of Transportation (MDOT) - State Highway Administration (SHA) to promote Ridgely in regards to the benefits from Scenic and Historic Byway designations. |
| | | **RECOMMENDATION #12:** Work with Caroline County to explore ways to provide local funding to assist with heritage preservation, neighborhood revitalization, and tourism in Ridgely and other municipalities. |

## TABLE 7: TRANSPORTATION

| TRANSPORTATION GOALS | TRANSPORTATION OBJECTIVES | TRANSPORTATION RECOMMENDATIONS |
|---|---|---|
| **PRIMARY GOAL:** Provide for the safe and efficient movement of people and goods and encourage regional and local coordination of transportation decisions. | **OBJECTIVE #1:** Improve the transport of people and goods along MD Route 404 (Shore Highway) and major collector systems; | **RECOMMENDATION #1:** Adopt the Federal Functional Classification System to maintain a balanced system of streets and provide guidelines for redevelopment of existing streets and the construction of new streets. |
| | **OBJECTIVE #2:** Improve safety for motorists by controlling access along State and County roads; | **RECOMMENDATION #2:** Initiate an Infrastructure & Facilities Plan following the adoption of the Comprehensive Plan, to provide details regarding infrastructure improvements, transportation networks, the proposed Ridgely Bypass, multi-modal transportation opportunities, and a capital improvements component. Such a Plan can be integrated with the Town's Capital Improvements Plan (CIP). At a minimum, the Plan should review the following:<br><br>• Major Collectors - Traffic capacity for the near future and what street improvements may be warranted. Improvements could include installation of curb, gutter, sidewalks, and bike lanes where none exist including planting space between curb and sidewalk.<br>• Minor Collectors - Although, existing streets classified as local collectors may not be able to be improved to meet recommended standards, all future minor collectors in Ridgely should conform to standards set forth in the *Ridgely Subdivision Regulations* and other Town standards and specifications. |

## TABLE 7: TRANSPORTATION

| TRANSPORTATION GOALS | TRANSPORTATION OBJECTIVES | TRANSPORTATION RECOMMENDATIONS |
|---|---|---|
| | | • Residential Streets - A "Capital Improvements Program" should be undertaken to upgrade existing local streets. Such a program should include installation of sidewalks, curb and gutter, and other streetscape improvements, where feasible. Priority streets for improvements should be detailed. Traffic calming measures should be studied and implemented in key locations.<br>• New Streets - Infill and redevelopment projects within Ridgely should be required to expand the modified grid street system and connect to other existing streets as appropriate.<br>• Public Parking – The Land Use Plan emphasizes infill and redevelopment, including development of small-scale retail establishments in the Central Business District. The Town should identify opportunities for public parking.<br>• Pedestrian & Bike Systems - New and upgraded pedestrian and bike systems should focus on providing safe access to the Town Center, Central Business District, other shopping areas, the Ridgely Elementary School, and parks and recreation facilities in Town. |
| | **OBJECTIVE #3:** Ensure development of appropriate vehicle and pedestrian circulation systems to serve designated growth areas and greenbelts; | **RECOMMENDATION #3:** New developments should be required to provide sidewalks, including sidewalks along property frontages as well as bike and pedestrian trails, where feasible and appropriate. |

## TABLE 7: TRANSPORTATION

| TRANSPORTATION GOALS | TRANSPORTATION OBJECTIVES | TRANSPORTATION RECOMMENDATIONS |
|---|---|---|
| | **OBJECTIVE #4:** Minimize the need for extensive capital investment in upgrading County roads outside of designated growth areas and greenbelts; | **RECOMMENDATION #4:** Maintain and develop a road network that calms traffic in residential areas and gives appropriate consideration to the needs of pedestrians and bicyclists. |
| | **OBJECTIVE #5:** Encourage the location of jobs close to population centers in order to reduce vehicle miles of travel; and | **RECOMMENDATION #5:** Design new streets and sidewalks to fit with existing neighborhoods and facilitate circulation through the community. |
| | **OBJECTIVE #6:** Provide for alternative modes of travel, where appropriate, within designated growth areas and greenbelts such as pedestrian and bicycle routes. | **RECOMMENDATION #6:** Improve existing streets with walkways, where necessary, to accommodate pedestrian and bicycle movement. Maryland SHA policy is to make all State routes bicycle compatible to promote alternative modes of transportation, which also includes walking and carpooling. The SHA "Sidewalk Retrofit Program" can assist the Town with multi-modal transportation objectives. |
| | | **RECOMMENDATION #7:** Work with appropriate local and State agencies to provide assistance in repairing or reconstructing sidewalks and roads in the community. |
| | | **RECOMMENDATION #8:** Evaluate vacant lots to see if they can be used for off-street parking lots, especially near neighborhood commercial uses. |
| | | **RECOMMENDATION #9:** Adopt provisions for Ridgely regulations that insure that all future development provides adequate off-street parking. |

# APPENDIX B: DEVELOPMENT ANALYSIS

## DEVELOPMENT PATTERN ANALYSIS

As indicated in Table B-1, recent planned developments exhibit a range of gross dwelling unit (DU) density per acre. Gross densities range from 2.7 DU's per acre to 16 DU's per acre. Average lot sizes range from 13,155 square feet to 16,103 square feet. The average land area per lot is 0.28 acres (1/4 acre). The average gross dwelling unit per acre is 5.6 DU's.

**TABLE B-1: CHARACTERISTICS OF RECENT PLANNED DEVELOPMENTS (GROSS DENSITY PER ACRE)**

| Subdivision | Total Acres | Number of Lots/Units (Est.) | AVG Land Area per Lot (SF) | AVG Land Area per Lot (Acres) | Gross DU's per Acre |
|---|---|---|---|---|---|
| Cow Barn Subdivision | 4.865 | 34 | 6,233 | 0.14 | 7.0 |
| Ridgely Park (Concept Plan) | 148.645 | 403 | 16,067 | 0.37 | 2.7 |
| Ridgeway Estates (Concept Plan) | 5.369 | 16 | 14,617 | 0.34 | 3.0 |
| Walnut Farms | 7.306 | 20 | 15,912 | 0.37 | 2.7 |
| Walnut Street | 1.109 | 3 | 16,103 | 0.37 | 2.7 |
| Weese Project | 0.446 | 7 | 2,775 | 0.06 | 16.0 |
| **TOTAL** | **168** | **483** | **71,707** | **0.28** | **5.6** |

The Pattern Analysis reviews the characteristics of recent Ridgely planned developments in relation to gross density per acre and net density per acre. Methodology includes the following factors:

- Gross density per acre characteristics assumes development for the entire acreage of the development site.
- Net density per acre characteristics includes the three largest planned developments in Ridgely to ascertain a likely potential future pattern of development for the Town: 1) Ridgely Park; 2) Ridgeway Estates; and 3) Walnut Farms.
- Net density per acre characteristics account for land excluded in planned developments for open space, infrastructure, and environmental management and accounts for the remaining land area, which constitutes the developable envelope.

As indicated in Table B-2, recent planned developments exhibit a range of net dwelling unit density per acre. Net densities range from 3.5 DU's per acre to 4.6 DU's per acre. The average net dwelling unit per acre for planned development in Ridgely is 4 DU's. Based on current site plans, the area in lots represents the developable envelope. The remaining land area includes land excluded from development for open space, infrastructure, and/or environmental management. The percentage of excluded land varies in the three planned developments. However, the average for excluded land is 34% of the development site's total acreage.

| *TABLE B-2: CHARACTERISTICS OF RECENT DEVELOPMENTS (NET DENSITY PER ACRE) | | | | | | |
|---|---|---|---|---|---|---|
| Subdivision | Total Acres | Number of Lots | Area in Lots (Acres) | Remaining Land Area | AVG Land Area per Lot (Acres) | DU's per Net Acres |
| Ridgely Park | 148.645 | 403 | 87.162 | 61.483 | 0.22 | 4.6 |
| Ridgeway Estates | 5.369 | 16 | 4.217 | 1.152 | 0.26 | 3.8 |
| Walnut Farms | 7.306 | 20 | 5.782 | 1.524 | 0.29 | 3.5 |
| **TOTAL** | **161** | **439** | **97** | **64** | **0.22** | **4** |

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*Note: Table B-2 is based on master concept plans. Assumes an average of 4 Dwelling Units (DU's) per acre.

Tables B-3 through B-5, provide estimates for vacant and underutilized residential land in Ridgely including residential, commercial, and industrial uses. Based on the Pattern Analysis, assumptions in relation to potential residential infill and redevelopment sites (vacant and underutilized land) include:

- For acreages over 2 acres, approximately 34% of a development site will be excluded for open space, infrastructure, and/or environmental management.
- Approximately 66% of a site will constitute the potential development envelope.
- The Pattern Analysis indicates an average of four (4) DU's per acre.
- Acreages less than ¾ of an acre will permit one (1) DU only.
- Parcels over 10 acres will utilize a Planned Neighborhood Development process.

| TABLE B-3: VACANT PARCELS – RESIDENTIAL ZONING | | | | | |
|---|---|---|---|---|---|
| Vacant Parcels | Acreage | Area | Development Envelope | Remaining Land | Potential DU's |
| Parcel 1 | 3.559 | 155,030 | 2.349 | 1.21 | 9 |
| Parcel 2 - PND | 65.479 | 2,852,265 | 43.216 | 22.263 | 173 |
| Parcel 3 | 0.207 | 9,017 | N/A | N/A | 1 |
| Parcel 4 | 0.242 | 10,542 | N/A | N/A | 1 |
| Parcel 5 | 0.228 | 9,932 | N/A | N/A | 1 |
| Parcel 6 | 0.265 | 11,543 | N/A | N/A | 1 |
| Parcel 7 | 0.632 | 27,530 | N/A | N/A | 1 |
| Parcel 8 | 9.527 | 414,996 | 6.288 | 3.239 | 25 |
| Parcel 9 | 0.626 | 27,269 | N/A | N/A | 1 |
| Parcel 10 | 1.389 | 60,505 | N/A | N/A | 2 |
| Parcel 11 - PND | 32.771 | 1,427,505 | 21.629 | 11.142 | 87 |
| Parcel 12 - PND | 74.64 | 3,251,318 | 49.262 | 25.378 | 197 |
| Parcel 13 - PND | 21.885 | 953,311 | 14.444 | 7.441 | 58 |
| Parcel 14 - PND | 15.599 | 679,492 | 10.295 | 5.304 | 41 |
| Parcel 15 - PND | 49.375 | 2,150,775 | 32.587 | 16.788 | 130 |
| **SUB-TOTAL** | **276** | 12,022,560 | **N/A** | **N/A** | **728** |
| **UNDERUTILIZED PARCELS – RESIDENTIAL ZONING** | | | | | |
| **Underutilized Parcels** | **Acreage** | **Area** | **Development Envelope** | **Remaining Land** | **Potential DU's** |
| Parcel 1 | 0.772 | 33,628 | N/A | N/A | 1 |
| Parcel 2 | 5.87 | 255,697 | 3.874 | 1.996 | 15 |
| Parcel 3 | 7.186 | 313,022 | 4.743 | 2.443 | 19 |
| **SUB-TOTAL** | **14** | 609,840 | **N/A** | **N/A** | **35** |
| **TOTAL** | **290** | **12,632,400** | **N/A** | **N/A** | **763** |

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Estimates for vacant commercial and industrial land in Ridgely include the following assumptions, in relation to potential commercial and industrial infill and redevelopment sites:

- Floor Area Ratio (FAR) of 0.10.
- Water and Sewerage demand of 200 gallons per day (gpd) per 1,000 square feet of floor area.
- Lots under 5 acres assume 1 Commercial Unit (CU) or Industrial Unit (IU) per parcel.
- Lots over 5 acres assume a minimum lot size of 20,000 square feet.
- The Ridgely Business & Technology Park (Phase I) will receive 9,000 gpd of Town water and wastewater capacity. Capacity does not exist to serve subsequent phases.

| TABLE B-4: VACANT PARCELS – COMMERCIAL ZONING | | | | | |
|---|---|---|---|---|---|
| **Vacant Parcels** | **Acreage** | **Area** | **FAR** | **W&S Usage** | **Potential CU's** |
| Parcel 1 | 1.064 | 46,348 | 4,635 | 927 | 1 |
| Parcel 2 | 0.894 | 38,943 | 3,894 | 779 | 1 |
| Parcel 3 | 0.691 | 30,100 | 3,010 | 602 | 1 |
| Parcel 4 | 0.625 | 27,225 | 2,723 | 545 | 1 |
| Parcel 5 | 0.475 | 20,691 | 2,069 | 414 | 1 |
| Parcel 6 | 0.251 | 10,934 | 1,093 | 219 | 1 |
| **SUB-TOTAL** | **4** | **174,241** | **17,424** | **3,486** | **6** |
| **UNDERUTILIZED PARCELS – COMMERCIAL ZONING** | | | | | |
| **Vacant Parcels** | **Acreage** | **Area** | **FAR** | **W&S Usage** | **Potential CU's** |
| Parcel 1 | 0.927 | 40,380 | 4,038 | 808 | 1 |
| **SUB-TOTAL** | **1** | **40,380** | **4,038** | **808** | **1** |
| **RIDGELY BUSINESS & TECHNOLOGY PARK – COMMERCIAL PLANNED DEVELOPMENT** | | | | | |
| **Vacant Parcels** | **Acreage** | **Area** | **FAR** | **W&S Usage** | **Potential CU's** |
| Business/Tech Park | 95 | 4,138,200 | N/A | N/A | N/A |
| - Buildings | 5.803 | 252,953 | 252,648 | 50,530 | 18 |
| **SUB-TOTAL** | **95** | **4,138,200** | **252,648** | **50,530** | **18** |
| **TOTAL** | **100** | **4,352,820** | **275,110** | **54,824** | **25** |

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| TABLE B-5: VACANT PARCELS – INDUSTRIAL ZONING | | | | | |
|---|---|---|---|---|---|
| **Vacant Parcels** | **Acreage** | **Area** | **FAR** | **W&S Usage** | **Potential IU's** |
| Parcel 1 | 0.429 | 18,687 | 1,869 | 374 | 1 |
| Parcel 2 | 0.748 | 32,583 | 3,258 | 652 | 1 |
| Parcel 3 | 4.877 | 212,442 | 21,244 | 4,245 | 1 |
| Parcel 4 | 1.119 | 48,744 | 4,874 | 975 | 1 |
| Parcel 5 | 0.568 | 24,742 | 2,474 | 495 | 1 |
| Parcel 6 | 0.887 | 38,638 | 3,864 | 773 | 1 |
| Parcel 7 | 12.91 | 562,360 | 56,236 | 11,247 | 2.8 |
| **SUB-TOTAL** | **22** | **938,196** | **93,819** | **18,761** | **9** |
| **UNDERUTILIZED PARCELS – INDUSTRIAL ZONING** | | | | | |
| **Vacant Parcels** | **Acreage** | **Area** | **FAR** | **W&S Usage** | **Potential IU's** |
| Parcel 1 | 1.557 | 67,823 | 6,782 | 1,356 | 1 |
| Parcel 2 | 4.472 | 194,800 | 19,480 | 3,896 | 1 |
| Parcel 13 | 0.226 | 9,845 | 985 | 197 | 1 |
| **SUB-TOTAL** | **6** | **272,468** | **27,247** | **5,449** | **3** |
| **TOTAL** | **28** | **1,210,664** | **121,066** | **24,210** | **12** |

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## INFILL & REDEVELOPMENT POTENTIAL

As shown in Figure B-1, further analysis provides a listing of suitable properties for future development. These include vacant properties as well as underutilized properties with limited development potential. Vacant and underutilized properties determine infill and redevelopment capacity, which is a requirement in preparing a Municipal Growth Element (MGE). Capacity was first determined by identifying vacant lots and underutilized parcels using 2006 MPV data. These areas were further refined using sensitive areas data from the Maryland Department of Natural Resources (DNR), such as wetlands. Each remaining parcel was then visually examined using Caroline County's recent aerial photography from 2003. Lots or properties that exhibited abundant sensitive areas or limited development potential were eliminated from consideration. The results have produced an inventory of properties with development potential in Ridgely:

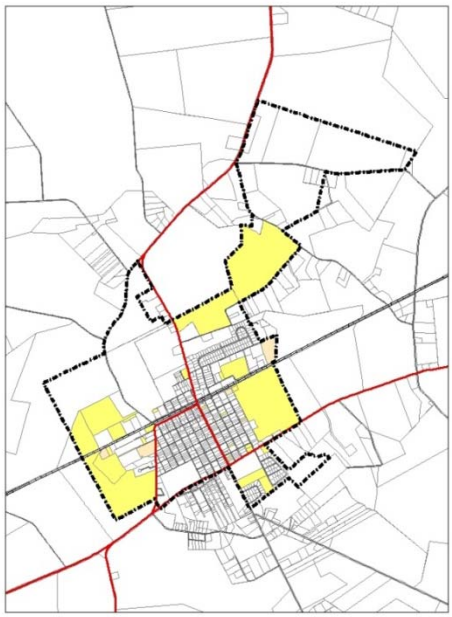


**FIGURE B-1:** Ridgely Land Use – 2006 MPV Infill/Redevelopment Areas

**TABLE B-6: VACANT PARCELS (2008)**

| ID | ZONING | LAND USE | MAP | BLOCK | PARCEL | ACREAGE |
|---|---|---|---|---|---|---|
| 1 | I-1 | C | 22 | 5 | 148 | 5.532 |
| 2 | R-1 | E | 22 | 5 | 149 | 3.559 |
| 3 | C-3 | C | 22 | 5 | 150 | 1.064 |
| 4 | C-3 | R | 701 | 24 | 286 | 0.894 |
| 5 | C-3 | R | 701 | 24 | 285 | 0.691 |
| 6 | R-1 | A | 701 | 17 | 277 | 65.479 |
| 7 | C-1 | C | 700 | 18 | 320 | 0.625 |
| 8 | C-1 | C | 700 | 57 | 319 | 0.475 |
| 9 | R-1 | R | 700 | 56 | 329 | 0.207 |
| 10 | R-1 | R | 700 | 51 | 351 | 0.242 |
| 11 | R-1 | R | 700 | 43 | 426 | 0.228 |
| 12 | R-1 | R | 700 | 11 | 437 | 0.265 |
| 13 | C-2 | C | 700 | 31 | 484 | 0.251 |
| 14 | R-1 | E | 701 | 16 | 277 | 0.632 |
| 15 | R-3 | R | 701 | 16 | 871 | 9.527 |
| 16 | R-3 | R | 701 | 16 | 819 | 0.626 |
| 17 | R-3 | A | 701 | 14 | 826 | 1.389 |
| 18 | R | A | 17 | 16 | 15 | 32.771 |
| 19 | R | A | 17 | 17 | 35 | 74.64 |
| 20 | I-1 | C | 700 | 9 | 541 | 0.429 |
| 21 | I-2 | C | 700 | 9 | 543 | 0.748 |
| 22 | R-3 | A | 700 | 3 | 275 | 21.885 |
| 23 | I-2 | A | 700 | 3 | 274 | 4.877 |
| 24 | I-2 | I | 700 | 14 | 547 | 1.119 |
| 25 | I-2 | C | 700 | 15 | 552 | 0.568 |
| 26 | I-2 | I | 700 | 14 | 273 | 0.887 |
| 27 | R | A | 22 | 3 | 43 | 15.599 |

| | | | | | | |
|---|---|---|---|---|---|---|
| 28 | I-2 | A | 700 | 14 | 271 | 12.91 |
| 29 | R-2 | A | 700 | 20 | 256 | 49.375 |

- Residential Properties
- Commercial Properties
- Industrial Properties

**TABLE B-7: UNDERUTILIZED PARCELS (2008)**

| ID | ZONING | LAND USE | MAP | BLOCK | PARCEL | ACREAGE |
|---|---|---|---|---|---|---|
| 1 | C-3 | R | 701 | 24 | 283 | 0.927 |
| 2 | R-1 | R | 700 | 33 | 497 | 0.772 |
| 3 | R-3 | R | 701 | 11 | 824 | 7.244 |
| 4 | R-3 | R | 700 | 4 | 275 | 7.186 |
| 5 | I-2 | C | 700 | 14 | 554 | 4.472 |
| 6 | I-1 | R | 700 | 15 | 612 | 0.226 |
| 7 | I-2 | I | 700 | 3 | 272 | 1.557 |

- Residential Properties
- Commercial Properties

Industrial Properties

**TABLE B-8: VACANT RESIDENTIAL PARCELS (2008)**

| ID | ZONING | LAND USE | MAP | BLOCK | PARCEL | ACREAGE |
|---|---|---|---|---|---|---|
| Parcel 1 | R-1 | E | 22 | 5 | 149 | 3.559 |
| Parcel 2 | R-1 | A | 701 | 17 | 277 | 65.479 |
| Parcel 3 | R-1 | R | 700 | 56 | 329 | 0.207 |
| Parcel 4 | R-1 | R | 700 | 51 | 351 | 0.242 |
| Parcel 5 | R-1 | R | 700 | 43 | 426 | 0.228 |
| Parcel 6 | R-1 | R | 700 | 11 | 437 | 0.265 |
| Parcel 7 | R-1 | E | 701 | 16 | 277 | 0.632 |
| Parcel 8 | R-3 | R | 701 | 16 | 871 | 9.527 |
| Parcel 9 | R-3 | R | 701 | 16 | 819 | 0.626 |
| Parcel 10 | R-3 | A | 701 | 14 | 826 | 1.389 |
| Parcel 11 | R | A | 17 | 16 | 15 | 32.771 |
| Parcel 12 | R | A | 17 | 17 | 35 | 74.64 |
| Parcel 13 | R-3 | A | 700 | 3 | 275 | 21.885 |
| Parcel 14 | R | A | 22 | 3 | 43 | 15.599 |
| Parcel 15 | R-2 | A | 700 | 20 | 256 | 49.375 |

- Residential Properties
- Commercial Properties

Industrial Properties

# APPENDIX C: WATER RESOURCES ELEMENT – SUPPLEMENTAL DATA

Appendix C contains technical documentation for the preparation of the Ridgely Water Resources Element (WRE). Documentation provides supplemental information for the WRE, Chapter 6 of this Comprehensive Plan.

## BASE LAND USE

According to 2002 data from the Maryland Department of Planning (MDP), land use in the Choptank River Basin was 58% agriculture, 29% forested, and 10% urban. The 2002 land use breakdown in the Upper Choptank Watershed was very similar to that of the overall River Basin.

**TABLE C-1: 2002 LAND USE – UPPER CHOPTANK RIVER WATERSHED**

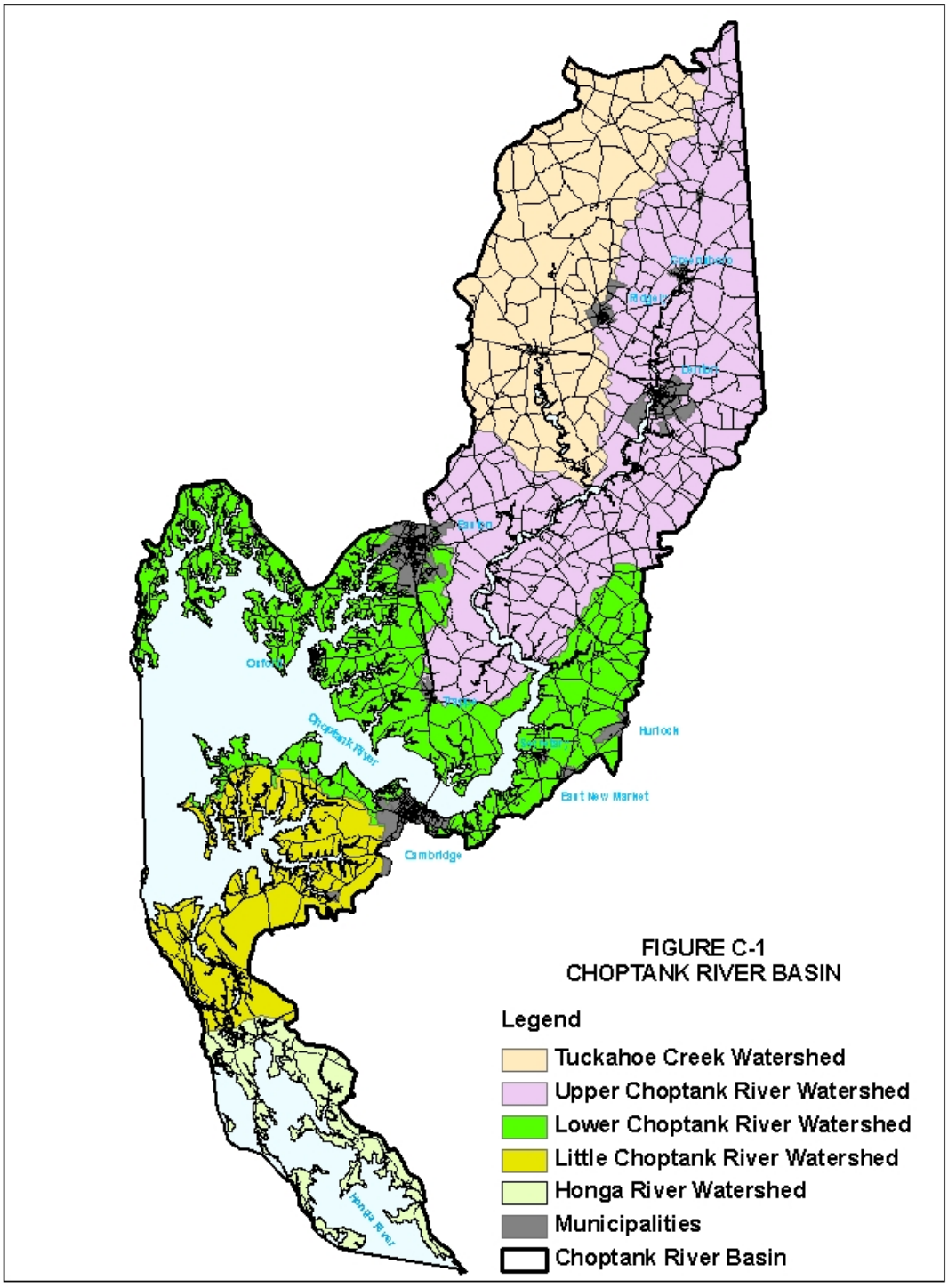
| Land Use | Acres | Percent of Watershed | Percent of Basin |
|---|---|---|---|
| Urban | 13,318 | 8.1% | 2.3% |
| Agriculture | 94,481 | 57.7% | 16.3% |
| Forest | 46,069 | 28.1% | 7.9% |
| Wetlands | 4,639 | 2.8% | 0.8% |
| Water | 4,754 | 2.9% | 0.8% |
| Other | 422 | 0.3% | 0.1% |
| **Total** | **163,683** | **100.0%** | **28.2%** |

Peter Johnston & Associated
Maryland Property View 2002: Land Use

**TABLE C-2: 2002 LAND USE – TUCKAHOE CREEK WATERSHED**

| Land Use | Acres | Percent of Watershed | Percent of Basin |
|---|---|---|---|
| Urban | 3,690 | 3.8% | 0.64% |
| Agriculture | 67,710 | 68.9% | 11.67% |
| Forest | 25,265 | 25.7% | 4.36% |
| Wetlands | 947 | 1.0% | 0.16% |
| Water | 648 | 0.7% | 0.11% |
| Other | 14 | 0.0% | 0.00% |
| **Total** | **98,274** | **100.0%** | **16.94%** |

Peter Johnston & Associated
Maryland Property View 2002: Land Use


Denton
Greensboro
Hillsboro
Preston
Easton
Oxford
Choptank River
Hurlock
Secretary
East New Market
Cambridge
Honga River
FIGURE C-1
CHOPTANK RIVER BASIN
Legend
Tuckahoe Creek Watershed
Upper Choptank River Watershed
Lower Choptank River Watershed
Little Choptank River Watershed
Honga River Watershed
Municipalities
Choptank River Basin

| TABLE C-3: 2002 LAND USE – TOWN OF RIDGELY | | | |
|---|---|---|---|
| **Land Use** | **Acres** | **Percent of Watershed** | **Percent of Basin** |
| Urban | 435.28 | 36.49% | 0.08% |
| Agriculture | 721.26 | 60.47% | 0.12% |
| Forest | 29.08 | 2.44% | 0.01% |
| Wetlands | 0 | 0.00% | 0.00% |
| Water | 0 | 0.00% | 0.00% |
| Other | 7.21 | 0.60% | 0.00% |
| **Total** | **1,193** | **100.00%** | **0.21%** |

Peter Johnston & Associated
Maryland Property View 2002: Land Use

At the same time, agriculture and forest uses constituted a larger percent of land use In the Tuckahoe Creek watershed. Urban uses were less than 4% of the total land area. The Town of Ridgely was less than 1% of the land area in the watersheds and about 2.6% of the urban land use in the watersheds based on 2002 land use and cover data (see Map C-1).

| TABLE C-4: RIDGELY'S SHARE OF THE RIVER BASIN & WATERSHED | | |
|---|---|---|
| **Location** | **Acres** | **% in Ridgely** |
| River Basin | 580,054 | 0.2% |
| Upper Choptank Watershed | 163,683 | 0.7% |
| Tuckahoe Watershed | 98,274 | 1.2% |
| Town of Ridgely | 1,193 | 100.0% |

Peter Johnston & Associated
Maryland Property View 2002: Land Use

## FUTURE LAND USE: POPULATION AND DWELLING UNITS

The future land use plan for Ridgely, as indicated in the Land Use Chapter of this Comprehensive Plan (Chapter 2) represents the planned "end use" of property at build-out (see Table C-5). To a large extent, implementing the Future Land Use Plan will result in the conversion of land that in 2002 was indicated as agriculture, and to a lesser extent, forest use. These land use changes will impact water resources.

| TABLE C-5: FUTURE LAND USE – RIDGELY, MARYLAND | | |
|---|---|---|
| **Primary Land Use Categories** | **Acres** | **% of Total** |
| 1)Town Center - TC | 25 | 2.10% |
| 2)Central Business District - CBD | 27 | 2.26% |
| 3)Neighborhood Conservation - NC | 183 | 15.34% |
| 4)Highway Commercial - HC | 28 | 2.35% |
| 5)Business Employment - BE | 304 | 25.48% |
| 6)Public/Semi-Public - PS | 174 | 14.59% |
| 7)Planned Development - PD | 401 | 33.61% |
| 8)Roads/Infrastructure | 58 | 4.86% |
| **TOTAL** | **1,193** | **100.00%** |
| ***Secondary Land Use Categories** | **Acres** | **% of Total** |
| 1)Neighborhood Redevelopment Areas | 56 | 24.67% |
| 2)Parks & Open Space | 120 | 52.86% |
| 3)Conservation Corridor | 51 | 22.47% |
| **TOTAL** | **227** | **100.00%** |

Peter Johnston & Associates

Population projections are based on build-out of the corporate area of Ridgely in accordance with the Land Use Plan (see Table C-6). The actual timing and completion of the build-out may take, more or less time, to complete than shown in Table.

| TABLE C-6: POPULATION PROJECTIONS FOR CAROLINE COUNTY AND RIDGELY (2000-2030) | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|
| **Classification** | **2000** | **2010** | **2015** | **2020** | **2025** | **2030** | **Change** | **Percent** | **Annual** |
| **Caroline County** | 29,772 | 34,200 | 37,300 | 40,750 | 44,000 | 47,150 | 17,378 | 58% | 1.9% |

| Ridgely | 1,352 | 1,491 | 1,838 | 2,187 | 2,544 | 2,726 | 1,374 | 102% | 3.4% |
|---|---|---|---|---|---|---|---|---|---|
| Dwelling Units | 549 | 606 | 747 | 889 | 1,034 | 1,108 | 559 | N/A | N/A |
| % of County Population | 5% | 4% | 5% | 5% | 6% | 6% | N/A | N/A | N/A |
| Sources: Maryland Department of Planning; U.S. Census; Peter Johnston & Associates | | | | | | | | | |

The indicators sought are projections of when average daily wastewater flows and drinking water withdrawal reach 75% of capacity and planning for facility expansion should begin and maximum demand to evaluate drinking water supplies and impacts on receiving waters associated with point and non-point source discharge.

## LAND USE PATTERN

See "Appendix B: Development Pattern Analysis" for an assessment of land use patterns in Ridgely, Maryland.

## WATER DEMAND

Table C-7 summarizes existing permitted water supply, average daily demand and maximum daily demand. Table C-8 summarizes projected water demand associated with the build-out of the corporate area of Ridgely.

| TABLE C-7: RIDGELY WATER SYSTEM | |
|---|---|
| **Water Appropriations Permit** | **Gallons Per Day (GDP)** |
| - Max Daily Withdrawal | 300,000 |
| - Ave. Daily Withdrawal | 200,000 |
| **USAGE** | **Gallons Per Day (GDP)** |
| **Average Daily Demand** | **140,000** |
| Peter Johnston & Associates | |

| TABLE C-8: PROJECTED WATER DEMAND AT "BUILD-OUT" | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|
| **Classification** | **2010** | **2015** | **2020** | **2025** | **2030** | **2035** | **2040** | **2045** | **2050** |
| Dwelling Units | 606 | 747 | 889 | 1,034 | 1,108 | 1,285 | 1,462 | 1,637 | 1,825 |
| Residential Demand (gpd) | 151,515 | 186,742 | 222,254 | 258,523 | 277,023 | 321,273 | 365,523 | 409,250 | 456,250 |
| Non-residential Demand (gpd) | 11,000 | 11,000 | 11,000 | 11,000 | 11,000 | 28,526 | 46,052 | 63,578 | 81,104 |
| **Total** | **162,515** | **197,742** | **233,254** | **269,523** | **288,023** | **349,799** | **411,575** | **472,828** | **537,354** |
| % of Average Daily Withdrawal | 81% | 99% | 117% | 135% | 144% | 175% | 206% | 236% | 269% |
| % of Maximum Daily Withdrawal | 54% | 66% | 78% | 90% | 96% | 117% | 137% | 158% | 179% |
| Peter Johnston & Associates | | | | | | | | | |

## WATER SUPPLY CAPACITY

The Town of Ridgely draws its water from the Piney Point aquifer, which extends from North Carolina to New Jersey. In Maryland, the aquifer provides water in Calvert and St. Mary's Counties on the western shore, and in Queen Anne's, Talbot, Caroline, and Dorchester counties on the Delmarva Peninsula.

The Piney Point aquifer lies below all of Caroline County. The common range of yield for wells in the aquifer is 10 to 250 gallons per minute (gpm). In some areas the yield may exceed 600 gpm.[1] On the Delmarva Peninsula, the aquifer's rate of transmissivity (the rate at which water will move through the aquifer) is greatest in a zone that runs from Cambridge, Maryland to Dover, Delaware. Another area of comparatively thick, high yielding surficial sediments is in the vicinity of Ridgely. The aquifer becomes less transmissive away from this zone, as sediment thickness decreases north of Ridgely. [2]

The Piney Point aquifer does not outcrop in Maryland. The principal recharge to the aquifer on the Eastern Shore is due to leakage from the overlying Cheswold aquifer in areas where the two aquifers are connected or separated by only a thin layer of silt and clay. Large water users on the Eastern Shore, particularly agricultural operations, depend more on the region's water table (surficial) aquifers than the Piney Point aquifer. The surficial aquifer in the northern part of Caroline County, the Columbia aquifer, is poorly transmissive. The Columbia aquifer supplies some homes and farms (for irrigation), but shallowness makes it vulnerable to drought and pollution from surface sources.[3]

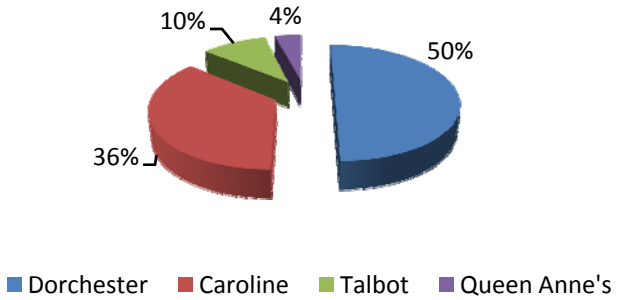
The Maryland Department of the Environment (MDE) released projections of water use in the Piney Point aquifer in 1995. As shown in Table C-9, these uses are classified as Agricultural and Non-Agricultural, reflected in gallons per day (gpd).

**TABLE C-9: MDE WATER USE PROJECTIONS BY LAND USE FOR THE PINEY POINT AQUIFER – CAROLINE COUNTY**

| Classification | 1990 | 1995 | 2000 | 2005 |
|---|---|---|---|---|
| Pop. Projections (MDP) | 27,035 | 28,701 | 30,103 | 31,149 |
| Agriculture Use (gpd) | 553,737 | 553,737 | 553,737 | 553,737 |
| Non Ag Use (gpd) | 929,248 | 986,515 | 1,034,708 | 1,070,657 |
| Total Use (gpd) | 1,482,985 | 1,540,252 | 1,588,445 | 1,624,394 |

Source: *A Finite Difference of Analysis of the Piney Point Aquifer on the Eastern Shore of Maryland*, Maryland Department of the Environment Water Rights Division, 1995

**FIGURE C-1: Proportion of Piney Point Use for Caroline County**




In 1993, Caroline County comprised approximately 36% of the aquifer's usage on the Eastern Shore. In 1998, within the four Delmarva counties using the Piney Point aquifer, a total of 392 wells were permitted to pump an average 31,280,800 gallons per day (gpd) total from surficial aquifers. By contrast, there are 317 water appropriation permits for the Piney Point aquifer with permitted averages totaling 5,125,950 gpd.[4] MDE's "Water Rights Division" instructs large irrigators in Caroline County to use the Columbia aquifer, reserving the confined aquifers for drinking water supply because they are more

[1] *Caroline County Comprehensive Water and Sewerage Plan*, Caroline County, Maryland Planning Department, 1992
[2] Agricultural Use of the Piney Point Aquifer, Maryland Department of the Environment Water Rights Division, 1998
[3] Maryland Geological Survey Report of Investigation #72, D. D. Drummond, 2001,
[4] Agricultural Use of the Piney Point Aquifer, Maryland Department of the Environment Water Rights Division, 1998

protected. In the 1990s, however, an increasing number of farmers sought water appropriation permits from confined aquifers (including the Piney Point) because of low yields in the surficial aquifer.

In May 1998, MDE temporarily suspended processing applications from Caroline County farmers for Water Appropriations Permits due to an increase in the number of large users interested in using the Piney Point aquifer for irrigation. MDE conducted a study of water use and availability in the region to evaluate the cumulative impacts of all existing water uses and proposed permitted water uses of the aquifer. This included known water uses in surrounding counties and Delaware. The study concluded that uses, at that time, would not seriously impact the Piney Point aquifer or cause conflicts with other users. In addition, the aquifer could support additional withdrawals above existing levels at the time. MDE has resumed processing all applications for ground water from the Piney Point aquifer. The Department continues to direct large users to the Columbia aquifer in areas where yield is sufficient. Where yield is insufficient, MDE will permit large water users including farmers, to use the Piney Point aquifer on a case-by-case basis.

More recently, in 2007, MDE reported that steadily declining well water levels are a matter of concern to local residents in some areas of the State. [5] The aquifers requiring scrutiny are the Aquia, Piney Point, Magothy, and Patapsco Formations. These formations are heavily used on the Coastal Plain and in the Washington-Baltimore metropolitan area. In 2007, the U.S. Department of the Interior (USDI) and U.S. Geological Survey (USGS) reported that "decades of increasing pumpage have caused ground-water levels in parts of the Maryland Coastal Plain to decline by as much as 2 feet per year in some areas of southern Maryland. Continued declines at this rate could affect the long-term sustainability of ground-water resources in Maryland's heavily populated Coastal Plain communities and the agricultural industry of the Eastern Shore."[6]

A report prepared by the Maryland Advisory Committee on the Management and Protection of the State's Water Resources recommended a comprehensive study of the sustainability of the entire Atlantic Coastal Plain aquifer system in Maryland, which is currently being undertaken by the U.S. Department of the Interior and U.S. Geological Survey, in cooperation with the Maryland Geological Survey and Maryland Department of the Environment. The assessment will be conducted in three phases and is expected to take 7 to 8 years to complete. The project is currently in Phase I, which was begun in 2006. A key component of the assessment will be the development of an aquifer information system designed to serve the needs of both water managers and scientific investigators. When fully developed, the system will serve as a web-based tool and will facilitate the use of ground-water management models for evaluation of a variety of water-management strategies.

For now there is no evidence that the Town of Ridgely's growth plans cannot be support by existing ground water resources, although the Town may have to draw water from alternative ground water sources in the future. More information is required. Prior to installing new wells, the Town will have to determine the

[5] *Ground Water Protection Program*, Annual Report to the Maryland General Assembly July 2007, Maryland Department of the Environment Water Supply Program.

[6] Open File Report 2007 – 1205, *A Science Plan For A Comprehensive Regional Assessment Of The Atlantic Coastal Plain Aquifer System In Maryland*, by Robert J. Shedlock, David W. Bolton, Emery T. Cleaves, James M. Gerhart, and Mark R. Nardi, U.S. Department of the Interior, U.S. Geological Survey, 2007.

capacity following the aquifer test procedures included in the Ground Water Appropriation Permit requirements.

## WASTEWATER TREATMENT PLANT (WWTP) DEMAND

Ridgely's Waste Water Treatment Plant (WWTP) consists of two non-aerated storage lagoons, a chlorine contact tank, and effluent spray fields consisting of 279 acres. Under the WWTP's current operating permit (Permit Number 04-DP-0530), the facility may discharge 200,000 gallons per day (gpd). In 2008, the Plant's average annual flow was 124,667 gpd (based on the average annual flows of 2005, 2006, and 2007), with 75,333 gpd remaining in capacity. [7]

Because the WWTP does not have a point discharge into a tributary of the Chesapeake Bay, not nutrient cap has been established. Nor have the Tributary Strategies for the Upper Choptank River have not identified WWTP's in the watershed as a major contributing source of pollution to the Choptank River Basin although strategies do include urban nutrient management techniques. [8]

Table C-10 summaries projected sewer demand associated with the build-out of the corporate limits of the Town.

**TABLE C-10: PROJECTED SEWER DEMAND AT "BUILD-OUT"**

| Classification | 2010 | 2015 | 2020 | 2025 | 2030 | 2035 | 2040 | 2045 | 2050 |
|---|---|---|---|---|---|---|---|---|---|
| Dwelling Units | 606 | 747 | 889 | 1,034 | 1,108 | 1,285 | 1,462 | 1,637 | 1,825 |
| Residential Demand (gpd) | 151,515 | 186,742 | 222,254 | 258,523 | 277,023 | 321,273 | 365,523 | 409,250 | 456,250 |
| Non-residential Demand (gpd) | 11,000 | 11,000 | 11,000 | 11,000 | 11,000 | 28,526 | 46,052 | 63,578 | 81,104 |
| **Total** | **162,515** | **197,742** | **233,254** | **269,523** | **288,023** | **349,799** | **411,575** | **472,828** | **537,354** |
| % of Permitted Capacity | 81% | 99% | 117% | 135% | 144% | 175% | 206% | 236% | 269% |

Peter Johnston & Associates

Based on projected demand, the Town is already at or near 75% capacity and should begin planning system capacity upgrades. According to Town officials planning for the next increment of WWTP capacity is under way. The Town will require an addition 256,250 gpd of sewer treatment capacity to meet projected demand associated with the build-out of its existing corporate area. In the absence of a nutrient cap or limitation imposed by TMDLs it appears that the Town of Ridgely can accommodate its build-out and projected growth using existing treatment technology. What technology will be required will need to be appropriate to meet discharge permit parameters.

If the Town continues to rely on land application treatment and the current ratio of gpd to spray land area requirements are an indication, Ridgely will need to increase the size of its spray fields by a factor of 2.5 (about 400 acres). If the Town pursues a treatment option that includes a point discharge, suitable receiving streams will have to identified and permitted by the MDE. In addition, if the Town opts for land

[7] MDE Letter to Joseph A. Mangini, Jr., Town Manager, Ridgely, February 15, 2008
[8] Maryland Tributary Strategy Choptank River Basin Summary Report for 1985-2005 Data, Maryland Department of Natural Resources Tidewater Ecosystem Assessment, August 2007

application they need to mindful of the treatment implications. "According to the Tributary Strategy, all future treatment plants with a surface discharge have zero nutrient allocation and must therefore offset 100% of their nutrient load."[9]

## SEPTIC SYSTEMS

All properties in the Town (existing and projected) will be served by the Town's sewer system. In addition the Town provides limited water and sewer service to a few properties located outside of the Town. Numerous other properties located adjacent to Town are currently served by on-site septic systems (e.g., Trinity Boonsboro). Cooperative County/Town strategies for addressing future TMDLs in the Upper Choptank and Tuckahoe Creek watershed might include cooperative arrangements to provide public water and sewer service to these properties.

## STORMWATER RUNOFF

Stormwater runoff loadings were assessed using the Center for Watershed Protection's Watershed Treatment Model, version 3.1 (see table at the end of this Appendix). The models formula was modified to reflect updated impervious cover coefficients as per table 4.1, A User's Guide to Watershed Planning in Maryland, Center for Watershed Protection, December 2005. Roadway acres were estimated by based on road classification and average roadway width.

Stormwater loadings for the Choptank River Basin, Upper Choptank, Tuckahoe Creek and Town of Ridgely are based on MDP 2002 Land Use and Land Cover data. 2002 was selected as the base year for comparison as this appears the base year used for modeling in watersheds where TMDLs have been established (e.g., the Upper Chester River Watershed). Tables C-11 summarizes the results of the 2002 non-point loading analysis.

**TABLE C-11: NON-POINT SOURCE LOADING ESTIMATES – BASE 2002 LAND USE**

| BASIN & WATERSHED CHARACTERISTICS | | ANNUAL LOAD | | | |
|---|---|---|---|---|---|
| **Classification** | **% Impervious Cover** | **TN lbs/yr** | **TP lbs/yr** | **TSS lbs/yr** | **FC # billion/year** |
| Choptank River Basin | 2.29 | 3,591,307 | 317,597 | 68,337,653 | 23,425,136 |
| Upper Choptank River Watershed | 2.73 | 703,851 | 89,278 | 17,546,239 | 8,071,568 |
| Tuckhoe River Watershed | 1.47 | 414,762 | 56,620 | 10,213,977 | 4,164,837 |
| Town of Ridgely | 19.78 | 7,454 | 1,038 | 187,371 | 216,292 |
| | | | | | |
| % of Choptank River Basin | N/A | 0.21% | 0.33% | 0.27% | 0.92% |
| % of Choptank River Watershed | N/A | 1.06% | 1.16% | 1.07% | 2.68% |
| % of Tuckahoe Creek Watershed | N/A | 1.80% | 1.83% | 1.83% | 5.19% |
| Peter Johnston & Associates | | | | | |

Table C-12 summarizes the nonpoint source loadings applying the projected 2030 land use for the Town of Ridgely.

[9] *The Water Resources Element: Planning for Water Supply and Wastewater and Stormwater Management*, Maryland Department of Planning, Publication No. 2007-003, June 2007

| TABLE C-12: NON-POINT SOURCE LOADINGS – BASE 2002 LAND USE AND 2030 RIDGELY LAND USE | | | | | |
|---|---|---|---|---|---|
| BASIN & WATERSHED CHARACTERISTICS | | ANNUAL LOAD | | | |
| **Classification** | **% Impervious Cover** | **TN lbs/yr** | **TP lbs/yr** | **TSS lbs/yr** | **FC # billion/year** |
| Choptank River Basin | 2.3 | 3,591,630 | 317,618 | 68,351,950 | 23,474,762 |
| Upper Choptank River Watershed | 2.8 | 704,006 | 89,287 | 17,553,339 | 8,096,895 |
| Tuckhoe River Watershed | 1.5 | 414,927 | 56,631 | 10,221,099 | 4,189,059 |
| Town of Ridgely | 25.5 | 7,776 | 1,059 | 201,642 | 265,874 |
| | | | | | |
| % of Choptank River Basin | N/A | 0.22% | 0.33% | 0.30% | 1.13% |
| % of Choptank River Watershed | N/A | 1.10% | 1.19% | 1.15% | 3.28% |
| % of Tuckahoe Creek Watershed | N/A | 1.87% | 1.87% | 1.97% | 6.35% |
| Peter Johnston & Associates | | | | | |

Table C-13 summarizes the relative change in nonpoint source loading over the 2002 base loading factoring in the projected 2030 Ridgely land use plan.

| TABLE C-13: DIFFERENCE IN NON-POINT SOURCE – LOADING 2002 BASE LAND USE WITH 2030 RIDGELY LAND USE | | | | | |
|---|---|---|---|---|---|
| **Location** | **% Impervious Cover** | **TN lb/year** | **TP lb/year** | **TSS lb/year** | **FC # billion/year** |
| Choptank River Basin | 0.012 | 0.01% | 0.01% | 0.02% | 0.21% |
| Upper Choptank River Watershed | 0.021 | 0.05% | 0.02% | 0.08% | 0.60% |
| Tuckahoe Creek Watershed | 0.034 | 0.08% | 0.04% | 0.14% | 1.15% |
| Peter Johnston & Associates | | | | | |

These tables illustrate the relatively minor impact of the Town's growth plans on overall nonpoint source loadings in the River Basin and watersheds. However, Town officials should not be misled by the modeling exercise. Even considering relative minor impacts associated with Town growth, Town officials must remember that Ridgely's growth is only one aspect of potential land use changes in the river basin and watersheds. The modeling only accounts for land use changes during the planning period associated with Ridgely's planned growth. Realistically changes in nonpoint source loadings will need to be accounted for in context of the water resource elements for Caroline, Queen Anne's, Talbot and Dorchester Counties as well as the other municipalities in the region (including growth in Delaware).

Green cells need to be completed by the user
Blue cells have default or calculated values but may be substituted
Grey cells should generally not be changed
Purple Cells Reflect "Bottom Line" Loads or Load Reductions

## PRIMARY SOURCES - Land Use

| 2002 Land Use Choptank River Basin | | Area (Acres) | Impervious Cover % | Concentrations TN mg/l | Concentrations TP mg/l | Concentrations TSS mg/l | Concentrations FC MPN/100 ml | Annual Loading Rates TN lb/acre | Annual Loading Rates TP lb/acre | Annual Loading Rates TSS lb/acre | Annual Loading Rates FC # billion/acre | Annual Load TN lb/year | Annual Load TP lb/year | Annual Load TSS lb/year | Annual Load FC # billion/year |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Residential | LDR (<1du/acre) | 27,698 | 14 | 2 | 0.26 | 55 | 20000 | 3.1 | 0.4 | 90 | 141 | 85,668 | 11,137 | 2,492,788 | 3,904,362 |
| | MDR (1-4 du/acre) | 4,246 | 28 | 2 | 0.26 | 55 | 20000 | 5.3 | 0.7 | 148 | 242 | 22,536 | 2,930 | 655,742 | 1,027,086 |
| | HDR (>4 du/acre) | 642 | 41 | 2 | 0.26 | 55 | 20000 | 7.4 | 1.0 | 202 | 336 | 3,995 | 619 | 109,851 | 182,064 |
| | Multifamily | | 44 | 2 | 0.26 | 55 | 20000 | 7.8 | 1.0 | 216 | 367 | - | - | - | - |
| | | | | | | | | 1.3 | 0.1 | 90 | 12 | - | - | - | - |
| | | | | | | | | 1.3 | 0.1 | 90 | 12 | - | - | - | - |
| | | | | | | | | 1.3 | 0.1 | 90 | 12 | - | - | - | - |
| | | | | | | | | 1.3 | 0.1 | 90 | 12 | - | - | - | - |
| | | | | | | | | 1.3 | 0.1 | 90 | 12 | - | - | - | - |
| | | | | | | | | 1.3 | 0.1 | 90 | 12 | - | - | - | - |
| Commercial | | 4,648 | 72 | 2 | 0.26 | 55 | 20000 | 12.3 | 1.6 | 337 | 559 | 57,026 | 7,413 | 1,566,206 | 2,598,967 |
| | | | | | | | | 0.0 | 0.0 | 0 | - | - | - | - | - |
| | | | | | | | | 0.0 | 0.0 | 0 | - | - | - | - | - |
| | | | | | | | | 0.0 | 0.0 | 0 | - | - | - | - | - |
| | | | | | | | | 0.0 | 0.0 | 0 | - | - | - | - | - |
| Roadway | | 4,614 | 95 | 2 | 0.26 | 55 | 20000 | 16.9 | 2.1 | 437 | 726 | 73,377 | 9,539 | 2,017,858 | 3,344,167 |
| | | | | | | | | 0.0 | 0.0 | 0 | - | - | - | - | - |
| | | | | | | | | 0.0 | 0.0 | 0 | - | - | - | - | - |
| | | | | | | | | 0.0 | 0.0 | 0 | - | - | - | - | - |
| | | | | | | | | 0.0 | 0.0 | 0 | - | - | - | - | - |
| Industrial | | 612 | 53 | 2 | 0.26 | 55 | 20000 | 9.3 | 1.2 | 255 | 422 | 4,740 | 616 | 130,354 | 216,034 |
| | | | | | | | | 0.0 | 0.0 | 0 | - | - | - | - | - |
| | | | | | | | | 0.0 | 0.0 | 0 | - | - | - | - | - |
| | | | | | | | | 0.0 | 0.0 | 0 | - | - | - | - | - |
| | | | | | | | | 0.0 | 0.0 | 0 | - | - | - | - | - |
| Forest | | 126,612 | | | | | | 2.5 | 0.2 | 100 | 12 | 316,529 | 25,322 | 12,661,184 | 1,519,340 |
| | | | | | | | | | | | | - | - | - | - |
| | | | | | | | | | | | | - | - | - | - |
| | | | | | | | | | | | | - | - | - | - |
| | | | | | | | | | | | | - | - | - | - |
| Rural | | 272,846 | | | | | | 4.8 | 0.7 | 100 | 39 | 1,264,167 | 190,852 | 27,284,504 | 10,633,167 |
| | | | | | | | | | | | | - | - | - | - |
| | | | | | | | | | | | | - | - | - | - |
| | | | | | | | | | | | | - | - | - | - |
| | | | | | | | | | | | | - | - | - | - |
| | | | | | | | | | | | | - | - | - | - |
| | | | | | | | | | | | | - | - | - | - |
| | | | | | | | | | | | | - | - | - | - |
| | | | | | | | | | | | | - | - | - | - |
| Open Water | | 138,537 | | | | | | 12.8 | 0.6 | 155 | | 1,773,270 | 89,268 | 21,473,187 | - |
| Active Construction | | | | | | | | | | | | | | | |
| Vacant Lots | | | | | | | | 0 | 0 | 0 | 0 | | | | |
| Total | | 580,054 | 2.291248818 | | | | | 6.191331 | 0.647629219 | 117.8125 | 40.38439819 | 3,591,307 | 317,697 | 68,337,853 | 23,426,136 |

### Partitioning Coefficients for Rural and Forest Land

| Pollutant | TN | TP | TSS | FC |
|---|---|---|---|---|
| Fraction as Storm Load | 60% | 70% | 90% | 100% |

### Watershed Data

| | |
|---|---|
| Annual Rainfall (inches) | 43.2 |
| Watershed Area (acres) | 580,054 |
| Stream Length (miles) | |
| Planning Horizon (years) | |

Green cells need to be completed by the user
Blue cells have default or calculated values but may be substituted
Grey cells should generally not be changed
Purple Cells Reflect "Bottom Line" Loads or Load Reductions

## PRIMARY SOURCES - Land Use

| 2002 Land Use Tuckhoe Creek Watershed | | Area (Acres) | Impervious Cover % | Concentrations TN mg/l | TP mg/l | TSS mg/l | FC MPN/100 ml | Annual Loading Rates TN lb/acre | TP lb/acre | TSS lb/acre | FC 8 billion/acre | Annual Load TN lb/year | TP lb/year | TSS lb/year | FC 8 billion/year |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | | | | | | | | | | | | | | | |
| Residential | LDR (<1du/acre) | 2706.84 | 14 | 2 | 0.26 | 55 | 20000 | 3.1 | 0.4 | 90 | 141 | 8,377 | 1,089 | 243,751 | 381,777 |
| | MDR (1-4 du/acre) | 205.761 | 28 | 2 | 0.26 | 55 | 20000 | 5.3 | 0.7 | 148 | 242 | 1,092 | 142 | 30,031 | 49,770 |
| | HDR (>4 du/acre) | 13.284 | 41 | 2 | 0.26 | 55 | 20000 | 7.4 | 1.0 | 202 | 336 | 97 | 13 | 2,680 | 4,441 |
| | Multifamily | | 44 | 2 | 0.26 | 55 | 20000 | 7.8 | 1.0 | 218 | 367 | - | - | - | - |
| | | | | | | | | 1.3 | 0.1 | 90 | 12 | - | - | - | - |
| | | | | | | | | 1.3 | 0.1 | 90 | 12 | - | - | - | - |
| | | | | | | | | 1.3 | 0.1 | 90 | 12 | - | - | - | - |
| | | | | | | | | 1.3 | 0.1 | 90 | 12 | - | - | - | - |
| | | | | | | | | 1.3 | 0.1 | 90 | 12 | - | - | - | - |
| | | | | | | | | 1.3 | 0.1 | 90 | 12 | - | - | - | - |
| Commercial | | 343.362 | 72 | 2 | 0.26 | 55 | 20000 | 12.3 | 1.6 | 337 | 569 | 4,218 | 548 | 115,691 | 192,230 |
| | | | | | | | | 0.0 | 0.0 | 0 | - | - | - | - | - |
| | | | | | | | | 0.0 | 0.0 | 0 | - | - | - | - | - |
| | | | | | | | | 0.0 | 0.0 | 0 | - | - | - | - | - |
| | | | | | | | | 0.0 | 0.0 | 0 | - | - | - | - | - |
| Roadway | | 786.316 | 95 | 2 | 0.26 | 55 | 20000 | 16.9 | 2.1 | 437 | 726 | 12,665 | 1,648 | 343,282 | 677,202 |
| | | | | | | | | 0.0 | 0.0 | 0 | - | - | - | - | - |
| | | | | | | | | 0.0 | 0.0 | 0 | - | - | - | - | - |
| | | | | | | | | 0.0 | 0.0 | 0 | - | - | - | - | - |
| | | | | | | | | 0.0 | 0.0 | 0 | - | - | - | - | - |
| Industrial | | 2.63979 | 63 | 2 | 0.26 | 55 | 20000 | 9.9 | 1.3 | 264 | 423 | 26 | 4 | 692 | 1,494 |
| | | | | | | | | 0.0 | 0.0 | 0 | - | - | - | - | - |
| | | | | | | | | 0.0 | 0.0 | 0 | - | - | - | - | - |
| | | | | | | | | 0.0 | 0.0 | 0 | - | - | - | - | - |
| | | | | | | | | 0.0 | 0.0 | 0 | - | - | - | - | - |
| Forest | | 25160.2 | | | | | | 2.6 | 0.2 | 100 | 12 | 62,675 | 6,030 | 2,515,020 | 301,802 |
| | | | | | | | | | | | | - | - | - | - |
| | | | | | | | | | | | | - | - | - | - |
| | | | | | | | | | | | | - | - | - | - |
| | | | | | | | | | | | | - | - | - | - |
| Rural | | 68106.7 | | | | | | 4.8 | 0.7 | 100 | 39 | 313,289 | 47,674 | 6,810,670 | 2,656,122 |
| | | | | | | | | | | | | - | - | - | - |
| | | | | | | | | | | | | - | - | - | - |
| | | | | | | | | | | | | - | - | - | - |
| | | | | | | | | | | | | - | - | - | - |
| | | | | | | | | | | | | - | - | - | - |
| | | | | | | | | | | | | - | - | - | - |
| | | | | | | | | | | | | - | - | - | - |
| | | | | | | | | | | | | - | - | - | - |
| | | | | | | | | | | | | - | - | - | - |
| Open Water | | 946.782 | | | | | | 12.8 | 0.8 | 100 | | 12,119 | 473 | 146,761 | - |
| Active Construction | | | | | | | | | | | | | | | |
| Vacant Lots | | | | | | | | 0 | 0 | 0 | 0 | | | | |
| Total | | 98278.72479 | 1.473584648 | | | | | 4.22048 | 0.578148388 | 103.934 | 42.37998889 | 414,782 | 56,623 | 10,213,877 | 4,164,837 |

### Partitioning Coefficients for Rural and Forest Land

| Pollutant | TN | TP | TSS | FC |
|---|---|---|---|---|
| Fraction as Storm Load | 60% | 70% | 90% | 100% |

### Watershed Data

| | |
|---|---|
| Annual Rainfall (inches) | 43.2 |
| Watershed Area (acres) | 98278.72479 |
| Stream Length (miles) | |
| Planning Horizon (years) | |

Green cells need to be completed by the user
Blue cells have default or calculated values but may be substituted
Grey cells should generally not be changed
Purple Cells Reflect "Bottom Line" Loads or Load Reductions

## PRIMARY SOURCES - Land Use

| 2002 Land Use Town of Ridgely | | Area (Acres) | Impervious Cover % | Concentrations TN mg/l | Concentrations TP mg/l | Concentrations TSS mg/l | Concentrations FC MPN/100 ml | Annual Loading Rates TN lb/acre | Annual Loading Rates TP lb/acre | Annual Loading Rates TSS lb/acre | Annual Loading Rates FC # billion/acre | Annual Load TN lb/year | Annual Load TP lb/year | Annual Load TSS lb/year | Annual Load FC # billion/year |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Residential | LDR (<1du/acre) | 48.3684 | 14 | 2 | 0.26 | 55 | 20000 | 3.1 | 0.4 | 90 | 141 | 150 | 19 | 4,352 | 6,817 |
| | MDR (1-4 du/acre) | 129.196 | 28 | 2 | 0.26 | 55 | 20000 | 6.3 | 0.7 | 148 | 242 | 686 | 89 | 18,858 | 31,260 |
| | HDR (>4 du/acre) | 47.4474 | 41 | 2 | 0.26 | 55 | 20000 | 7.4 | 1.0 | 202 | 338 | 349 | 45 | 9,606 | 16,023 |
| | Multifamily | | 44 | 2 | 0.26 | 56 | 20000 | 7.8 | 1.0 | 216 | 367 | - | - | - | - |
| | | | | | | | | 1.3 | 0.1 | 90 | 12 | - | - | - | - |
| | | | | | | | | 1.3 | 0.1 | 90 | 12 | - | - | - | - |
| | | | | | | | | 1.3 | 0.1 | 90 | 12 | - | - | - | - |
| | | | | | | | | 1.3 | 0.1 | 90 | 12 | - | - | - | - |
| | | | | | | | | 1.3 | 0.1 | 90 | 12 | - | - | - | - |
| | | | | | | | | 1.3 | 0.1 | 90 | 12 | - | - | - | - |
| Commercial | | 154.079 | 72 | 2 | 0.26 | 55 | 20000 | 12.3 | 1.6 | 337 | 569 | 1,890 | 246 | 51,975 | 86,138 |
| | | | | | | | | 0.0 | 0.0 | 0 | - | - | - | - | - |
| | | | | | | | | 0.0 | 0.0 | 0 | - | - | - | - | - |
| | | | | | | | | 0.0 | 0.0 | 0 | - | - | - | - | - |
| | | | | | | | | 0.0 | 0.0 | 0 | - | - | - | - | - |
| Roadway | | 49 | 95 | 2 | 0.26 | 55 | 20000 | 16.9 | 2.1 | 437 | 726 | 778 | 101 | 21,431 | 35,617 |
| | | | | | | | | 0.0 | 0.0 | 0 | - | - | - | - | - |
| | | | | | | | | 0.0 | 0.0 | 0 | - | - | - | - | - |
| | | | | | | | | 0.0 | 0.0 | 0 | - | - | - | - | - |
| | | | | | | | | 0.0 | 0.0 | 0 | - | - | - | - | - |
| Industrial | | 30.2166 | 53 | 2 | 0.26 | 55 | 20000 | 9.3 | 1.2 | 265 | 422 | 280 | 38 | 7,998 | 12,764 |
| | | | | | | | | 0.0 | 0.0 | 0 | - | - | - | - | - |
| | | | | | | | | 0.0 | 0.0 | 0 | - | - | - | - | - |
| | | | | | | | | 0.0 | 0.0 | 0 | - | - | - | - | - |
| | | | | | | | | 0.0 | 0.0 | 0 | - | - | - | - | - |
| Forest | | 27.5864 | | | | | | 2.5 | 0.2 | 100 | 12 | 70 | 6 | 2,759 | 336 |
| | | | | | | | | | | | | - | - | - | - |
| | | | | | | | | | | | | - | - | - | - |
| | | | | | | | | | | | | - | - | - | - |
| | | | | | | | | | | | | - | - | - | - |
| Rural | | 706.848 | | | | | | 4.6 | 0.7 | 100 | 39 | 3,251 | 495 | 70,685 | 27,569 |
| | | | | | | | | | | | | - | - | - | - |
| | | | | | | | | | | | | - | - | - | - |
| | | | | | | | | | | | | - | - | - | - |
| | | | | | | | | | | | | - | - | - | - |
| | | | | | | | | | | | | - | - | - | - |
| | | | | | | | | | | | | - | - | - | - |
| | | | | | | | | | | | | - | - | - | - |
| | | | | | | | | | | | | - | - | - | - |
| Open Water | | 0 | | | | | | 12.8 | 0.6 | 155 | | - | - | - | - |
| Active Construction | | | | | | | | | | | | | | | |
| Vacant Lots | | | | | | | | 0 | 0 | 0 | 0 | | | | |
| Total | | 1192.8288 | 19.77646398 | | | | | 6.249068 | 0.869882782 | 157.0813 | 181.3265563 | 7,464 | 1,038 | 187,371 | 216,292 |

### Partitioning Coefficients for Rural and Forest Land

| Pollutant | TN | TP | TSS | FC |
|---|---|---|---|---|
| Fraction as Storm Load | 60% | 70% | 80% | 100% |

### Watershed Data

| | |
|---|---|
| Annual Rainfall (inches) | 43.2 |
| Watershed Area (acres) | 1192.8288 |
| Stream Length (miles) | |
| Planning Horizon (years) | |

Green cells need to be completed by the user
Blue cells have default or calculated values but may be substituted
Grey cells should generally not be changed
Purple Cells Reflect "Bottom Line" Loads or Load Reductions

## PRIMARY SOURCES - Land Use

| 2002 Land Use Upper Choptank River Watershed | | Area (Acres) | Impervious Cover % | Concentrations TN mg/l | Concentrations TP mg/l | Concentrations TSS mg/l | Concentrations FC MPN/100 ml | Annual Loading Rates TN lb/acre | Annual Loading Rates TP lb/acre | Annual Loading Rates TSS lb/acre | Annual Loading Rates FC # billion/acre | Annual Load TN lb/year | Annual Load TP lb/year | Annual Load TSS lb/year | Annual Load FC # billion/year |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Residential | LDR (<1du/acre) | 9581.66 | 14 | 2 | 0.28 | 55 | 20000 | 3.1 | 0.4 | 80 | 141 | 29,686 | 3,857 | 883,240 | 1,362,067 |
| | MDR (1-4 du/acre) | 1123.97 | 28 | 2 | 0.28 | 55 | 20000 | 6.3 | 0.7 | 148 | 242 | 5,985 | 775 | 184,044 | 271,886 |
| | HDR (>4 du/acre) | 145.441 | 41 | 2 | 0.28 | 55 | 20000 | 7.4 | 1.0 | 202 | 338 | 1,071 | 139 | 28,451 | 48,808 |
| | Multifamily | | 44 | 2 | 0.28 | 55 | 20000 | 7.8 | 1.0 | 218 | 367 | - | - | - | - |
| | | | | | | | | 1.3 | 0.1 | 80 | 12 | - | - | - | - |
| | | | | | | | | 1.3 | 0.1 | 80 | 12 | - | - | - | - |
| | | | | | | | | 1.3 | 0.1 | 80 | 12 | - | - | - | - |
| | | | | | | | | 1.3 | 0.1 | 80 | 12 | - | - | - | - |
| | | | | | | | | 1.3 | 0.1 | 80 | 12 | - | - | - | - |
| | | | | | | | | 1.3 | 0.1 | 80 | 12 | - | - | - | - |
| Commercial | | 1454.01 | 72 | 2 | 0.28 | 55 | 20000 | 12.3 | 1.8 | 337 | 569 | 17,838 | 2,319 | 490,479 | 812,861 |
| | | | | | | | | 0.0 | 0.0 | 0 | - | - | - | - | - |
| | | | | | | | | 0.0 | 0.0 | 0 | - | - | - | - | - |
| | | | | | | | | 0.0 | 0.0 | 0 | - | - | - | - | - |
| | | | | | | | | 0.0 | 0.0 | 0 | - | - | - | - | - |
| Roadway | | 1720.04 | 95 | 2 | 0.28 | 55 | 20000 | 16.9 | 2.1 | 437 | 726 | 27,358 | 3,658 | 762,289 | 1,246,764 |
| | | | | | | | | 0.0 | 0.0 | 0 | - | - | - | - | - |
| | | | | | | | | 0.0 | 0.0 | 0 | - | - | - | - | - |
| | | | | | | | | 0.0 | 0.0 | 0 | - | - | - | - | - |
| | | | | | | | | 0.0 | 0.0 | 0 | - | - | - | - | - |
| Industrial | | 133.66 | 53 | 2 | 0.28 | 55 | 20000 | 9.3 | 1.2 | 255 | 422 | 1,237 | 161 | 34,014 | 56,370 |
| | | | | | | | | 0.0 | 0.0 | 0 | - | - | - | - | - |
| | | | | | | | | 0.0 | 0.0 | 0 | - | - | - | - | - |
| | | | | | | | | 0.0 | 0.0 | 0 | - | - | - | - | - |
| | | | | | | | | 0.0 | 0.0 | 0 | - | - | - | - | - |
| Forest | | 50478.1 | | | | | | 2.5 | 0.2 | 100 | 12 | 126,195 | 10,096 | 5,047,810 | 606,737 |
| | | | | | | | | | | | | - | - | - | - |
| | | | | | | | | | | | | - | - | - | - |
| | | | | | | | | | | | | - | - | - | - |
| | | | | | | | | | | | | - | - | - | - |
| Rural | | 94286 | | | | | | 4.6 | 0.7 | 100 | 39 | 433,711 | 66,000 | 9,428,600 | 3,677,115 |
| | | | | | | | | | | | | - | - | - | - |
| | | | | | | | | | | | | - | - | - | - |
| | | | | | | | | | | | | - | - | - | - |
| | | | | | | | | | | | | - | - | - | - |
| | | | | | | | | | | | | - | - | - | - |
| | | | | | | | | | | | | - | - | - | - |
| | | | | | | | | | | | | - | - | - | - |
| | | | | | | | | | | | | - | - | - | - |
| | | | | | | | | | | | | - | - | - | - |
| Open Water | | 4751.06 | | | | | | 12.8 | 0.6 | 155 | | 60,814 | 2,378 | 736,414 | - |
| Active Construction | | | | | | | | | | | | | | | |
| Vacant Lots | | | | | | | | 0 | 0 | 0 | 0 | | | | |
| Total | | 163682.721 | 2.730200282 | | | | | 4.300093 | 0.646431342 | 107.1966 | 49.31227932 | 703,851 | 89,278 | 17,546,238 | 8,071,668 |

### Partitioning Coefficients for Rural and Forest Land

| Pollutant | TN | TP | TSS | FC |
|---|---|---|---|---|
| Fraction as Storm Load | 60% | 70% | 90% | 100% |

### Watershed Data

| | |
|---|---|
| Annual Rainfall (inches) | 43.2 |
| Watershed Area (acres) | 163682.721 |
| Stream Length (miles) | |
| Planning Horizon (years) | |

## PRIMARY SOURCES - Land Use

| 2030 Land Use Choptank River Basin | | Area (Acres) | Impervious Cover % | Concentrations TN mg/l | TP mg/l | TSS mg/l | FC MPN/100 ml | Annual Loading Rates TN lb/acre | TP lb/acre | TSS lb/acre | FC # billion/acre | Annual Load TN lb/year | TP lb/year | TSS lb/year | FC # billion/year |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Residential | LDR (<1du/acre) | 27,898 | 14 | 2 | 0.26 | 56 | 20000 | 3.1 | 0.4 | 90 | 141 | 86,668 | 11,137 | 2,492,788 | 3,904,362 |
| | MDR (1-4 du/acre) | 4,427 | 28 | 2 | 0.26 | 56 | 20000 | 5.3 | 0.7 | 148 | 242 | 23,484 | 3,054 | 646,063 | 1,070,741 |
| | HDR (>4 du/acre) | 642 | 41 | 2 | 0.26 | 56 | 20000 | 7.4 | 1.0 | 202 | 336 | 3,995 | 519 | 109,861 | 182,064 |
| | Multifamily | | 44 | 2 | 0.26 | 56 | 20000 | 7.8 | 1.0 | 216 | 357 | - | - | - | - |
| | | | | | | | | 1.3 | 0.1 | 90 | 12 | - | - | - | - |
| | | | | | | | | 1.3 | 0.1 | 90 | 12 | - | - | - | - |
| | | | | | | | | 1.3 | 0.1 | 90 | 12 | - | - | - | - |
| | | | | | | | | 1.3 | 0.1 | 90 | 12 | - | - | - | - |
| | | | | | | | | 1.3 | 0.1 | 90 | 12 | - | - | - | - |
| | | | | | | | | 1.3 | 0.1 | 90 | 12 | - | - | - | - |
| Commercial | | 4,849 | 72 | 2 | 0.26 | 56 | 20000 | 12.3 | 1.6 | 337 | 569 | 67,026 | 7,413 | 1,668,206 | 2,698,867 |
| | | | | | | | | 0.0 | 0.0 | 0 | - | - | - | - | - |
| | | | | | | | | 0.0 | 0.0 | 0 | - | - | - | - | - |
| | | | | | | | | 0.0 | 0.0 | 0 | - | - | - | - | - |
| | | | | | | | | 0.0 | 0.0 | 0 | - | - | - | - | - |
| Roadway | | 4,828 | 95 | 2 | 0.26 | 56 | 20000 | 15.9 | 2.1 | 437 | 725 | 73,572 | 9,584 | 2,023,228 | 3,363,067 |
| | | | | | | | | 0.0 | 0.0 | 0 | - | - | - | - | - |
| | | | | | | | | 0.0 | 0.0 | 0 | - | - | - | - | - |
| | | | | | | | | 0.0 | 0.0 | 0 | | | | | |
| | | | | | | | | 0.0 | 0.0 | 0 | - | - | - | - | - |
| Industrial | | 624 | 53 | 2 | 0.26 | 56 | 20000 | 9.3 | 1.2 | 256 | 422 | 4,851 | 631 | 133,403 | 221,088 |
| | | | | | | | | 0.0 | 0.0 | 0 | - | - | - | - | - |
| | | | | | | | | 0.0 | 0.0 | 0 | - | - | - | - | - |
| | | | | | | | | 0.0 | 0.0 | 0 | - | - | - | - | - |
| | | | | | | | | 0.0 | 0.0 | 0 | - | - | - | - | - |
| Forest | | 126,612 | | | | | | 2.5 | 0.2 | 100 | 12 | 316,529 | 25,322 | 12,661,184 | 1,519,340 |
| | | | | | | | | | | | | - | - | - | - |
| | | | | | | | | | | | | - | - | - | - |
| | | | | | | | | | | | | - | - | - | - |
| | | | | | | | | | | | | - | - | - | - |
| Rural | | 272,440 | | | | | | 4.8 | 0.7 | 100 | 39 | 1,253,226 | 190,708 | 27,244,041 | 10,625,176 |
| | | | | | | | | | | | | - | - | - | - |
| | | | | | | | | | | | | - | - | - | - |
| | | | | | | | | | | | | - | - | - | - |
| | | | | | | | | | | | | - | - | - | - |
| | | | | | | | | | | | | - | - | - | - |
| | | | | | | | | | | | | - | - | - | - |
| | | | | | | | | | | | | - | - | - | - |
| | | | | | | | | | | | | - | - | - | - |
| | | | | | | | | | | | | - | - | - | - |
| Open Water | | 138,637 | | | | | | 12.8 | 0.5 | 166 | | 1,773,270 | 69,288 | 21,473,187 | - |
| Active Construction | | | | | | | | | | | | | | | |
| Vacant Lots | | | | | | | | 0 | 0 | 0 | 0 | | | | |
| Total | | 580,064 | 2.303064934 | | | | | 6.191887 | 0.647686483 | 117.8372 | 40.46894288 | 3,691,830 | 317,818 | 68,351,960 | 23,474,782 |

### Partitioning Coefficients for Rural and Forest Land

| Pollutant | TN | TP | TSS | FC |
|---|---|---|---|---|
| Fraction as Storm Load | 60% | 70% | 90% | 100% |

### Watershed Data

| | |
|---|---|
| Annual Rainfall (inches) | 43.2 |
| Watershed Area (acres) | 580064.2313 |
| Stream Length (miles) | |
| Planning Horizon (years) | |

## PRIMARY SOURCES - Land Use

2030 Land Use
Upper Choptank River Watershed

| | | Area (Acres) | Impervious Cover % | Concentrations TN mg/l | TP mg/l | TSS mg/l | FC MPN/100 ml | Annual Loading Rates TN lb/acre | TP lb/acre | TSS lb/acre | FC # billion/acre | Annual Load TN lb/year | TP lb/year | TSS lb/year | FC # billion/year |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Residential | LDR (<1du/acre) | 9591.55 | 14 | 2 | 0.26 | 56 | 20000 | 3.1 | 0.4 | 90 | 141 | 29,866 | 3,857 | 863,240 | 1,362,067 |
| | MDR (1-4 du/acre) | 1220.87 | 28 | 2 | 0.26 | 56 | 20000 | 4.3 | 0.7 | 148 | 242 | 5,480 | 847 | 178,201 | 295,328 |
| | HDR (>4 du/acre) | 146.441 | 41 | 2 | 0.26 | 56 | 20000 | 7.4 | 1.0 | 202 | 338 | 1,071 | 139 | 29,461 | 48,808 |
| | Multifamily | | 44 | 2 | 0.26 | 56 | 20000 | 7.8 | 1.0 | 218 | 357 | - | - | - | - |
| | | | | | | | | 1.3 | 0.1 | 90 | 12 | - | - | - | - |
| | | | | | | | | 1.3 | 0.1 | 90 | 12 | - | - | - | - |
| | | | | | | | | 1.3 | 0.1 | 90 | 12 | - | - | - | - |
| | | | | | | | | 1.3 | 0.1 | 90 | 12 | - | - | - | - |
| | | | | | | | | 1.3 | 0.1 | 90 | 12 | - | - | - | - |
| | | | | | | | | 1.3 | 0.1 | 90 | 12 | - | - | - | - |
| Commercial | | 1464.01 | 72 | 2 | 0.26 | 56 | 20000 | 12.3 | 1.6 | 337 | 569 | 17,838 | 2,319 | 490,479 | 812,861 |
| | | | | | | | | 0.0 | 0.0 | 0 | - | - | - | - | - |
| | | | | | | | | 0.0 | 0.0 | 0 | - | - | - | - | - |
| | | | | | | | | 0.0 | 0.0 | 0 | - | - | - | - | - |
| | | | | | | | | 0.0 | 0.0 | 0 | - | - | - | - | - |
| Roadway | | 1726.04 | 95 | 2 | 0.26 | 56 | 20000 | 15.9 | 2.1 | 437 | 725 | 27,451 | 3,589 | 754,813 | 1,251,103 |
| | | | | | | | | 0.0 | 0.0 | 0 | - | - | - | - | - |
| | | | | | | | | 0.0 | 0.0 | 0 | | | | | |
| | | | | | | | | 0.0 | 0.0 | 0 | - | - | - | - | - |
| | | | | | | | | 0.0 | 0.0 | 0 | - | - | - | - | - |
| Industrial | | 137.55 | 53 | 2 | 0.26 | 56 | 20000 | 9.3 | 1.2 | 255 | 422 | 1,274 | 166 | 35,082 | 58,068 |
| | | | | | | | | 0.0 | 0.0 | 0 | - | - | - | - | - |
| | | | | | | | | 0.0 | 0.0 | 0 | - | - | - | - | - |
| | | | | | | | | 0.0 | 0.0 | 0 | - | - | - | - | - |
| | | | | | | | | 0.0 | 0.0 | 0 | - | - | - | - | - |
| Forest | | 50478.1 | | | | | | 2.5 | 0.2 | 100 | 12 | 126,195 | 10,096 | 5,047,810 | 606,737 |
| | | | | | | | | | | | | - | - | - | - |
| | | | | | | | | | | | | - | - | - | - |
| | | | | | | | | | | | | - | - | - | - |
| | | | | | | | | | | | | - | - | - | - |
| Rural | | 84178 | | | | | | 4.8 | 0.7 | 100 | 39 | 433,219 | 86,926 | 9,417,800 | 3,672,942 |
| | | | | | | | | | | | | - | - | - | - |
| | | | | | | | | | | | | - | - | - | - |
| | | | | | | | | | | | | - | - | - | - |
| | | | | | | | | | | | | - | - | - | - |
| | | | | | | | | | | | | - | - | - | - |
| | | | | | | | | | | | | - | - | - | - |
| | | | | | | | | | | | | - | - | - | - |
| | | | | | | | | | | | | - | - | - | - |
| | | | | | | | | | | | | - | - | - | - |
| Open Water | | 4761.08 | | | | | | 12.8 | 0.5 | 155 | | 60,814 | 2,378 | 738,414 | - |
| Active Construction | | | | | | | | | | | | | | | |
| Vacant Lots | | | | | | | | 0 | 0 | 0 | 0 | | | | |
| Total | | 163682.721 | 2.751570884 | | | | | 4.30104 | 0.646487829 | 107.24 | 49.46701025 | 704,008 | 89,287 | 17,563,389 | 8,096,895 |

### Partitioning Coefficients for Rural and Forest Land

| Pollutant | TN | TP | TSS | FC |
|---|---|---|---|---|
| Fraction as Storm Load | 60% | 70% | 60% | 100% |

### Watershed Data

| | |
|---|---|
| Annual Rainfall (inches) | 43.2 |
| Watershed Area (acres) | 163682.721 |
| Stream Length (miles) | |
| Planning Horizon (years) | |

## PRIMARY SOURCES - Land Use

2030 Land Use
Tuckhoe Creek Watershed

| | | Area (Acres) | Impervious Cover % | Concentrations TN mg/l | Concentrations TP mg/l | Concentrations TSS mg/l | Concentrations FC MPN/100 ml | Annual Loading Rates TN lb/acre | Annual Loading Rates TP lb/acre | Annual Loading Rates TSS lb/acre | Annual Loading Rates FC # billlor/acre | Annual Load TN lb/year | Annual Load TP lb/year | Annual Load TSS lb/year | Annual Load FC # billion/year |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Residential | LDR (<1du/acre) | 2708.34 | 14 | 2 | 0.28 | 56 | 20000 | 3.1 | 0.4 | 90 | 141 | 8,377 | 1,089 | 243,751 | 381,777 |
| | MDR (1-4 du/acre) | 288.781 | 28 | 2 | 0.28 | 56 | 20000 | 5.3 | 0.7 | 148 | 242 | 1,538 | 200 | 42,281 | 70,087 |
| | HDR (>4 du/acre) | 13.234 | 41 | 2 | 0.28 | 56 | 20000 | 7.4 | 1.0 | 202 | 336 | 97 | 13 | 2,680 | 4,441 |
| | Multifamily | | 44 | 2 | 0.28 | 56 | 20000 | 7.8 | 1.0 | 216 | 357 | - | - | - | - |
| | | | | | | | | 1.3 | 0.1 | 90 | 12 | - | - | - | - |
| | | | | | | | | 1.3 | 0.1 | 90 | 12 | - | - | - | - |
| | | | | | | | | 1.3 | 0.1 | 90 | 12 | - | - | - | - |
| | | | | | | | | 1.3 | 0.1 | 90 | 12 | - | - | - | - |
| | | | | | | | | 1.3 | 0.1 | 90 | 12 | - | - | - | - |
| | | | | | | | | 1.3 | 0.1 | 90 | 12 | - | - | - | - |
| Commercial | | 343.852 | 72 | 2 | 0.28 | 56 | 20000 | 12.3 | 1.6 | 337 | 559 | 4,218 | 548 | 115,881 | 192,230 |
| | | | | | | | | 0.0 | 0.0 | 0 | - | - | - | - | - |
| | | | | | | | | 0.0 | 0.0 | 0 | - | - | - | - | - |
| | | | | | | | | 0.0 | 0.0 | 0 | - | - | - | - | - |
| | | | | | | | | 0.0 | 0.0 | 0 | - | - | - | - | - |
| Roadway | | 802.316 | 95 | 2 | 0.28 | 56 | 20000 | 15.9 | 2.1 | 437 | 725 | 12,760 | 1,659 | 350,807 | 581,661 |
| | | | | | | | | 0.0 | 0.0 | 0 | - | - | - | - | - |
| | | | | | | | | 0.0 | 0.0 | 0 | - | - | - | - | - |
| | | | | | | | | 0.0 | 0.0 | 0 | - | - | - | - | - |
| | | | | | | | | 0.0 | 0.0 | 0 | - | - | - | - | - |
| Industrial | | 11.63979 | 53 | 2 | 0.28 | 56 | 20000 | 9.3 | 1.2 | 255 | 422 | 107 | 14 | 2,938 | 4,871 |
| | | | | | | | | 0.0 | 0.0 | 0 | - | - | - | - | - |
| | | | | | | | | 0.0 | 0.0 | 0 | - | - | - | - | - |
| | | | | | | | | 0.0 | 0.0 | 0 | - | - | - | - | - |
| | | | | | | | | 0.0 | 0.0 | 0 | - | - | - | - | - |
| Forest | | 25160.2 | | | | | | 2.6 | 0.2 | 100 | 12 | 62,876 | 6,030 | 2,515,020 | 301,802 |
| | | | | | | | | | | | | - | - | - | - |
| | | | | | | | | | | | | - | - | - | - |
| | | | | | | | | | | | | - | - | - | - |
| | | | | | | | | | | | | - | - | - | - |
| Rural | | 68007.7 | | | | | | 4.6 | 0.7 | 100 | 39 | 312,835 | 47,605 | 6,800,770 | 2,652,300 |
| | | | | | | | | | | | | - | - | - | - |
| | | | | | | | | | | | | - | - | - | - |
| | | | | | | | | | | | | | | | |
| | | | | | | | | | | | | - | - | - | - |
| | | | | | | | | | | | | - | - | - | - |
| | | | | | | | | | | | | - | - | - | - |
| | | | | | | | | | | | | - | - | - | - |
| | | | | | | | | | | | | - | - | - | - |
| | | | | | | | | | | | | - | - | - | - |
| Open Water | | 946.782 | | | | | | 12.8 | 0.5 | 155 | | 12,119 | 473 | 146,761 | - |
| Active Construction | | | | | | | | | | | | | | | |
| Vacant Lots | | | | | | | | 0 | 0 | 0 | 0 | | | | |
| Total | | 98273.72479 | 1.507842408 | | | | | 4.222154 | 0.578282315 | 104.0064 | 42.8284404 | 414,927 | 58,631 | 10,221,089 | 4,189,069 |

### Partitioning Coefficients for Rural and Forest Land

| Pollutant | TN | TP | TSS | FC |
|---|---|---|---|---|
| Fraction as Storm Load | 50% | 70% | 90% | 100% |

### Watershed Data

| | |
|---|---|
| Annual Rainfall (inches) | 43.2 |
| Watershed Area (acres) | 98273.72479 |
| Stream Length (miles) | |
| Planning Horizon (years) | |

Green cells need to be completed by the user
Blue cells have default or calculated values but may be substituted
Grey cells should generally not be changed
Purple Cells Reflect "Bottom Line" Loads or Load Reductions

## PRIMARY SOURCES - Land Use

| 2030 Land Use Town of Ridgely | | Area (Acres) | Impervious Cover % | Concentrations TN mg/l | Concentrations TP mg/l | Concentrations TSS mg/l | Concentrations FC MPN/100 ml | Annual Loading Rates TN lb/acre | Annual Loading Rates TP lb/acre | Annual Loading Rates TSS lb/acre | Annual Loading Rates FC # billion/acre | Annual Load TN lb/year | Annual Load TP lb/year | Annual Load TSS lb/year | Annual Load FC # billion/year |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Residential | LDR (<1du/acre) | 42.3594 | 14 | 2 | 0.26 | 55 | 20000 | 3.1 | 0.4 | 90 | 141 | 130 | 19 | 4,362 | 6,917 |
| | MDR (1-4 du/acre) | 308.875 | 28 | 2 | 0.26 | 55 | 20000 | 5.3 | 0.7 | 148 | 242 | 1,644 | 214 | 45,187 | 74,804 |
| | HDR (>4 du/acre) | 47.4474 | 41 | 2 | 0.26 | 55 | 20000 | 7.4 | 1.0 | 202 | 336 | 349 | 45 | 9,608 | 16,823 |
| | Multifamily | | 44 | 2 | 0.26 | 55 | 20000 | 7.8 | 1.0 | 216 | 367 | - | - | - | - |
| | | | | | | | | 1.3 | 0.1 | 90 | 12 | - | - | - | - |
| | | | | | | | | 1.3 | 0.1 | 90 | 12 | - | - | - | - |
| | | | | | | | | 1.3 | 0.1 | 90 | 12 | - | - | - | - |
| | | | | | | | | 1.3 | 0.1 | 90 | 12 | - | - | - | - |
| | | | | | | | | 1.3 | 0.1 | 90 | 12 | - | - | - | - |
| | | | | | | | | 1.3 | 0.1 | 90 | 12 | - | - | - | - |
| Commercial | | 154.078 | 72 | 2 | 0.26 | 55 | 20000 | 12.3 | 1.6 | 337 | 569 | 1,890 | 248 | 51,975 | 86,138 |
| | | | | | | | | 0.0 | 0.0 | 0 | - | - | - | - | - |
| | | | | | | | | 0.0 | 0.0 | 0 | - | - | - | - | - |
| | | | | | | | | 0.0 | 0.0 | 0 | - | - | - | - | - |
| | | | | | | | | 0.0 | 0.0 | 0 | - | - | - | - | - |
| Roadway | | 61.2776 | 85 | 2 | 0.26 | 55 | 20000 | 16.8 | 2.1 | 437 | 726 | 975 | 127 | 26,501 | 44,416 |
| | | | | | | | | 0.0 | 0.0 | 0 | - | - | - | - | - |
| | | | | | | | | 0.0 | 0.0 | 0 | - | - | - | - | - |
| | | | | | | | | 0.0 | 0.0 | 0 | - | - | - | - | - |
| | | | | | | | | 0.0 | 0.0 | 0 | - | - | - | - | - |
| Industrial | | 42.0843 | 53 | 2 | 0.26 | 55 | 20000 | 9.3 | 1.2 | 255 | 422 | 390 | 51 | 10,718 | 17,783 |
| | | | | | | | | 0.0 | 0.0 | 0 | - | - | - | - | - |
| | | | | | | | | 0.0 | 0.0 | 0 | - | - | - | - | - |
| | | | | | | | | 0.0 | 0.0 | 0 | - | - | - | - | - |
| | | | | | | | | 0.0 | 0.0 | 0 | - | - | - | - | - |
| Forest | | 27.8864 | | | | | | 2.6 | 0.2 | 100 | 12 | 70 | 6 | 2,789 | 335 |
| | | | | | | | | | | | | - | - | - | - |
| | | | | | | | | | | | | - | - | - | - |
| | | | | | | | | | | | | - | - | - | - |
| | | | | | | | | | | | | - | - | - | - |
| Rural | | 502.018 | | | | | | 4.8 | 0.7 | 100 | 99 | 2,309 | 351 | 50,202 | 19,679 |
| | | | | | | | | | | | | - | - | - | - |
| | | | | | | | | | | | | - | - | - | - |
| | | | | | | | | | | | | - | - | - | - |
| | | | | | | | | | | | | - | - | - | - |
| | | | | | | | | | | | | - | - | - | - |
| | | | | | | | | | | | | - | - | - | - |
| | | | | | | | | | | | | - | - | - | - |
| | | | | | | | | | | | | - | - | - | - |
| | | | | | | | | | | | | - | - | - | - |
| Open Water | | 0 | | | | | | 12.8 | 0.6 | 155 | | - | - | - | - |
| Active Construction | | | | | | | | | | | | | | | |
| Vacant Lots | | | | | | | | 0 | 0 | 0 | 0 | | | | |
| Total | | 1192.8261 | 25.51823306 | | | | | 6.618821 | 0.887462738 | 169.0456 | 222.8947557 | 7,776 | 1,059 | 201,842 | 286,874 |

### Partitioning Coefficients for Rural and Forest Land

| Pollutant | TN | TP | TSS | FC |
|---|---|---|---|---|
| Fraction as Storm Load | 60% | 10% | 90% | 100% |

### Watershed Data

| | |
|---|---|
| Annual Rainfall (inches) | 43.2 |
| Watershed Area (acres) | 1192.8261 |
| Stream Length (miles) | |
| Planning Horizon (years) | |

## PRIMARY SOURCES - Land Use

2050 Land Use
Choptank River Basin

| | | Area (Acres) | Impervious Cover % | Concentrations TN mg/l | TP mg/l | TSS mg/l | FC MPN/100 ml | Annual Loading Rates TN lb/acre | TP lb/acre | TSS lb/acre | FC # billion/acre | Annual Load TN lb/year | TP lb/year | TSS lb/year | FC # billion/year |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Residential | LDR (<1du/acre) | 27,668 | 14 | 2 | 0.28 | 56 | 20000 | 3.1 | 0.4 | 90 | 141 | 85,576 | 11,125 | 2,490,113 | 3,900,162 |
| | MDR (1-4 du/acre) | 4,808 | 28 | 2 | 0.28 | 56 | 20000 | 5.3 | 0.7 | 148 | 242 | 24,457 | 3,179 | 672,570 | 1,114,637 |
| | HDR (>4 cu/acre) | 537 | 41 | 2 | 0.28 | 56 | 20000 | 7.4 | 1.0 | 202 | 338 | 3,955 | 514 | 108,755 | 180,238 |
| | Multifamily | | 44 | 2 | 0.28 | 56 | 20000 | 7.8 | 1.0 | 218 | 357 | - | - | - | - |
| | | | | | | | | 1.3 | 0.1 | 90 | 12 | - | - | - | - |
| | | | | | | | | 1.3 | 0.1 | 90 | 12 | - | - | - | - |
| | | | | | | | | 1.3 | 0.1 | 90 | 12 | - | - | - | - |
| | | | | | | | | 1.3 | 0.1 | 90 | 12 | - | - | - | - |
| | | | | | | | | 1.3 | 0.1 | 90 | 12 | - | - | - | - |
| | | | | | | | | 1.3 | 0.1 | 90 | 12 | - | - | - | - |
| Commercial | | 4,643 | 72 | 2 | 0.28 | 56 | 20000 | 12.3 | 1.6 | 337 | 569 | 56,958 | 7,404 | 1,566,298 | 2,696,783 |
| | | | | | | | | 0.0 | 0.0 | 0 | - | - | - | - | - |
| | | | | | | | | 0.0 | 0.0 | 0 | - | - | - | - | - |
| | | | | | | | | 0.0 | 0.0 | 0 | - | - | - | - | - |
| | | | | | | | | 0.0 | 0.0 | 0 | - | - | - | - | - |
| Roadway | | 4,882 | 95 | 2 | 0.28 | 56 | 20000 | 15.9 | 2.1 | 437 | 725 | 74,488 | 9,881 | 2,047,876 | 3,393,803 |
| | | | | | | | | 0.0 | 0.0 | 0 | - | - | - | - | - |
| | | | | | | | | 0.0 | 0.0 | 0 | - | - | - | - | - |
| | | | | | | | | 0.0 | 0.0 | 0 | - | - | - | - | - |
| | | | | | | | | 0.0 | 0.0 | 0 | - | - | - | - | - |
| Industrial | | 603 | 53 | 2 | 0.28 | 56 | 20000 | 8.3 | 1.2 | 255 | 422 | 5,581 | 726 | 153,488 | 254,372 |
| | | | | | | | | 0.0 | 0.0 | 0 | - | - | - | - | - |
| | | | | | | | | 0.0 | 0.0 | 0 | - | - | - | - | - |
| | | | | | | | | 0.0 | 0.0 | 0 | - | - | - | - | - |
| | | | | | | | | 0.0 | 0.0 | 0 | - | - | - | - | - |
| Forest | | 126,801 | | | | | | 2.5 | 0.2 | 100 | 12 | 316,503 | 25,320 | 12,680,117 | 1,519,214 |
| | | | | | | | | | | | | - | - | - | - |
| | | | | | | | | | | | | - | - | - | - |
| | | | | | | | | | | | | - | - | - | - |
| | | | | | | | | | | | | - | - | - | - |
| Rural | | 272,174 | | | | | | 4.8 | 0.7 | 100 | 39 | 1,262,001 | 180,522 | 27,217,423 | 10,614,795 |
| | | | | | | | | | | | | - | - | - | - |
| | | | | | | | | | | | | - | - | - | - |
| | | | | | | | | | | | | - | - | - | - |
| | | | | | | | | | | | | - | - | - | - |
| | | | | | | | | | | | | - | - | - | - |
| | | | | | | | | | | | | - | - | - | - |
| | | | | | | | | | | | | - | - | - | - |
| | | | | | | | | | | | | - | - | - | - |
| | | | | | | | | | | | | - | - | - | - |
| Open Water | | 138,637 | | | | | | 12.8 | 0.5 | 155 | | 1,773,272 | 69,268 | 21,473,218 | - |
| Active Construction | | | | | | | | | | | | | | | |
| Vacant Lots | | | | | | | | 0 | 0 | 0 | 0 | | | | |
| Total | | 580,064 | 2.328468841 | | | | | 6.193859 | 0.647778839 | 117.9026 | 40.63963958 | 3,592,771 | 317,740 | 88,389,855 | 23,679,114 |

### Partitioning Coefficients for Rural and Forest Land

| Pollutant | TN | TP | TSS | FC |
|---|---|---|---|---|
| Fraction as Storm Load | 60% | 70% | 90% | 100% |

### Watershed Data

| | |
|---|---|
| Annual Rainfall (inches) | 43.1 |
| Watershed Area (acres) | 580063.88 |
| Stream Length (miles) | |
| Planning Horizon (years) | |

Green cells need to be completed by the user
Blue cells have default or calculated values but may be substituted
Grey cells should generally not be changed
Purple Cells Reflect "Bottom Line" Loads or Load Reductions

## PRIMARY SOURCES - Land Use

2060 Land Use
Upper Choptank River Watershed

| | | Area (Acres) | Impervious Cover % | Concentrations TN mg/l | Concentrations TP mg/l | Concentrations TSS mg/l | Concentrations FC MPN/100 ml | Annual Loading Rates TN lb/acre | Annual Loading Rates TP lb/acre | Annual Loading Rates TSS lb/acre | Annual Loading Rates FC # billion/acre | Annual Load TN lb/year | Annual Load TP lb/year | Annual Load TSS lb/year | Annual Load FC # billion/year |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Residential | LDR (<1du/acre) | 9,562 | 14 | 2 | 0.26 | 55 | 20000 | 3.1 | 0.4 | 90 | 141 | 29,575 | 3,845 | 860,584 | 1,347,866 |
| | MDR (1-4 du/acre) | 1,486 | 28 | 2 | 0.26 | 55 | 20000 | 5.3 | 0.7 | 148 | 242 | 7,884 | 1,025 | 219,515 | 359,323 |
| | HDR (>4 du/acre) | 140 | 41 | 2 | 0.26 | 55 | 20000 | 7.4 | 1.0 | 202 | 336 | 1,031 | 134 | 28,353 | 46,989 |
| | Multifamily | | 44 | 2 | 0.26 | 55 | 20000 | 7.8 | 1.0 | 216 | 357 | - | - | - | - |
| | | | | | | | | 1.3 | 0.1 | 90 | 12 | - | - | - | - |
| | | | | | | | | 1.3 | 0.1 | 90 | 12 | - | - | - | - |
| | | | | | | | | 1.3 | 0.1 | 90 | 12 | - | - | - | - |
| | | | | | | | | 1.3 | 0.1 | 90 | 12 | - | - | - | - |
| | | | | | | | | 1.3 | 0.1 | 90 | 12 | - | - | - | - |
| | | | | | | | | 1.3 | 0.1 | 90 | 12 | - | - | - | - |
| Commercial | | 1,447 | 72 | 2 | 0.26 | 55 | 20000 | 12.3 | 1.6 | 337 | 569 | 17,754 | 2,308 | 488,232 | 808,138 |
| | | | | | | | | 0.0 | 0.0 | 0 | - | - | - | - | - |
| | | | | | | | | 0.0 | 0.0 | 0 | - | - | - | - | - |
| | | | | | | | | 0.0 | 0.0 | 0 | - | - | - | - | - |
| | | | | | | | | 0.0 | 0.0 | 0 | - | - | - | - | - |
| | | | | | | | | 0.0 | 0.0 | 0 | - | - | - | - | - |
| Roadway | | 1,782 | 95 | 2 | 0.26 | 55 | 20000 | 16.9 | 2.1 | 437 | 726 | 28,497 | 3,705 | 783,670 | 1,288,761 |
| | | | | | | | | 0.0 | 0.0 | 0 | - | - | - | - | - |
| | | | | | | | | 0.0 | 0.0 | 0 | - | - | - | - | - |
| | | | | | | | | 0.0 | 0.0 | 0 | - | - | - | - | - |
| | | | | | | | | 0.0 | 0.0 | 0 | - | - | - | - | - |
| | | | | | | | | 0.0 | 0.0 | 0 | - | - | - | - | - |
| Industrial | | 224 | 53 | 2 | 0.26 | 55 | 20000 | 9.3 | 1.2 | 255 | 422 | 2,078 | 270 | 57,147 | 94,708 |
| | | | | | | | | 0.0 | 0.0 | 0 | - | - | - | - | - |
| | | | | | | | | 0.0 | 0.0 | 0 | - | - | - | - | - |
| | | | | | | | | 0.0 | 0.0 | 0 | - | - | - | - | - |
| | | | | | | | | 0.0 | 0.0 | 0 | - | - | - | - | - |
| Forest | | 50,488 | | | | | | 2.5 | 0.2 | 100 | 12 | 126,199 | 10,094 | 5,048,761 | 605,811 |
| | | | | | | | | | | | | - | - | - | - |
| | | | | | | | | | | | | - | - | - | - |
| | | | | | | | | | | | | - | - | - | - |
| | | | | | | | | | | | | - | - | - | - |
| Rural | | 93,814 | | | | | | 4.6 | 0.7 | 100 | 39 | 431,545 | 66,670 | 9,381,414 | 3,668,761 |
| | | | | | | | | | | | | - | - | - | - |
| | | | | | | | | | | | | - | - | - | - |
| | | | | | | | | | | | | - | - | - | - |
| | | | | | | | | | | | | - | - | - | - |
| | | | | | | | | | | | | - | - | - | - |
| | | | | | | | | | | | | - | - | - | - |
| | | | | | | | | | | | | - | - | - | - |
| | | | | | | | | | | | | - | - | - | - |
| | | | | | | | | | | | | - | - | - | - |
| Open Water | | 5,762 | | | | | | 12.8 | 0.5 | 155 | | 73,626 | 2,876 | 891,589 | - |
| Active Construction | | | | | | | | | | | | | | | |
| Vacant Lots | | | | | | | | 0 | 0 | 0 | 0 | | | | |
| Total | | 164,686 | 2.338898346 | | | | | 4.360813 | 0.548048815 | 107.8092 | 49.92062863 | 718,159 | 89,926 | 17,754,524 | 8,221,148 |

### Partitioning Coefficients for Rural and Forest Land

| Pollutant | TN | TP | TSS | FC |
|---|---|---|---|---|
| Fraction as Storm Load | 60% | 70% | 80% | 100% |

### Watershed Data

| | |
|---|---|
| Annual Rainfall (inches) | 43.2 |
| Watershed Area (acres) | 164,686 |
| Stream Length (miles) | |
| Planning Horizon (years) | |

## PRIMARY SOURCES - Land Use

| 2002 Land Use Tuckhoe Creek Watershed | | Area (Acres) | Impervious Cover % | Concentrations TN mg/l | Concentrations TP mg/l | Concentrations TSS mg/l | Concentrations FC MPN/100 ml | Annual Loading Rates TN lb/acre | Annual Loading Rates TP lb/acre | Annual Loading Rates TSS lb/acre | Annual Loading Rates FC # billion/acre | Annual Load TN lb/year | Annual Load TP lb/year | Annual Load TSS lb/year | Annual Load FC # billion/year |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Residential | LDR (<1du/acre) | 2,879 | 14 | 2 | 0.28 | 56 | 20000 | 3.1 | 0.4 | 90 | 141 | 8,285 | 1,077 | 241,076 | 377,688 |
| | MDR (1-4 du/acre) | 688 | 28 | 2 | 0.28 | 56 | 20000 | 6.3 | 0.7 | 148 | 242 | 3,013 | 392 | 82,869 | 137,321 |
| | HDR (>4 du/acre) | 8 | 41 | 2 | 0.28 | 56 | 20000 | 7.4 | 1.0 | 202 | 336 | 58 | 7 | 1,583 | 2,623 |
| | Multifamily | | 44 | 2 | 0.28 | 66 | 20000 | 7.8 | 1.0 | 216 | 357 | - | - | - | - |
| | | | | | | | | 1.3 | 0.1 | 90 | 12 | - | - | - | - |
| | | | | | | | | 1.3 | 0.1 | 90 | 12 | - | - | - | - |
| | | | | | | | | 1.3 | 0.1 | 90 | 12 | - | - | - | - |
| | | | | | | | | 1.3 | 0.1 | 90 | 12 | - | - | - | - |
| | | | | | | | | 1.3 | 0.1 | 90 | 12 | - | - | - | - |
| | | | | | | | | 1.3 | 0.1 | 90 | 12 | | | | |
| Commercial | | 337 | 72 | 2 | 0.28 | 56 | 20000 | 12.3 | 1.8 | 337 | 669 | 4,138 | 538 | 113,745 | 188,607 |
| | | | | | | | | 0.0 | 0.0 | 0 | - | - | - | - | - |
| | | | | | | | | 0.0 | 0.0 | 0 | - | - | - | - | - |
| | | | | | | | | 0.0 | 0.0 | 0 | - | - | - | - | - |
| | | | | | | | | 0.0 | 0.0 | 0 | - | - | - | - | - |
| | | | | | | | | 0.0 | 0.0 | 0 | - | - | - | - | - |
| Roadway | | 867 | 95 | 2 | 0.28 | 56 | 20000 | 16.9 | 2.1 | 437 | 726 | 13,783 | 1,792 | 378,022 | 628,145 |
| | | | | | | | | 0.0 | 0.0 | 0 | - | - | - | - | - |
| | | | | | | | | 0.0 | 0.0 | 0 | - | - | - | - | - |
| | | | | | | | | 0.0 | 0.0 | 0 | - | - | - | - | - |
| | | | | | | | | 0.0 | 0.0 | 0 | - | - | - | - | - |
| Industrial | | 84 | 53 | 2 | 0.28 | 66 | 20000 | 9.3 | 1.2 | 255 | 422 | 874 | 114 | 24,036 | 39,934 |
| | | | | | | | | 0.0 | 0.0 | 0 | - | - | - | - | - |
| | | | | | | | | 0.0 | 0.0 | 0 | - | - | - | - | - |
| | | | | | | | | 0.0 | 0.0 | 0 | - | - | - | - | - |
| | | | | | | | | 0.0 | 0.0 | 0 | - | - | - | - | - |
| Forest | | 25,140 | | | | | | 2.5 | 0.2 | 100 | 12 | 62,848 | 5,028 | 2,513,970 | 301,678 |
| | | | | | | | | | | | | - | - | - | - |
| | | | | | | | | | | | | - | - | - | - |
| | | | | | | | | | | | | - | - | - | - |
| | | | | | | | | | | | | - | - | - | - |
| Rural | | 67,636 | | | | | | 4.6 | 0.7 | 100 | 39 | 311,121 | 47,344 | 6,763,490 | 2,637,781 |
| | | | | | | | | | | | | - | - | - | - |
| | | | | | | | | | | | | - | - | - | - |
| | | | | | | | | | | | | - | - | - | - |
| | | | | | | | | | | | | - | - | - | - |
| | | | | | | | | | | | | - | - | - | - |
| | | | | | | | | | | | | - | - | - | - |
| | | | | | | | | | | | | - | - | - | - |
| | | | | | | | | | | | | - | - | - | - |
| | | | | | | | | | | | | - | - | - | - |
| Open Water | | 947 | | | | | | 12.8 | 0.5 | 155 | | 12,118 | 473 | 146,761 | - |
| Active Construction | | | | | | | | | | | | | | | |
| Vacant Lots | | | | | | | | 0 | 0 | 0 | 0 | | | | |
| Total | | 98,274 | 1.882279863 | | | | | 4.236487 | 0.677621935 | 104.4688 | 43.89225313 | 416,237 | 56,765 | 10,266,530 | 4,313,464 |

### Partitioning Coefficients for Rural and Forest Land

| Pollutant | TN | TP | TSS | FC |
|---|---|---|---|---|
| Fraction as Storm Load | 60% | 70% | 90% | 100% |

### Watershed Data

| | |
|---|---|
| Annual Rainfall (inches) | 43.2 |
| Watershed Area (acres) | 98273.89882 |
| Stream Length (miles) | |
| Planning Horizon (years) | |

Green cells need to be completed by the user
Blue cells have default or calculated values but may be substituted
Grey cells should generally not be changed
Purple Cells Reflect "Bottom Line" Loads or Load Reductions

## PRIMARY SOURCES - Land Use

| 2050 Land Use<br>Town of Ridgely | | Area (Acres) | Impervious Cover % | Concentrations TN mg/l | Concentrations TP mg/l | Concentrations TSS mg/l | Concentrations FC MPN/100 ml | Annual Loading Rates TN lb/acre | Annual Loading Rates TP lb/acre | Annual Loading Rates TSS lb/acre | Annual Loading Rates FC # billion/acre | Annual Load TN lb/year | Annual Load TP lb/year | Annual Load TSS lb/year | Annual Load FC # billion/year |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Residential | LDR (<1du/acre) | 18.63 | 14 | 2 | 0.26 | 55 | 20000 | 3.1 | 0.4 | 90 | 141 | 58 | 7 | 1,677 | 2,628 |
| | MDR (1-4 du/acre) | 481.167 | 28 | 2 | 0.26 | 55 | 20000 | 6.3 | 0.7 | 148 | 242 | 2,807 | 339 | 71,684 | 116,801 |
| | HDR (>4 du/acre) | 42.03 | 41 | 2 | 0.26 | 55 | 20000 | 7.4 | 1.0 | 202 | 338 | 309 | 40 | 8,511 | 14,106 |
| | Multifamily | | 44 | 2 | 0.26 | 55 | 20000 | 7.8 | 1.0 | 218 | 367 | - | - | - | - |
| | | | | | | | | 1.3 | 0.1 | 90 | 12 | - | - | - | - |
| | | | | | | | | 1.3 | 0.1 | 90 | 12 | - | - | - | - |
| | | | | | | | | 1.3 | 0.1 | 90 | 12 | - | - | - | - |
| | | | | | | | | 1.3 | 0.1 | 90 | 12 | - | - | - | - |
| | | | | | | | | 1.3 | 0.1 | 90 | 12 | - | - | - | - |
| | | | | | | | | 1.3 | 0.1 | 90 | 12 | - | - | - | - |
| Commercial | | 147.42 | 72 | 2 | 0.26 | 55 | 20000 | 12.3 | 1.6 | 337 | 559 | 1,808 | 235 | 49,729 | 82,416 |
| | | | | | | | | 0.0 | 0.0 | 0 | - | - | - | - | - |
| | | | | | | | | 0.0 | 0.0 | 0 | - | - | - | - | - |
| | | | | | | | | 0.0 | 0.0 | 0 | - | - | - | - | - |
| | | | | | | | | 0.0 | 0.0 | 0 | - | - | - | - | - |
| Roadway | | 118.283 | 95 | 2 | 0.26 | 55 | 20000 | 16.9 | 2.1 | 437 | 726 | 1,997 | 247 | 52,170 | 86,461 |
| | | | | | | | | 0.0 | 0.0 | 0 | - | - | - | - | - |
| | | | | | | | | 0.0 | 0.0 | 0 | - | - | - | - | - |
| | | | | | | | | 0.0 | 0.0 | 0 | - | - | - | - | - |
| | | | | | | | | 0.0 | 0.0 | 0 | - | - | - | - | - |
| Industrial | | 121.06 | 53 | 2 | 0.26 | 55 | 20000 | 9.3 | 1.2 | 255 | 422 | 1,121 | 148 | 30,830 | 51,084 |
| | | | | | | | | 0.0 | 0.0 | 0 | - | - | - | - | - |
| | | | | | | | | 0.0 | 0.0 | 0 | - | - | - | - | - |
| | | | | | | | | 0.0 | 0.0 | 0 | - | - | - | - | - |
| | | | | | | | | 0.0 | 0.0 | 0 | - | - | - | - | - |
| Forest | | 17.424 | | | | | | 2.5 | 0.2 | 100 | 12 | 44 | 3 | 1,742 | 209 |
| | | | | | | | | | | | | - | - | - | - |
| | | | | | | | | | | | | - | - | - | - |
| | | | | | | | | | | | | - | - | - | - |
| | | | | | | | | | | | | - | - | - | - |
| Rural | | 235.836 | | | | | | 4.8 | 0.7 | 100 | 39 | 1,085 | 165 | 23,584 | 9,198 |
| | | | | | | | | | | | | - | - | - | - |
| | | | | | | | | | | | | - | - | - | - |
| | | | | | | | | | | | | - | - | - | - |
| | | | | | | | | | | | | - | - | - | - |
| | | | | | | | | | | | | - | - | - | - |
| | | | | | | | | | | | | - | - | - | - |
| | | | | | | | | | | | | - | - | - | - |
| | | | | | | | | | | | | - | - | - | - |
| | | | | | | | | | | | | - | - | - | - |
| Open Water | | 0 | | | | | | 12.8 | 0.6 | 155 | | - | - | - | - |
| Active Construction | | | | | | | | | | | | | | | |
| Vacant Lots | | | | | | | | 0 | 0 | 0 | 0 | | | | |
| Total | | 1192.83 | 38.99840972 | | | | | 7.48534 | 0.991434883 | 201.1412 | 306.9183618 | 8,929 | 1,183 | 239,927 | 364,909 |

### Partitioning Coefficients for Rural and Forest Land

| Pollutant | TN | TP | TSS | FC |
|---|---|---|---|---|
| Fraction as Storm Load | 60% | 70% | 90% | 100% |

### Watershed Data

| | |
|---|---|
| Annual Rainfall (inches) | 43.2 |
| Watershed Area (acres) | 1192.83 |
| Stream Length (miles) | |
| Planning Horizon (years) | 2050 |

## CONCLUSIONS AND RECOMMENDATIONS

The Choptank River and Tuckahoe Creek are the receiving waters for non-point source pollution from Ridgely. Both of these are impaired water bodies listed on the 303d list. The sources of pollution are primarily nitrogen, phosphorous and sediments. In 2002 the Maryland Department of Natural Resources reported, "the Choptank River, like other tributaries to the Chesapeake Bay, is degraded by nutrient and sediment pollution harming aquatic life. Excess nutrients and sediments are the primary sources of pollution in the Chesapeake Bay. Nutrients occur naturally in soil, animal waste, plants, and the atmosphere; but in the Chesapeake Bay watershed, urbanization and farming have increased nutrient loads to unhealthy levels. These nutrients – nitrogen and phosphorus – promote the growth of algae, which in turn, blocks sunlight from reaching underwater grasses and reduces dissolved oxygen and suitable habitat for aquatic life.[10] Given this assessment, without implementation of strategies to manage these sources of pollution the Choptank River and Tuckahoe Creek will not have the assimilative capacity to support growth in the region, including Ridgely's.

"A wide array of best management practices (BMPs) have been planned to reduce impacts of non-point sources. As of 2004, Tributary Strategy goals have been met and exceeded for implementation of BMPs for agricultural practices such as nutrient management plans, conservation tillage; implementation is also high (approximately 75 percent or more of goals) for animal waste management systems (both livestock and poultry), grass buffers at the edges of fields bordering waterways, and tree plantings on agricultural lands. According to the MD DNR, modeled nitrogen, phosphorus, and sediment loadings have decreased substantially from 1985 to 2005. Total nitrogen loadings are down 2.28 million pounds per year, 60 percent of the Tributary Strategy goal. Total phosphorus loadings are down 0.28 million pounds per year, 70 percent of the Tributary Strategy goal. Sediment loadings are down 43,000 tons per year, 83 percent of the Tributary Strategy goal. Despite these successes, the report finds that agricultural land is still the major contributor of nitrogen, phosphorus, and sediment and as of 2004 implementation of urban BMPs has not been as successful, notably those dealing with stormwater management (overall, approximately 12 percent of Tributary Strategy goals) and urban nutrient management plans (no progress)."11

When prepared, TMDLs for the Upper Choptank River and Tuckahoe Creek Watersheds will establish the types and level of management practices (Assurance of Implementation) that will be required to achieve the TMDL caps (or the Tributary Goals, whichever is more stringent). TMDLs will derived from modeling of base and future loadings taking into account implementation of best management strategies. When the TMDLs for these watersheds are set, they should account for the impacts of projected growth in designated growth areas including Town growth as outlined in the Ridgely Comprehensive Plan. The TMDL strategies for the Upper Choptank River and Tuckahoe

[10] Choptank River Overview, Maryland Department of Natural Resource, November 2003.
[11] Maryland Tributary Strategy Choptank River Basin Summary Report for 1985-2005 Data August 2007, Maryland Department of Natural Resources, Tidewater Ecosystem Assessment.

Creek watersheds should account for some increase in nonpoint source loading from Ridgely associated with the build-out of the Town. For its part, the Town should begin implementing best practices for urban nutrient management. In addition the Town should work with other jurisdictions in the River Basin and the State to identify and implement best management practices to reduce existing and future non-point loadings.

Through its stormwater management ordinance and program and development standards the Town should require environmental site design (ESD) techniques that optimize conservation of natural features (e.g., drainage patterns, soil, vegetation), minimize impervious surfaces (e.g., pavement, concrete channels, roofs), slow down runoff to maintain discharge timing and to increase infiltration and evapotranspiration and use other nonstructural practices or innovative technologies approved by MDE. Best management practices the Town should consider include:

- Limit impervious surface areas to 10% in identified critical or sensitive areas.
- Permit open section roadways in new developments.
- Incorporate the use of nonstructural best management practices (BMPs) such as natural conservation areas, roof and non-roof top disconnection, vegetated swales, sheet flow to buffer, reduced impervious cover to the maximum extent practicable and promote environmentally sensitive design (ESD) or low impact development (LID) techniques.
- Maintain existing forest cover and promote the enhancement of contiguous forest areas.
- Work with Caroline County to address failing septic systems in areas that can be served by public water and sewer.
- Allow narrower, shorter streets, rights-of-way, and sidewalks. Streets may be as narrow as 22 ft. in neighborhoods serving low traffic volumes; open space designs and clustering will reduce street lengths; rights-of-way can be reduced by minimizing sidewalk width, providing sidewalks on one side of the road, and reducing the border width between the street and sidewalks.
- Allow smaller radii for turn arounds as low as 33 ft.; use a landscaped island in the center of the cul-de-sac and design these areas to treat stormwater runoff.
- Allow grass channels or biofilters for residential street drainage and stormwater treatment.
- Parking ratios should be interpreted as maximum number of spaces; permit shared parking arrangements; minimum parking stall width should be less than 9 ft. and stall length less than 18 ft.
- Require parking lots be landscaped. Relax setbacks to allow for bioretention islands or other stormwater practices in landscaped areas.
- Adopt flexible design criteria to allow developers to use clustered development and open space designs.
- Reduce minimum lots sizes. Relax setbacks and allow narrower frontages to reduce total road length; eliminate long driveways.
- Allow for shared driveways and alternative impervious surfaces.
- Direct rooftop runoff to pervious surfaces.
- Designate a minimum buffer width and provide mechanisms for long- term protection.
- Limit clearing, grading, and earth disturbance to that required to develop the lot.
- Provide long-term protection of large tracts of contiguous forested areas; promote the use of

native plantings.

- Provide incentives for conserving natural areas through density compensation, property tax reduction, and flexibility in the design process.

# APPENDIX D: WATER & SEWER - SUPPLEMENTAL DATA

## REQUIREMENTS FOR WATER & SEWER PLANNING

New water and sewer facilities to serve planned development(s) must be included in the Master Water and Sewerage Plan, provided there is a "reasonable expectation" that needed infrastructure will be built in time to serve said development(s) and all other regulations have been addressed. In order to better understand State agency motives, on July of 2004, the Secretary of the MDE noted in a letter addressed to the Town of North East, Maryland:

> "Environment Article 9-512(b) states that a State or local authority may not issue building permits unless the water and sewer system is adequate to serve the proposed construction, taking into account all existing and proposed developments in the service area. Section 9-512(b) also addresses the approval of subdivision plats…whereas…a State or local approving authority may not record or approve a subdivision plat unless any approved facility for conveying, pumping, storing, or treating water and sewage to serve the development would be completed in time to serve the proposed development, and adequate to serve the proposed development, once completed, without overloading any water supply or sewerage system."[i]

This letter states that if doubts exist regarding water and sewer facilities or capacity, plats should not be signed by State agencies. In addition, new facilities to serve proposed development(s) must be included in the Master Water and Sewer Plan, provided there is a "reasonable expectation" that needed infrastructure will be built in time to serve said development(s) and all other regulations have been addressed. The Secretary further warned that "those local governments that do not have a careful methodology for tracking capacity and allocation" should provide such methodology.

The Maryland Environment Article; Annotated Code of Maryland contains legal guidelines for the Water and Sewer Plan that include the following:

<u>The County governing authority (officials) are required to maintain a plan that provides for water and wastewater systems and solid waste and its disposal</u>:

- Plan(s) approved by MDE; and
- Provides for "at least" a 10-Year planning period following Plan adoption (3 year mandated updates).

<u>Local Water and Sewerage Plan Requirements (for plan preparation, revision, or amendment)</u>:

- Review by governing body including the Planning Commission and the County Commissioners
- Provide for a 30 day review by the Planning Commission and Planning Department prior to public hearing
- Public hearing prior to adoption of a plan, revision, or amendment
- Provide notice to adjoining municipalities and/or counties at least 14 days prior to the public hearing;

- ❖ Publish a public hearing notice including time and place in local newspaper(s) of circulation for 2 successive weeks (14 days) prior to the public hearing.

State Water and Sewerage Plan Requirements (for plan preparation, revision, or amendment):

- ❖ Final approval of a plan, revision, or amendment depends on State approval;
- ❖ Request for approval is sent to MDE and also disseminated to the Maryland Departments of Agriculture, Natural Resources, and Planning for review (State Clearinghouse);
- ❖ State review is 90 days and can be extended for an additional 90 days;
- ❖ If approval or disapproval is not received within 90 days and no extension is requested plan, revision, or amendment is automatically approved; and
- ❖ Municipal plans, revisions, or amendments must conform to a Master Water and Sewer Plan.

On November 20, 2007, Mr. Donald Wilson, Director of the Caroline County Department of Environmental Health (EH), outlined several actions required by the Town of Ridgely in order to meet EH/State requirements in relation to water and sewer infrastructure for new development.[ii] These include:

- Water and Sewer Allocation Certificate;
- Subdivision Plat Capacity Commitment Form;
- Maryland Department of the Environment (MDE) Construction Permit;
- Water Capacity Management Plan;
- Wastewater Capacity Management Plan; and
- Inclusion in the *Caroline County Comprehensive Water & Sewerage Plan*.

Water and sewer facilities and services in Ridgely, for important planned development projects such as Ridgely Park (the Town's partner for upgrading/expanding the current sewer system), depends on several primary factors including:

1. Developing Water/Wastewater Capacity Management Plans for the Town that meet State criteria and guidelines as defined by EH/MDE;
2. Inclusion in the *Caroline County Comprehensive Water Sewerage Plan* including classification for facilities and services to be provided (within a timeframe as designated by the Plan and determined through Town planning such as W1/S1, W2/S2, W3/S3 etc.).
3. The fulfillment of all County and State processes and completion of required forms for such approvals including, but not limited to, the requirements of the Caroline County Department of Planning & Codes Administration and the Caroline County Department of Environmental Health. This process/procedure should be determined before requests are submitted to Caroline County.

The *Caroline County Master Water and Sewerage Plan* requires annual review by the local governing body. A "Report," along with requested amendments to the water and sewer plan, must be submitted by the county each year to MDE.[iii] Annual amendments or revisions to the County Water and Sewer Plan must be developed in accordance with Environment Article §9-511 through 9-513.[iv] "Amendments or

revisions to the Plan shall be prepared so that the new or additional material may be inserted in the binder in the appropriate places to provide a continuously updated and current county comprehensive water and sewerage plan."[v] County water and sewer plans may only be approved by MDE upon inclusion of a financial management plan and a completed "Schedule FS" form.[vi] This includes publically owned water and sewer systems in the County, such as Ridgely. Therefore water and sewer planning is directly related to the Town's Capital Improvements Program in addition to the comprehensive plan and water and sewer subsidiary plans.

## CAROLINE COUNTY WATER QUALITY IMPROVEMENT REPORT

The State of Maryland, including its regulatory agencies such as MDE, is currently redefining the process, procedures, and requirements for water and sewer planning on a State-wide basis. These changes have tremendous impacts, particularly for small municipalities. Much of this change is being driven by a desire to improve the environment, quality of life, and most importantly the health of the Chesapeake Bay. Both the Choptank and Tuckahoe Rivers in Caroline County are listed by Maryland as impaired waterways on the 303(d) list, requiring advanced restoration treatment in terms of pollutants to improve water quality.[vii]

The *Caroline County Water Quality Improvement Report* (Water Quality Report) is an unofficial but public document prepared by the Caroline County Department of Planning & Codes Administration and Caroline County Environmental Health. It states that "without increased water quality protection, growth in Caroline County will lead to further degradation of water resources and water quality." The purpose of the *Water Quality Report* is to highlight policy initiatives and future strategies for the County to address the "Clean Water Act" and State standards for water quality improvement, including Total Maximum Daily Loads (TMDL's), in relation to growth management.

### Water & Sewer Planning Principles

In 2004, the Maryland Department of Planning prepared a list of draft "Water & Sewer Planning Principles" to assist local jurisdictions (towns and counties) in preparation for annexation, development and growth management in regards to water and sewer planning.[viii] The "Water & Sewer Planning Principles" were incorporated in the County's Water Quality Report.[ix] It is important to note that much of Ridgely's planning for water and sewer as well as growth and development are consistent with these principles, albeit a need for more detailed planning on the Town's part.

The Water Quality Improvement Report defines these nine (9) primary planning principles for water and sewer. The principles offer guidance to water and sewer facilities owners as to how planning for existing systems and system expansions should be developed:

- Principle 1 – Support Smart Growth: Water and Sewer Plans should be proactive in contributing to Smart Growth objectives of revitalizing existing towns and communities, promoting economic development in Priority Funding Areas (PFA's), and protecting rural areas from sprawl and leapfrog development. The Plan should do this by focusing on maximizing use of existing facilities through strong renovation and

maintenance programs. Capacity increases should be based on documented needs and expansion of systems to new areas and should be in an orderly manner to areas contiguous to existing service areas. The Plan should present policies and practices that help reduce the cost of development on sewer and water relative to development on individual systems.

- Principle 2 – Maintain and Improve Existing Systems: Water and Sewer Plans should address how the physical and fiscal condition of existing water and sewer systems can be improved to support Smart Growth. This means that the Plan should give the highest priority to identifying and meeting needs for renovation and maintenance of existing systems in existing locations. This will help assure that there is adequate infrastructure to support revitalization and infill in existing communities.

- Principle 3 – Manage Service Area Expansions: Water and Sewer Plans should support any geographic expansion of existing systems only in existing PFA's and areas contiguous to existing service areas with densities no less than 1 unit/per acre and average densities sufficient to qualify for PFA designation (3.5 units/per acre). The Plan should indicate the staging of expanded areas with reference to specific timeframes. Techniques should be developed to discourage or prohibit physically preemptive low density development on individual systems in planned future service areas. As stated in State law, service should be shown for "…those parts of the county that can reasonably be expected to be served in the next 10 years." This provision is consistent with the PFA designation criterion which states: "PFA designation must represent a long-term policy for orderly development and efficient use of land and public services."

- Principle 4 – Expand System Capacity Based on Demonstrated Needs: Water and Sewer Plans should provide for adequate treatment and conveyance capacity for service areas that are delineated with "all practical precision." Capacity should be based on "reasonable" population, household and economic projections, in the context of local zoning as referenced in Principle 3. This will help to assure that capital, maintenance, and operating costs will be reasonable. Systems that have either too little or too much capacity in relation to realistic projected needs and/or geographic coverage can strain rate payers and local budgets and harm local bonding ability.

- Principle 5 – Present a Capital Program Based on Demonstrated Needs: Water and Sewer Plans should translate projected needs into specific projects for new, renovated, or expanded facilities for at least the 10 years following Plan adoption. These projects should be shown in tables with estimated costs and funding sources. Existing and planned major facilities and projects should be shown on the service area maps.

- Principle 6 – Allocate Capacity to Support Smart Growth: Water and Sewer Plans should describe capacity allocation policies and systems that serve the other principles and that maintain local control over available capacity. Allocations should be time limited and not transferable to avoid private control of capacity rights that are not used and to prevent the development of an unregulated market in these rights. Priority for allocations should be given to infill, redevelopment, and expansions into new areas that are contiguous to existing service areas and meet State PFA requirements.

- Principle 7 – Protect Water Quality and Water Supply Sources: Water and Sewer Plans should demonstrate how existing and proposed facilities, and the development patterns they support, will meet permit requirements for point discharges and stormwater. The Plan should describe its relationship and contribution to meeting the objectives of relevant watershed plans, TMDL's, and the Chesapeake Bay Agreement. In areas where sewage is treated by on-site disposal systems, promote the use of best management practices that reduce nutrient pollution without increasing housing density. For water supply, the Plan should identify that safe and adequate supplies are available for projected growth and describe programs to protect the integrity and quality of existing and planned ground and surface water supply sources.

- Principle 8 – Assure Adequate User Rate Structures: Water and Sewer Plans are mandated to address how systems will be adequately funded to assure protection of public health, water quality, and environmental protection. Recent Statewide studies of sewer and water infrastructure found extensive and expensive needs for renovation of existing systems that were leaking, overflowing, or otherwise inadequate to meet existing or planned future demands. A major finding of these studies was that rate structures are often inadequate for proper system maintenance. This has led to increasing risks to public health, water quality, and the environment. At the same time, the deterioration of older systems was found to be detrimental to Smart Growth.

- Principle 9 – Incorporate Subsidiary Plans: Water and Sewer Plans must by law, fully integrate planning and facilities for the county, municipalities, and other private and government entities that own or operate water and sewerage systems within the county or that serve more than one county. These entities must be full partners in the planning process to assure that their operating and capital program information, allocation policies and practice, and other required information is updated and that service areas reflect both county and municipal comprehensive plans. Issues related to future service areas and annexations around municipalities must be addressed and resolved to the maximum extent possible.

**Specific County Policies and Guidelines for Water & Sewer Planning**

As general policies/guidelines for Caroline County, the Water Quality Report stipulates several policies in relation to water and sewer and growth and development within the County.[x] These include the following potential requirements:

1. Municipal annexation must meet the accepted polices and plans of Caroline County within a defined and mutually accepted "Inter-Jurisdictional Growth Area" before the County will amend plans or grant legislative approvals such as County endorsements of municipal zoning or requests for amendments to the *Caroline County Comprehensive Water & Sewerage Plan*.
2. Municipal growth must constitute contiguous annexation of parcels within County areas as defined: properties abutting or adjoining current municipal boundaries that do not create enclaves, do not create "string" annexations, and constitute a logical and formulated strategy consistent with the natural growth of a municipality and the County. Municipal annexation must be properly coordinated with County officials and planning staff prior to the annexation of properties in County areas. This includes Growth Areas.

3. New large-scale development should seek, whenever possible, to address "Areas of Special Concern" (failing septic areas). This is consistent with the County's long-standing policy that new development should not occur at the expense of solving existing problems.
4. Water & Sewer Plan amendment requests, which contain Growth Areas not in conformance with the *Caroline County Comprehensive Plan*, will not be accepted. Municipal water and sewer extension and/or creation must be coordinated with Caroline County and be included in the Water & Sewer Plan as a defined service area for the extension and/or creation of water and sewer facilities and services
5. Water and Sewer Plan amendment requests must be accompanied by an official letter (town manager and town official) certifying the amount of excess water and wastewater system capacity, which are available and intent to provide said capacity to such site(s) or how sufficient capacity will be provided. All Water & Sewer Plan amendments shall take effect only upon final MDE approval.
6. Requirement that water and sewer owners/operators (service providers) in Caroline County utilize the *MDE 2005 Guidelines for Wastewater Capacity Management Plans* to prepare policies, procedures, and plans related to water and sewer and maintain an up-to-date "Capital Improvement Program" that outlines needed municipal infrastructure and service enhancements and development.
7. Requirement that verified water and sewer capacity for annexation and subsequent development exists and is based on the "MDE 2005 Draft Guidelines for Wastewater Plants" including a minimum of 250 gallons per day (gpd) per residential housing unit for all County towns in regards to residential development. The calculation of wastewater flow for proposed commercial and industrial establishments will be assessed on a case by case basis utilizing figures provided by Environmental Health and/or MDE. Deviation from this figure requires a verification letter provided by Caroline County Environmental Health and/or Maryland Department of the Environment (MDE) if a lower figure than 250 gpd is to be used.
8. Requirement for the periodic or semi-annual review and assessment of water and sewer systems by the County, including the updating of municipal wastewater capacity by Caroline County Planning and Environmental Health in coordination with towns.
9. Requirement that water and sewer owners/operators prepare a tri-annual "Municipal Sewage Capacity Report" based on an average of the previous 3 years' flow to be submitted to the State, County Planning, and Environmental Health. The report should include inflow and infiltration solvents as well as ways to improve overall County water quality through systems upgrades.
10. Requirement that a thorough review and assessment/report of sewer systems be completed by a service provider and the County when 75% capacity is reached in a wastewater system, including a review of proposed and current development and a determination of capacity in relation to allocation.
11. Requirement that municipal infrastructure plans and related capital improvement plans be submitted to County Planning and Environmental Health for review on a tri-annual basis and earlier if substantive changes are planned for a water and sewer system. This includes any engineering plans, which will be duplicated and stored in the County's GIS central server for future and related planning, design, and/or engineering.
12. Requirement that verification of updated plans and policies for municipalities: includes but are not limited to Wastewater Capacity Management Plans, Municipal Build-Out Assessments, Calculated

Average Flow Reports, Capital Improvement Plans, and all other required local and State data. This requires a verification letter provided by Caroline County Environmental Health in conjunction with MDE and other local agencies that all required plans exist or are being developed.

## CURRENT STATUS OF WATER AND SEWER PLANNING IN RIDGELY

At a minimum, Town policies/regulations should include the following for all new growth and development:

1. Require an "Annexation Agreement" be executed between landowner(s) and the Town;
2. Address potential impacts to community facilities and services through appropriate impact studies, including fiscal, water and sewer, as well as environmentally sensitive areas;
3. Identify development funding responsibilities between identified parties;
4. Outline issues to be addressed in a Developers Rights and Responsibility Agreement (DRRA), which typically follows an Annexation Agreement (may require a Ridgely DRRA Ordinance);
5. Require development form be consistent with the Ridgely Comprehensive Plan; and
6. Create a specific regulatory provision that Caroline County Environmental Health must approve/sign plats before construction can begin and permits can be issued, officially verifying that water and sewer capacity exists to serve such developments.

The Ridgely Park Development Project is important to meet the Town's objectives for growth, revitalization, economic development, and infrastructure improvement. It is also important to meet County objectives. A significant Federal, State, local investment has been made in regards to the Ridgely Airpark and Business & Technology Park. Ridgely Park is an important component of this overall effort, providing future housing for potential employees of such businesses as well as assisting the Town in upgrading necessary infrastructure. In this regard, Ridgely plans are consistent with County criteria as expressed in the Caroline County Comprehensive Plan, the West Caroline County Comprehensive Plan, and the Caroline County Water and Sewerage Plan. These include the following:

- The existing Town of Ridgely is a Caroline County Priority Funding Area (PFA). The Town's growth and development plans for the future were adequately coordinated with Caroline County during the development of the *West Caroline County Comprehensive Plan*.
- As defined in the Comprehensive Plan, the Ridgely Growth Area includes Ridgely Park.
- The Ridgely Park Project is a contiguous to the Town and has been annexed, meeting annexation criteria and the requirements of State law.
- Ridgely comprehensive planning addresses a long-term strategy for Trinity Boonsboro, a failing septic area bordering the Town.
- In regards to Ridgely Park, as a Town Growth Area, requests for amendments to the *Caroline County Comprehensive Water & Sewerage Plan* are consistent with past plans. A service classification is currently required for Ridgely Park as well as the Business & Technology Park. The Town will need to provide Caroline County Planning & Codes Administration with a "Water & Sewer Plan Amendment Request Form" to begin the process of amending the Plan.
- Updating the Town plans/reports regarding water and sewer capacity is critical prior to requesting

an amendment. Once an amendment is requested of the County, the Town must indicate that capacity exists to serve proposed development projects or is planned.

- Ridgely should review its current Capital Improvements Plan and Water and Wastewater Capacity Management Plans to ensure consistency with State requirements. MDE has produced guidelines for the preparation of Water and Wastewater Capacity Management Plans. Once a wastewater treatment plant reaches 75% capacity, MDE will require detailed water and sewer plans for upgrades/expansions to accommodate future development.
- Ridgely should consider using the State standard of 250 gpd per residential dwelling unit for water and sewer allocation.

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[i] Letter to Honorable Robert F. McKnight: Town of North East; Kendl P. Philbrick; "Water & Sewer Planning and Management;" June 16, 2004.
[ii] "2007 Caroline County Environmental Health to the Town of Ridgely Regarding Water and Wastewater." Caroline County Environmental Health; November 20, 2007.
[iii] Ibid, 1.
[iv] Ibid, Section .03: Submission of County Plans, 1.
[v] Ibid, 4.
[vi] Section .08: Financial Management of Public Sewerage Systems Required, 1.
[vii] *Caroline County, Maryland: Water Quality Improvement Report – Broad Policy Directives for Caroline County*. Caroline County Department of Planning & Codes Administration; August 2006.
[viii] *Draft Water and Sewer Planning Principles*; "Garrett County Water and Sewer Plan;" Prepared by the Maryland Department of Planning; July 18, 2003.
[ix] *Caroline County, Maryland: Water Quality Improvement Report – Broad Policy Directives for Caroline County*; 14-15
[x] Ibid, 27 – 28.

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