THE TOWN OF CHARLESTOWN
2008 COMPREHENSIVE PLAN

Charlestown, Maryland
August 2008

Prepared by Peter Johnston & Associates, LLC
In Coordination with the Charlestown Citizen Advisory Committee (CAC)

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Executive Summary

The *2008 Charlestown Comprehensive Plan* updates the major elements of the Town's 1993 Comprehensive Plan. The Plan also adds two new elements required by Maryland House Bill 1141 (HB 1141): The Municipal Growth Element and the Water Resources Element. Comprehensive Plan chapters include the following:

- Executive Summary;
- Chapter 1: Introduction;
- Chapter 2: Existing Conditions;
- Chapter 3: Goals & Objectives;
- Chapter 4: Land Use;
- **Chapter 5: Municipal Growth Element;**
- Chapter 6: Resource Conservation;
- Chapter 7: Community Facilities;
- **Chapter 8: Water Resources;**
- Chapter 9: Heritage Preservation;
- Chapter 10: Transportation; and
- Chapter 11: Implementation.

THE VISION FOR CHARLESTOWN

"Charlestown will be a small town where families will want to live and raise their children; where senior citizens will want to enjoy their retirement. Streets will be safe and youth will be challenged with an effective recreational program reflecting their interests and abilities. As an inclusive community, residents in all parts of Town will experience a sense of community and will participate in all aspects of Town sponsored activities. Historic architectural treasures will be preserved and enhanced by compatible new construction in the Historic District and well maintained residential properties overall. Existing commercial enterprises will be encouraged to enhance their facilities and any new businesses will be compatible with the nature of the Town."

THE LAND USE PLAN

The Charlestown Land Use Plan defines planning areas, wholly located within the current corporate boundaries of the Town. The seven proposed planning areas are consolidations of the Town's 12 existing land use categories. Planning areas recognize existing land use patterns and are responsive to the "Goals and Objectives" of this Comprehensive Plan. Planning areas are administrative districts that will enable Charlestown officials to develop a zoning ordinance and other regulations as well as encouragements to properly manage growth within these areas.

Descriptions of the planning areas, and the guidelines attached to them, are intended to serve as a guide for the creation of zoning districts and related development standards, used to implement this Comprehensive Plan. Zoning district provisions, including permitted uses, density, and design standards etc., should be prepared to achieve the purpose of each planning area. The Comprehensive Plan divides land uses into seven (7) broad and primary land use categories, including:

Table 1: 1993 CHARLESTOWN LAND USE TABLE

Land Use Category	1970 - Acres	1993 - Acres	Percentage of Town
Charlestown Property	56.67	56.67	11%
Residential	124.89	150	30%
Shoreline Recreational	14.46	14.46	3%
Commercial	0.58	0.58	N/A
Institutional	22.55	22.55	4%
Utility	0.32	0.32	N/A
Streets	38.11	38.11	8%
Undeveloped	242.42	219	44%
TOTAL	**500**	**501.69**	**100%**

Map 4-2 of "The Land Use Plan" shows the locations of the proposed planning areas in Charlestown.

Land Use Planning Areas

1) Town Center – 36 Acres

Description: Includes key civic and commercial uses.

Objective: Encourage an appropriate mix of residential, neighborhood-commercial, and public uses of a scale and intensity consistent with the Town's existing historic character.

Policy: Balance historic preservation, economic development, and sustainable energy and environmental protection policies.

Recommendation: Encourage context sensitive infill and redevelopment regarding development standards.

2) Marine – 20 acres

Description: Maritime uses include 4 commercial marinas and boat slips.

Objective: Promote the marina and Town Center planning areas as centers for commercial and community activities.

Policy: Encourage continuation and expansion of marine commercial uses and public access to the water.

Recommendation: Develop regulations that discourage conversion to non-maritime uses or permit incompatible uses.

3) Neighborhood Conservation – 347 acres

Description: Existing single-family residential neighborhoods.

Objective: Protect existing stable residential neighborhoods, while encouraging context sensitive infill and redevelopment.

Policy: Prohibit incompatible uses in stable neighborhoods.

Recommendation: Provide for single-family detached and semi-detached residences and supporting uses, including minor infill consistent with existing neighborhood character.


Map 4-2
2008 COMPREHENSIVE PLAN
CHARLESTOWN, MARYLAND
LAND USE PLAN
LEGEND:
Charlestown Corporate Boundary
Green Corridor
Public & Semi-Public
Parks & Open Space
Town Center
Marine
Neighborhood Conservation
Neighborhood Redevelopment
Charlestown Crossing
Cool Springs
Trinity Woods
Scott Gardens
Genterra
North East River
Holloway Beach
Northeat River
WWTP
PJA
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4) Neighborhood Redevelopment – 149 acres

Description: Areas on the north and south side of Maryland Route 7.

Objective: Encourage compatible growth and reinvestment in existing properties.

Policy: Encourage appropriate infill and redevelopment.

Recommendation: Allow maximum flexibility for infill and redevelopment.

5) Green Corridor (Conservation Overlay)

Description: Streams and stream buffers, sensitive environmental features, soils with development limitations adjacent to streams, and major drainage corridors.

Objective: Protect existing natural resources, key drainage corridors and adjacent water bodies.

Policy: Ensure stormwater management best management practices (BMPs) are required and will encourage Cecil County to designate similar green corridors
Recommendation: Promote Town development regulations that are flexible to ensure reasonable use of the property, while achieving resource protection objectives. The Town and County should adopt and enforce more stringent resource protection standards.

6) Parks & Open Space – 118 acres

Description: Existing neighborhood parks and open space areas in new subdivisions.

Objective: Provide adequate park and recreation facilities meeting the needs of Town residents.

Recommendation: Improve existing park facilities and investigate creation of a Town memorial park/cemetery.

7) Public & Semi-Public – 68 acres

Description: Elementary School, Town Hall, Fire Station, Fishing Pier, Town Dock, dredge spoil site, public right-of-ways, railroad lines, Town-owned parcels, others.

Objective: Manage public land and facilities so as to maximize public benefit.

Policy: Maintain public land uses to improve the quality of life for Town residents.

Recommendation: Provide for a range of semi-public uses in appropriate locations within the community.

MUNICIPAL GROWTH ELEMENT

The Municipal Growth Element (MGE) is one of two new elements in the Comprehensive Plan developed specifically to meet the requirements of Maryland House Bill 1141. The MGE specifies where Charlestown intends to grow, if at all, outside its existing corporate limits. It also discusses how the Town intends to address services, infrastructure, and environmental protection needs for the Growth Area.

In order for land annexed after September 2006 to qualify for State assistance as a Priority Funding Area (PFA), the MGE must contain an analysis of land capacity available for development, including infill and redevelopment. The Town must develop and share with other planning agencies (State/County) an "Annexation Plan" consistent with the MGE. The MGE provides Town officials with a better understanding of the impacts of growth, and affords them a strong basis for setting land use and growth management policies going forward.

Future growth in the County and Charlestown will require multi-jurisdictional strategies to address such issues as school capacity, demands on emergency services, public infrastructure and transportation facilities. Issues related to water and wastewater treatment (sewer service) will require an even greater level of coordination between the State, County and Town.

Population Projections

Population growth for Charlestown is projected to increase by approximately 86% in the period between 2010 and 2025. The projected annual average growth rate between 2000 and 2025 will be approximately 5%. The most substantial increases are expected by 2015 (a 63% increase) as dwelling units in approved subdivisions are constructed. Charlestown's population is expected to steadily increase from approximately 1.2 percent of Cecil County's population in 2000 to approximately 1.4 percent of the County population in 2025. Population and dwelling unit projections are based on the following assumptions:

- Population projections assume average household size will decrease commensurate with the Maryland Department of Planning's (MDP) projected trend in average household size for Cecil County.
- Total Infill development potential is 441 dwelling units: 261 existing lots of record in

recently approved subdivisions will be constructed by 2015; and 21 lots in a pending subdivision (Genterra) will be constructed by 2015.

- As a result of increased emphasis on infill and redevelopment, approximately 180 infill residential units will be added in the "Old Town" portion of Charlestown (south of MD Rt. 7) by 2025, albeit at a slow pace throughout the planning period.
- No additional residential units are anticipated to be added to Charlestown as a result of new annexations.

Table 2: Population Projections for Cecil County and Charlestown 2000 - 2025								
Classification	**2000**	**2010**	**2015**	**2020**	**2025**	**Change**	**Percent**	**Annual**
Cecil County	85,951	108,100	121,650	134,500	147,350	61,399	71%	3%
Charlestown	**1,019**	**1,196**	**1,664**	**1,869**	**2,075**	**1,056**	**104%**	**4%**
Dwelling Units	379	453	640	730	820	441	116%	5%
% of County Population	1.19%	1.11%	1.37%	1.39%	1.41%	N/A	N/A	N/A
Source: Maryland Department of Planning; U.S. Census; Peter Johnston & Associates								

Infill and Redevelopment

Total Infill development potential is 441 dwelling units. Approximately, 261 existing lots of record in recently approved subdivisions will be constructed by 2015 and 21 lots in a pending subdivision (Genterra) also will be constructed by 2015. No additional residential units are anticipated to be added to Charlestown as a result of new annexations.

Table 3: Infill and Redevelopment Capacity - Charlestown			
Classification	**Vacant Parcels**	**Acres**	**Potential # of DU's**
*Recent Subdivisions	282	79	282
"Old Town" Infill/Redevelopment†	86	111	159
TOTAL	**368**	**190**	**441**

Infill & Redevelopment Impacts

Population growth will have impacts on public services and facilities provided by the Town and County. Impacts from infill and redevelopment include increased demand for sewer and water services, public schools, libraries, police, emergency services, and recreation land.

Table 4: Impacts of Charlestown Growth on Public Facilities & Services	
Classification	**Infill/Redevelopment Areas**
Total Dwelling Units	**441**
Population	**1,056.00**
Sewer (gallons per day - GPD)	**110,250**
Water (gallons per day - GPD)	**110,250**
School (new students)	**210**
- High School	68
- Middle School	47
- Elementary School	95
Library (gross floor area - GFA)	**106**
Police (personnel)	**3**
Recreation Land (acres)	**32**
Fire & Rescue (Emergency Services)	
- Personnel	2
- Facilities (gross floor area - GFA)	845

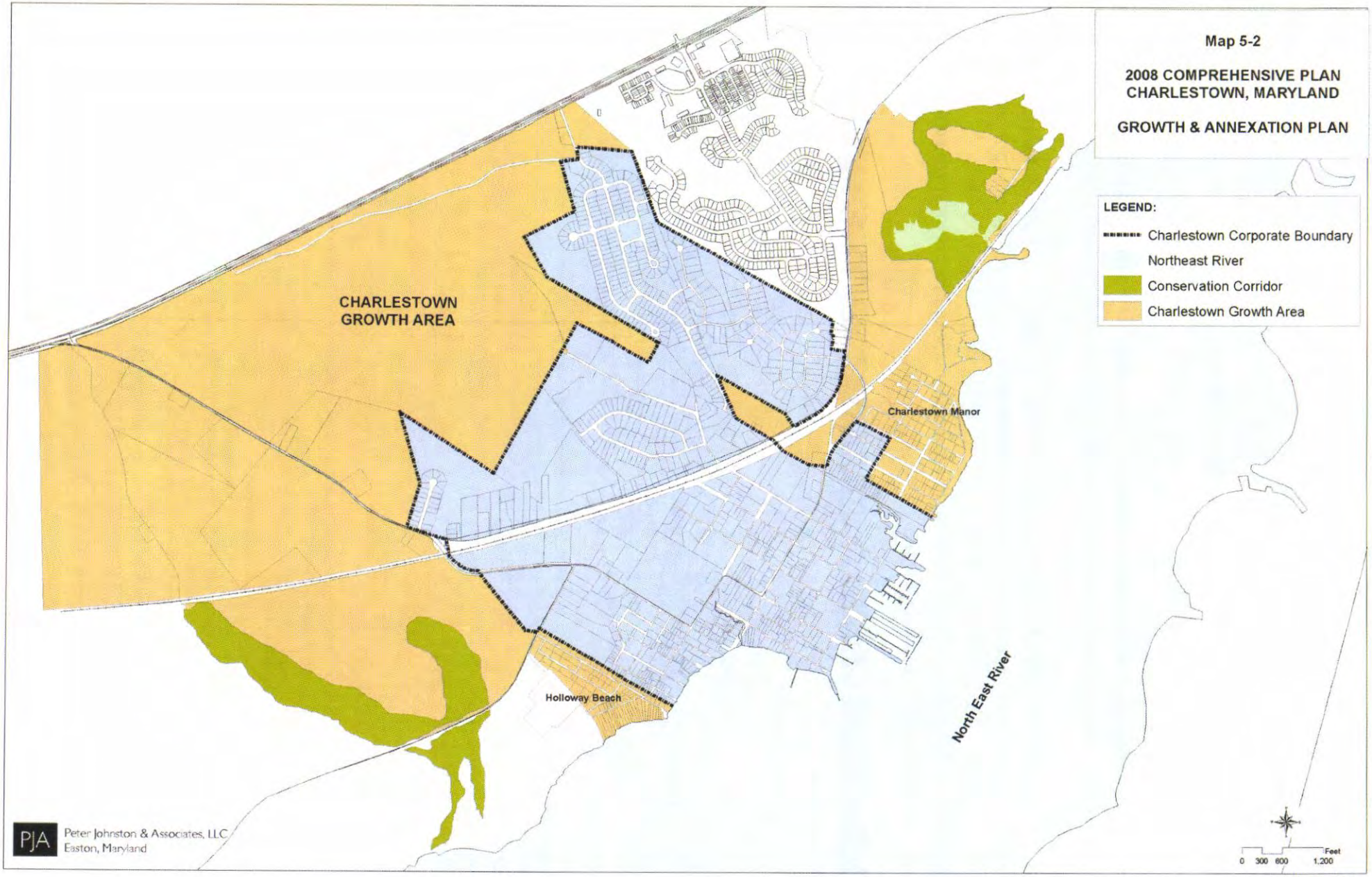
Sources:
Maryland Department of Planning – MDP: Municipal Growth Element Model (Smart Growth lot size, underbuild assumptions, school enrollment multipliers, and recreation land demand);
Maryland Department of the Environment – MDE: Water and Wastewater Capacity Management Plans (sewer and water gpd demand estimates – 250 gpd per dwelling unit);
American Library Association (library facility square footage multiplier);
International Association of Police Chiefs and other organizations (personnel multiplier);
2000 U.S. Census for Charlestown/Maryland Department of Planning Population Projections for Cecil County (persons per household based on descending trend in household size);
International City Council Management Association. (fire personnel multiplier); and
National Planning Standard (fire facility square footage multiplier).

Growth & Annexation Area

The Charlestown Growth & Annexation Area, as shown on Map 5-2, represents the Town's long range growth expectations and is a priority annexation area. The Growth Area totals approximately 1,339 acres. It includes several large vacant tracts of land surrounding the Town. Some tracts are wooded and others indicate surface mining activities, which are located on select parcels to the west of Town. This portion of the Growth Area is located in Cecil County's Mineral Extraction District. Development is anticipated for this area as a post mining land use.

The Charlestown Growth Area also includes two historic County subdivisions; Charlestown Manor and Holloway Beach. Charlestown Manor is an existing 45-acre/182-lot Cecil County subdivision located north-east of Town. As of 2006, approximately 48 lots totaling 14 acres were vacant. Holloway Beach is an existing 25-acre/108-lot Cecil County subdivision located southwest of Town. It is 51% built-out. As of 2006, approximately 52 lots totaling 25 acres were vacant[1].

[1]Source: 2006 Maryland Property View, 2006 aerial photography


Map 5-2
2008 COMPREHENSIVE PLAN
CHARLESTOWN, MARYLAND
GROWTH & ANNEXATION PLAN
LEGEND:
Charlestown Corporate Boundary
Northeast River
Conservation Corridor
Charlestown Growth Area
CHARLESTOWN
GROWTH AREA
Charlestown Manor
Holloway Beach
North East River
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Impacts of Growth Area

Development of the Growth Area and resultant impacts are presented in two scenarios, each based on different lot size configurations:

- Scenario 1 assumes that development will be based on a minimum lot size of 21,780 square feet (based on analysis of recent subdivisions in the Town) which enables 2 dwelling units per acre.
- Scenario 2 assumes that development will be based on a minimum lot size of 8,000 square feet (Smart Growth) which will enable density of approximately 3.5 dwelling units per acre.

Given the trend of development in Charlestown in recent years, Scenario 1 is most reflective of how the properties are likely to be developed.

Table 5: Charlestown Growth Area Analysis

CLASSIFICATION	SCENARIO 1 (21,780 sq. ft. lot size)	SCENARIO 2 (8,000 sq. ft. lot size)
Growth Area Dwelling Units	2,034	5,538
❖ Holloway Beach Dwelling Units	108	108
❖ Charlestown Manor Dwelling Units	58	58
Total Dwelling Units	**2,200**	**5,704**
Total Population	**5,808**	**15,057**
Sewer Demand (GPD)	550,000	1,425,891
Water Demand (GPD)	550,000	1,425,891
SCHOOL	1,047	2,715
- High School	339	878
- Middle School	235	610
- Elementary School	473	1,226
LIBRARY (floor area)	581	1,506
POLICE (personnel)	15	39
RECREATION LAND (acres)	174	452
FIRE & RESCUE		
- Personnel	9	24
- Facilities	4,646	12,046

Sources:
Maryland Department of Planning – MDP: Municipal Growth Element Model (Smart Growth lot size, underbuild assumptions, school enrollment multipliers, and recreation land demand);
Maryland Department of the Environment – MDE: Water and Wastewater Capacity Management Plans (sewer and water gpd demand estimates – 250 gpd per dwelling unit);
American Library Association (library facility square footage multiplier);
International Association of Police Chiefs and other organizations (personnel multiplier);
2000 U.S. Census for Charlestown/Maryland Department of Planning Population Projections for Cecil County (persons per household based on descending trend in household size);
International City Council Management Association. (fire personnel multiplier); and
National Planning Standard (fire facility square footage multiplier).

Annexation Policies

Annexation of the properties in the Growth Area is not anticipated within the next 6 years. However, Charlestown does anticipate future annexation and development, at some point. The Town has articulated several reasons for annexation of these areas including:

- Protecting Charlestown'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;
- Enabling and requiring Smart Growth densities for new development;
- Ensuring natural resource conservation and sensitive areas protection consistent with the recommendations of the Charlestown Comprehensive Plan, including the "Green Corridor" concept;
- Requiring appropriate stormwater "Best Management Practices" (BMP's) to enhance and protect water quality in receiving waters;
- Addressing potential health and water quality issues associated with failing septic systems or septic systems located close to major tributaries (Holloway Beach/Charlestown Manor);
- Providing additional alternative access to MD Rt. 40, a primary County arterial system.

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 *Charlestown 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.

WATER RESOURCES ELEMENT

The Water Resources Element (WRE) is the second of two new elements in the Comprehensive Plan developed specifically to meet the requirements of Maryland House Bill 1141. The WRE identifies drinking water and other water resources to meet current and future population demands. It also identifies suitable water and land areas to receive stormwater and wastewater derived from development. Important conclusions from the WRE include the following:

- Ground water capacity is not likely to be of concern for the Town's projected population growth from Infill and Redevelopment through 2025.
- Ground water for the Growth Area under either scenario may be an issue and will require additional detailed study to determine adequacy.
- Adequate wastewater capacity to serve the Town's projected population growth through 2025 and under either Growth Area scenario will require the County to allocate sewer capacity and an upgrade of the Northeast River WWTP to ENR.
- Considered together, the Town, County and Town of North East's growth plans may not be achievable considering TMDLs for non-point source pollution in the watershed. Coordinated growth strategies are critical.
- All jurisdictions in the watershed will benefit from implementation of strategies to reduce non-point sources of pollution.

Drinking Water Resources

The Charlestown water system is comprised of three wells, two of which are used regularly. The third well is used to provide supplemental service as needed. Water storage is currently provided by a 500,000 gallon elevated storage tank. In 2005, permitted capacities of the Charlestown system were 207,000 gallons per day (gpd) average daily flow and 300,000 gpd maximum daily flow. In 2004, demand on the Charlestown system was approximately 85,000 gpd.

To calculate future demand on the Town's water system, a per household water usage multiplier of 250 gpd (MDP estimate of single family household daily water usage) was applied to projected Infill And Redevelopment Area dwelling unit totals (established in the Municipal Growth element).

Based on projected dwelling units, by 2015 water usage will exceed the water system's average daily flow capacity. The increased demand will likely require an additional storage tower, more wells, and expansion of treatment facilities, as indicated in the County's 2004 Water and Sewer Master Plan. These expansions will need to be made before 2025 to accommodate the demand projected as a result of growth within the Town by 2025. In addition to system expansion, a critical review of existing facilities is recommended to determine if repairs or improvements can be made to conserve or increase the current water supply, and if the system is capable of handling increased flows.

Table 8-2: Charlestown Projected Water Demand
Based on Population Growth Within the Corporate Boundary (Including Infill Development)

Classification	2000	2010	2015	2020	2025	Increase 2000-2025
Population	1,019	1,196	1,664	1,869	2,075	1,056
Dwellings	379	453	640	730	820	441
Water GPD	94,750	113,250	160,000	182,500	205,000	110,250
% average daily flow capacity	46%	55%	77%	88%	99%	71%
% maximum daily flow	32%	38%	53%	61%	68%	

Notes:
Population projections assume average household size will decrease commensurate with MDP's projected trend in average household size for Cecil County.
Population totals include growth of existing population plus increased population as a result of infill development.
Average daily flow capacity/maximum daily flow: 207,000 gpd/300,000 (2005 Water Appropriation Permit)

Meeting the water supply and distribution demands in the region will require that the Town work with neighboring water suppliers and the County to review alternative solutions, including connections to other municipal and private systems to improve the regional distribution of water in the area (as discussed in the County's 2004 Water and Sewer Master Plan).

Table 8-3: Growth Area – Projected Water Demand

GROWTH AREA (1056 Acres)	Scenario 1	Scenario 2
Dwelling Units	2,200	5,704
Population	5,808	15,057
Water (GPD)	550,000	1,425,891
- percent of average daily capacity (207,000 gpd)	266%	689%
- percent of maximum daily flow (300,000 gpd)	183%	475%

Notes:
Lots/dwelling unit totals based on lot size assumptions of 21,780 sq.ft. for Scenario 1 and 8,000 sq.ft. for Scenario 2 (Smart Growth). Population projections assume average household size will decrease to 2.53 persons commensurate with MDP's projected trend in average household size for Cecil County

Sources:
MDP Municipal Growth Element Model (Scenario dwelling unit yield, sewer/water gpd demand estimates);
2005 Water Appropriation Permit (average daily capacity and maximum daily flow)

Long-term strategies will need to be developed to accommodate future water needs (beyond 2025), including the water demand anticipated for the Charlestown Growth Area and demand associated with development in the County's Development District. The Town should explore alternative strategies for ensuring an adequate, reliable supply of water, including requiring developers to fund expansions to the water system necessary to support their development, creating regulations requiring that recharge areas for new groundwater sources be protected from development, and conducting annual evaluations of existing facilities to insure that maximum efficiency levels are being met.

Wastewater Resources

Sewer service in Charlestown is provided by the County-owned Northeast River Advanced Wastewater Treatment Plant (WWTP), located at Seneca Point on the Northeast River. The plant has a design capacity of 2.0 mgd and a permit capacity of 1.2 mgd, and serves the towns of North East and Charlestown, the I-95 North Service Center, Cecil County Community College, Bay View Elementary School, Cecil County Vocational Center, North East Commercial Plaza, Peninsula and North East Commerce Center Industrial Parks, numerous communities in the County, and the Cecil County Central Landfill leachate system.

In 2006, the treatment plant was operating at approximately 0.930 mgd. To calculate future demand on the WWTP, a per household multiplier of 250 gpd (MDP estimate of single family household daily sewer usage) was applied to projected Infill And Redevelopment Area and Growth Area dwelling unit totals (established in the Municipal Growth element).

Table 8-4: Charlestown Projected Sewer Demand Based on Population Growth Within the Corporate Boundary (Including Infill Development)						
Classification	**2000**	**2010**	**2015**	**2020**	**2025**	**Increase 2000-2025**
Population	1,019	1,196	1,664	1,869	2,075	1,056
Dwellings	379	453	640	730	820	441
Sewer Usage GPD	94,750	113,250	160,000	182,500	205,000	110,250
% usage of remaining permitted capacity	8%	10%	13%	15%	17%	26%

Notes:
Population projections assume average household size will decrease from 2.64 to 2.53 persons commensurate with the projected trend in average household size for Cecil County. Population totals are comprised of growth of existing population plus increased population as a result of infill development.
Permitted Capacity for the Northeast River Wastewater Treatment Plant is 1.2 mgd.
Sources:
MDP Municipal Growth Element Model (sewer gpd demand estimate)
Cecil County Water and Sewer Master Plan (WWTP capacity totals)

The Northeast River WWTP capacity will support projected sewer usage as a result of growth in Infill and Redevelopment Areas within Charlestown through 2025.

This assumes that the County does not commit all of the remaining capacity in the Northeast River WWTP to potential development projects located the Development District, Suburban and/or Mineral Extraction planning districts and thereby preempt Charlestown's growth.

Table 8-5: Growth Area – Projected Sewer Demand		
GROWTH AREA (1056 acres)	**Scenario 1**	**Scenario 2**
Dwelling Units	2,200	5,704
Population	5,808	15,057
Sewer Demand (GPD)	550,000	1,425,891
- Percent of Remaining Permitted Capacity (Actual)	344%	891%
- Percent of Potential Design Capacity (BNR)	57%	149%
- Percent of Potential Maximum Capacity (ENR)	34%	87%

Notes:
Lots/dwelling unit totals based on lot size assumptions of 21,780 sq.ft. for Trend Scenario; 10,000 sq.ft. for Zoning Scenario; and 8,000 sq.ft. for Smart Growth Scenario. Population projections assume average household size will decrease from 2.64 to 2.53 persons commensurate with the projected trend in average household size for Cecil County
Sources:
MDP Municipal Growth Element Model (Smart Growth lot size and sewer gpd demand estimate)
Cecil County Water and Sewer Master Plan (WWTP capacity totals)
Assumptions:
Assumes WWTP Permitted Capacity is 1.2 mgd.
Assumes WWTP Potential Design Capacity is 2.0 mgd with BNR.
Assumes WWTP Potential Maximum Capacity is 2.67 mgd with ENR.
Assumes 110,000 gpd for infill and redevelopment within the current corporate limits of Charlestown.

Although Scenario 2 is projected to utilize 93% of the plant's remaining capacity, the plant will support projected sewer usage as a result of population increase in the Growth Area.

Figure 1: Cecil County Sewer Service Areas

Water Quality

Charlestown is located within the Northeast River Sub-Regional Watershed which is part of the larger Elk River Watershed (Upper Eastern Shore Basin). The land area surrounding Charlestown drains into the Northeast River via several smaller streams and creeks, which run through the Town. The Towns of Charlestown and North East and the Northeast River WWTP constitute the largest areas of impervious surface in the Northeast River watershed.

Pollution in the Bay originates from two sources:

- Point sources: wastewater treatment plants.
- Non-point sources (NPS): stormwater runoff, erosion, air pollution, septic systems, other non-pipe end sources.

Total Maximum Daily Loads (TMDLs) establish limits or "caps" on the amount of pollutants permitted from point and non-point sources through an allocation system, and are expressed as allowable loads of a specified pollutant by point and non-point sources.

MDE allocates allowable loads of nutrients from point and non-point sources. Allowable loads are expressed as daily (TMDL) or annual amounts.

In the Northeast River Watershed, the average annual TMDL for nitrogen is 168,344 lbs/yr, and the average annual TMDL for phosphorus is 12,110 lbs/yr.

MDE reported the following TMDLs for the Northeast River in 2004:

- Total point source nitrogen = 84,268 lbs per year.
- Total non-point source nitrogen = 74,749 lbs per year.
- Total point source phosphorus = 7,906 lbs per year.
- Total non-point source phosphorus = 3,763 lbs per year.

NPS loadings estimated from projected growth in Charlestown's Infill and Redevelopment Areas are well below the maximum allocations for urban growth established by MDE. Charlestown's growth represents approximately 18 percent of the future allocation of nitrogen and 49 percent of the future allocation for phosphorous for the North East River watershed. This indicates that Infill and Redevelopment Area growth can be accommodated within the TMDLs for non-point sources.

Table 8-7: Charlestown Pollutant Loadings from Infill Development

INFILL	IMPERVIOUS SURFACE† (acres)	RUNOFF (annual inches of water††)	RUNOFF (Liters)	Nitrogen Concentration (2.0 mg/l†)	Total Nitrogen (lbs/yr)
NITROGEN LOADS					
Single Family Residential	48	2,285	234,904,284.53	469,808,569.05	1,036
PHOSPHOROUS LOADS					
INFILL	**IMPERVIOUS SURFACE† (acres)**	**RUNOFF (annual inches of water††)**	**RUNOFF (Liters)**	**Phosphorous Concentration (.26 mg/l†)**	**Total Phosphorous (lbs/yr)**
Single Family Residential	48	2,285	234,904,284.53	61,075,113.98	135

†**Source:** Stormwater Manager's Resource Center (SMRC), EPA Offices of Water and Wastewater Management, "Watershed Treatment Model for Urban Watersheds", MDE and the Center for Watershed Protection. Medium density land use impervious surface multiplier (0.3) was used to calculate single family residential land use (190.44 acres) impervious surface acreage.
††**Source:** Cecil County Soil Conservation District

IMPLEMENTATION

The Comprehensive Plan contains recommendations to assist Charlestown with implementation. Strategies are outlined as tasks in Chapter 11 of the Plan and include the following sections:

Section I: Community Growth & Design;
Section II: Zoning Code;
Section III: Subdivision Regulations;
Section IV: Building Codes;
Section V: Capital Improvements;

Section VI: Adequate Public Facilities Provisions;
Section VII: Heritage Preservation; and
Section VIII: Administration & Enforcement.

Implementation recommendations include;

- Strategies to promote sound place-making principles that will preserve Charlestown's unique sense of place.
- Comprehensive review and update of the land use regulations in Charlestown to implement the recommendations of the Comprehensive Plan.
- Review and update the Charlestown Subdivision Regulations to implement the recommendations of the Comprehensive Plan.
- Capital Improvements Program (CIP) for Town facilities.
- Adequate Public Facilities (APF) for water and sewer services, road systems, schools, and other critical infrastructure.
- Strategies to protect heritage resources and promote compatible economic initiatives that benefit the Town's tax base.
- Strategies to maximize the effectiveness of local government policies and decision-making.

FINAL CONCLUSIONS

❖ The capacity for population and economic growth in the watershed is limited by water resource capacity. Charlestown, Cecil County, and the Town of North East will be competing for these resources.

❖ Reasonable Town population growth can be accommodated but will require coordinated growth, water resource utilization, and natural resource protection strategies among all jurisdictions in the watershed.

❖ Infill and redevelopment on existing vacant lots and small acreages in Charlestown is the most efficient strategy for accommodating future growth. Significant changes to development regulations and review processes will be required.

❖ Better planning for the preservation of green infrastructure is directly related to the level of population and economic growth the Town and Cecil County will be able to support in the future. It is important that the County and Town do a better job of protecting environmental resources, including water quality in the Northeast River.

Chapter 1 Introduction

The 2008 *Charlestown Comprehensive Land Use Plan* (Comprehensive Plan) includes revisions to the 1993 *Charlestown 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 Cecil County plans 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 Charlestown.

The Comprehensive Plan is the effort of the Charlestown Citizens Advisory Committee (CAC), 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.

VISION STATEMENT

"Charlestown will be a small town where families will want to live and raise their children; where senior citizens will want to enjoy their retirement. Streets will be safe and youth will be challenged with an effective recreational program reflecting their interests and abilities. As an inclusive community, residents in all parts of Town will experience a sense of community and will participate in all aspects of Town sponsored activities. Historic architectural treasures will be preserved and enhanced by compatible new construction in the Historic District and well maintained residential properties overall. Existing commercial enterprises will be encouraged to enhance their facilities and any new businesses will be compatible with the nature of the Town."

In 2004, the Charlestown Strategic Planning Committee (SPC) in coordination with Town officials prepared a plan, *Vision for the Charlestown of Tomorrow*. The SPC was responsible for reviewing the existing Comprehensive Plan and proposing updates, developing a vision to serve as a recommendation for growth in a five to ten year period, providing interface with entrepreneurs seeking a presence in the Town, and providing interface with Cecil County and Maryland planning agencies. A vision for the Town was developed as part of the strategic planning process: "The goal for Charlestown's future is to make the Town the kind of place that the people living here will enjoy."

Charlestown is a small historic town in a desirable waterfront setting. It was founded in 1742 by act of the Maryland Assembly. The Town is located in the western portion of Cecil County just off U.S. Route 40, which connects to U.S. I-95 the primary interstate arterial in the region. Charlestown borders the Northeast River and is near the Town of North East. As a primary colonial shipping and transportation route, the Town's heritage is important to the County, State, and nation.

Charlestown is located in the Cecil County Growth Area. The SPC states that the "...pressure of development has finally reached Charlestown...and developers are scrambling to find developable land. It now appears that development around Charlestown will occur with or without the participation of the Town. The question is whether or not it is in Charlestown's best interest to participate in the process through annexation(s) and receive the benefits that accrue there from or to pursue some other course."

Growth and development in western Cecil County includes the areas that presently surround Charlestown. The regional economy is moving away from traditional agriculture and surface mining toward suburban type development and associated uses, primarily service oriented. The SPC recognized the reality of this growth concluding that "standing still or going backward is not real options." In this regard, the Committee chose a proactive approach, while also highlighting the need to preserve the Town's distinctive character and resources. The SPC described the boundaries of interest for the Town as extending from the Northeast River across MD Rt. 7 to U.S. Rt. 40 and from the Tri-State Property on the east to MD Rt. 7 and a short distance down Carpenter's Point Road on the west. The SPC also noted that it is reasonable to think about "Old Charlestown" as nestled between MD Rt. 7 and the Northeast River.

WHAT WILL CHARLESTOWN LOOK LIKE IN 2025?

The Comprehensive Plan is the future "vision" of Charlestown in the context of its past and present. 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 and what seems reasonable. The Plan seeks to create a better fit with development codes and the realities of "what's on the ground" to create more flexible codes and sympathetic processes. The effect is to produce a simple plan, simple regulations, and simple processes to address land use and growth management.

What Charlestown 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 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 and goal of the Comprehensive Plan is to encourage the community to promote growth consistent with the traditions and history of Charlestown.

In order to fulfill the vision statement, the Citizen's Advisory Committee (CAC) and Town officials have developed a set of goals, objectives, and recommendations to guide and manage the Town in a manner appropriate with their 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 Charlestown, while encouraging appropriate new development.

The Comprehensive 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.

DEVELOPING THE CHARLESTOWN 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 Charlestown. The Comprehensive Plan is the result of citizen, 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 Charlestown 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 Charlestown is heavily influenced by decisions made by Cecil County 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:

- Charlestown Zoning Ordinance;
- Charlestown Subdivision Regulations;
- Charlestown Capital Improvement Plan & Budget-CIP; and
- Charlestown Water & Sewer Facilities Plans.

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 Charlestown 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:

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.

- 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; and
- An element that contains recommendations for land development regulations to implement the plan.
- An element, which shall contain the planning commission's recommendations for land development regulations to implement the plan; and
- Other elements, such as a community renewal section, housing, conservation, natural resources, etc. at the discretion of the commission.

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

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."

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.

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." This Plan has been prepared to meet the State's eight 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.

NEIGHBORHOOD CONSERVATION & SMART GROWTH AREAS ACT 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 Town "Growth Areas" may be designated as a PFA provided sewer service is planned in a 10 year period and included in the *Cecil County Water & Sewerage Plan*. Such designation is a long-term and planned development policy reflected in the Town's Comprehensive Plan that promotes efficient land use and public infrastructure.

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 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.

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:

MARYLAND HOUSE BILL 1141

Requires a "Municipal Growth Element" (Build-Out Analysis) 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.

- The Town must include in its Comprehensive Plan a "Growth Element" that specifies where Charlestown 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.

- 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.

- The Town must develop a "Municipal Growth Element" in coordination with Cecil 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.

- 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.

1993 CHARLESTOWN COMPREHENSIVE PLAN

The *1993 Charlestown Comprehensive Plan* outlined several important points, which provide an historical reference and basis for the preparation of the *2008 Charlestown Comprehensive Plan*. These include the following:

- The Town has experienced little change since 1974;
- Marina facilities are a main attraction for the Town drawing thousands of boaters, who rent approximately 500 commercial boat slips;
- The Town is dominated by residential units (single-family detached with lot size ranges from 4,000 square feet in the center of Town to 10,000 square feet);

- Some 350 homes in Charlestown, less than 5%, indicate signs of deterioration (some conversion from seasonal cottages to year-round residences);
- Town property improvements include the stone wharf, fishing pier, and community piers and boat slips;
- The Town maintains substantial shoreline recreational areas;
- Non-residential areas include four commercial marinas Pats, Lees, Avalon, and Charlestown with 500 boat slips total;
- There are negligible commercial uses except a convenience store and a local bar/restaurant (the Wellwood Dining Club);
- Much of the undeveloped land is wooded on north side of MD Rt. 7 and has poor soils;
- The Town has not changed much in 30 year period including population.

Part I: Existing & Future Land Use

Table 1-1 is a summary of land use acreage in Charlestown as of 1993:

Table 1-1: 1993 CHARLESTOWN LAND USE TABLE			
Land Use Category	**1970 - Acres**	**1993 - Acres**	**Percentage of Town**
Charlestown Property	56.67	56.67	11%
Residential	124.89	150	30%
Shoreline Recreational	14.46	14.46	3%
Commercial	0.58	0.58	N/A
Institutional	22.55	22.55	4%
Utility	0.32	0.32	N/A
Streets	38.11	38.11	8%
Undeveloped	242.42	219	44%
TOTAL	**500**	**501.69**	**100%**

The 1993 Comprehensive Plan outlined future land use goals for a series of categories including residential, shoreline recreational, commercial, institutional, utility, and open space and recreational uses. Goals include the following:

Residential Uses

- Preserve the existing character of the Town by providing for residential uses of a type and scale consistent with existing Charlestown development patterns, which are primarily single-family homes on single lots; and
- Direct Medium/high density residential uses to areas where fewer environmental constraints exist and where similar development patterns are already established.

Shoreline Recreational Uses

- Maintain land use as it presently exists with no acreage expansion.

Commercial Uses

- Provide for commercial uses on a local scale and rely on surrounding areas to provide for shopping and entertainment needs.

Institutional Uses

- Includes the school, church, and other public buildings – could be increased for a new Town Hall.

Utility Uses

- Includes the Town parcel for the water system and dredge disposal site – no expansion is indicated.

Open Space/Recreational Uses

- Continue to maintain the Town park and waterfront parcels for Town residents and pursue opportunities to preserve and protect environmentally sensitive areas.

The 1993 Comprehensive Plan indicates two types of residential development: 1) low density; and 2) medium to high density. Low density includes Town land north of MD Rt. 7 with a minimum lot size of 20,000 square feet. Medium to high density includes areas in and around the Historic District with a minimum lot size of 10,000 square feet.

Annexations in 1993 are stipulated as "undeveloped land" and included the following developments:

1. Trinity Woods – an 80 single-family home development and an estimated 240 residents, north of MD Rt. 7 (annexed into Town).
2. Charlestown Manor – approximately 35 acres south of MD Rt. 7 with 15 existing homes and a large wooded area (annexed into Town).
3. Holloway Beach Extended – located on the west-side of Charlestown consisting of a number of seasonal homes being converted to year-round residences (not annexed into Town as of 2007).

Part II: Community Facilities/Services

Community facilities and services as of 1993 in Charlestown include the following:

1. Town Administration Office (shares space with U.S. Post Office);
2. Town park with ball fields and tennis courts (1986 Charlestown Recreational Park with one softball field, football/soccer field, and tennis/basketball courts);
3. Six water front properties (1984 Maryland Environmental Trust easements were placed on these waterfront parcels);
4. Public boat ramp (1992 – approximately 20 users per day);
5. Community pier with 36 slips;
6. Sewerage collection system (owned by Charlestown maintained by Cecil County with 24" force main along Ogle Street conveyed to Seneca Point Wastewater Treatment Plant);
7. Water treatment and distribution system (two wells that produce 0.15 million gallons per day with a third well planned);
8. Dredge disposal site (on-site where the Town water system is located permitted by U.S. Army Corps of Engineers);
9. Road maintenance services;
10. General Town administration services;
11. Police protection (provided in 1984 through cooperative arrangement with the Cecil County Sheriff's Department);
12. Fire, Rescue, Emergency Management (the existing volunteer fire department is supplemented by paid paramedics from Cecil County);
13. Hospitals (Union Hospital of Cecil County in Elkton and the Veterans Hospital in Perryville-Perry Point);
14. Health Services (Cecil County Health Department in Elkton);
15. Schools (Cecil County has 16 elementary schools, four middle schools, one vocational center; and five high schools – Charlestown Elementary School, enrollment in 1993 was 214 – Middle and High Schools are in Perryville;
16. Cecil County Community College (Bay View);
17. Cecil County Public Library (Elkton).

Community facilities goals include the following:

- Provide for a system of community facilities, public services, and utilities, which is responsive to the needs of Town residents and which is compatible with the Land Use Plan;
- Assure that public facilities are maintained at the current high level;

- Allow for the expansion of Town water and sewer facilities only to areas annexed by the Town
- Continue to pursue federal and state grant money to improve facilities and services; and
- Continue to monitor the ability of existing facilities and services to ensure they meet the needs of Town residents.

Community facilities objectives include the following:

- Meet the public facilities needs of existing Town residents as a first priority;
- Require developers to pay for or provide the added public facilities necessary to support their developments including, but not limited to, parks, roads, and water/sewer facilities; and
- Establish provisions that require that no plan for subdivision or development be approved unless adequate public facilities are available to support and service the proposed development.

Part III: Natural Features & Sensitive Areas

The 1993 Comprehensive Plan includes a "Soil Survey." Soils indicate alluvial characteristics. For "Flood Plain & Drainage," the Town has two natural streams, which empty into North East River. Charlestown accounts for approximately 1/3 of the total 1,400 acre drainage basis of these two streams. The Plan notes that Charlestown has been in the Chesapeake Bay Critical Area Program since 1988 when the program was first adopted by the Town. Most of the Town is developed with fairly high density development in the Critical Area. Critical Areas account for 175.4 acres of which 79 acres are classified as Intensely Developed Areas-IDA and the remaining 96 acres are considered Limited Development Areas-LDA.

Natural features and sensitive areas include the following goals and objectives:

- **Chesapeake Bay Critical Area:** Comply with Chesapeake Bay Critical Area criteria for IDA and LDA and comply with habitat protection program elements.
- **Stormwater/Stormwater Runoff:** Minimize adverse impacts to water quality caused by stormwater and utilize new technologies for excess runoff, which can be transported and infiltrated by grass swales. This also includes the utilization of offsets where appropriate including vegetative buffers, runoff control technology, etc.
- **Vegetation:** Establish permeable areas in vegetation.

- **Slopes:** Prohibit development on slopes greater than 15% unless the project is the only effective way to maintain or improve the stability of the slope.
- **Soils:** Utilize mitigation measures where development has soil constraints and minimize adverse impacts to water quality and fish/wildlife habitat.
- **Erosion Control:** Require a "Soil Erosion and Sediment Control Plan" when development disturbs 5,000 or more square feet of land surface and will involve clearing, grading, transporting, or other forms of disturbance to land to reduce adverse water quality impacts.
- **Impervious Surface:** Limit built impervious areas to 15% of the Chesapeake Bay Critical Area portion of the development.
- **Habitat Protection:** Promote development that is designed to reduce increases in flood frequency and severity attributable to development, retain tree canopy to maintain stream temperature within normal variation, provide a natural substance for streambeds, and minimize adverse water quality and quantity impacts of stormwater.
- **Forests and Developed Woodlands:** Maintain or increase the total forested area of the Town to the greatest extent practical, includes plantings where forests do not exist.

Part IV: Transportation

Several important points were discussed in the 1993 Comprehensive Plan in regards to transportation and include the following:

- Charlestown is a historic crossroads Town between Baltimore and Philadelphia.
- Charlestown was developed on a grid system with small lot high density mixed use development like other colonial towns.
- MD Rt. 267 is the two lane collector through center of Town, following Bladen, Market, Cecil, and Baltimore Streets.
- Sidewalks parallel MD Rt. 267 through most of the Town.
- MD Rt. 7 is a primary arterial, which bypasses the Town center to northeast. It connects the Town to North East, Perryville, and the southwestern portion of Cecil County and is intersected by MD Rt. 267.
- U.S. Rt. 40 is a primary arterial, located one mile northwest of the Town traversing from Elkton to Havre de Grace.
- Interstate 95 (JFK Highway) is a primary federal arterial, which ties Baltimore with Philadelphia/New York and is located four miles from Charlestown.

Transportation goals include the following:

- Provide for a road network that meets the needs of the Town residents for safety, mobility, and access to commercial and employment opportunities in the surrounding areas.

- Maintain and enhance the quality and safety of the existing road system.
- Plan improvements to Town roads to correspond to and support the Land Use Plan.

Transportation objectives include the following:

- Limit the number of driveways accessing MD Rt. 7 and ensure that proper site distances are maintained for safety purposes;
- Ensure that all roads are constructed according to Town specifications; and
- Require land developers to pay for any alterations, improvements, or additions to public roads that will be needed to support the proposed development.

Part V: Implementation

Implementation recommendations were provided in the 1993 Comprehensive Plan. Recommendations include the following:

- **Capital Improvements Planning (CIP):** Institute a CIP planning program in conjunction with the Comprehensive Plan.
- **Adequate Public Facilities (APFO):** – Consider an APFO consistent with Comprehensive Plan.
- **Exactions & Impact Fees** – Consider studying impact fees and development exactions to assist in financing capital improvements associated with new development.
- **Site Analysis Planning Requirement:** Revise the *Charlestown Subdivision Regulations* to include a "Site Analysis Plan" to be submitted with development plan applications.

The Plan should include the delineation of the following elements:

1. The degree of slope measured at 2 foot contour intervals and an analysis of shading slopes;
2. Areas within the Floodplain District, including floodway fringe;
3. Alluvial soils, wherever they extend beyond the limits of the Floodplain District;
4. Water bodies and water courses;
5. Limits of drainage basins and sub-basins;
6. Wetlands as inventoried by U.S. Fish and Wildlife (National Wetlands Inventory-NWI);
7. High groundwater areas, as identified by the location of soils with seasonal or perennial high water tables;
8. Generalized soil types and geologic characteristics, including rock formation types and locations of fault zones;

9. Existing vegetation, including tree masses, treelines and hedgerows, individual trees over 6' in diameter, wetland vegetation, pasture or crop land, and orchards;
10. Existing structures and other improvements, including historically significant features;
11. Viewsheds, including areas and site features visible from adjacent public roads; and
12. Existing paths/trails.

VISION FOR THE CHARLESTOWN OF TOMORROW: 2004 STRATEGIC PLAN

In 2004, a Strategic Plan, *Vision for the Charlestown of Tomorrow*, was prepared by the Charlestown Strategic Planning Committee, which was established by the Charlestown Commissioners in 2003. The Strategic Planning Committee reviewed the development and growth patterns of Charlestown in relation to Cecil County and concluded that a proactive approach was needed in regards to development and growth management. The following were the key recommendations of the Strategic Plan:

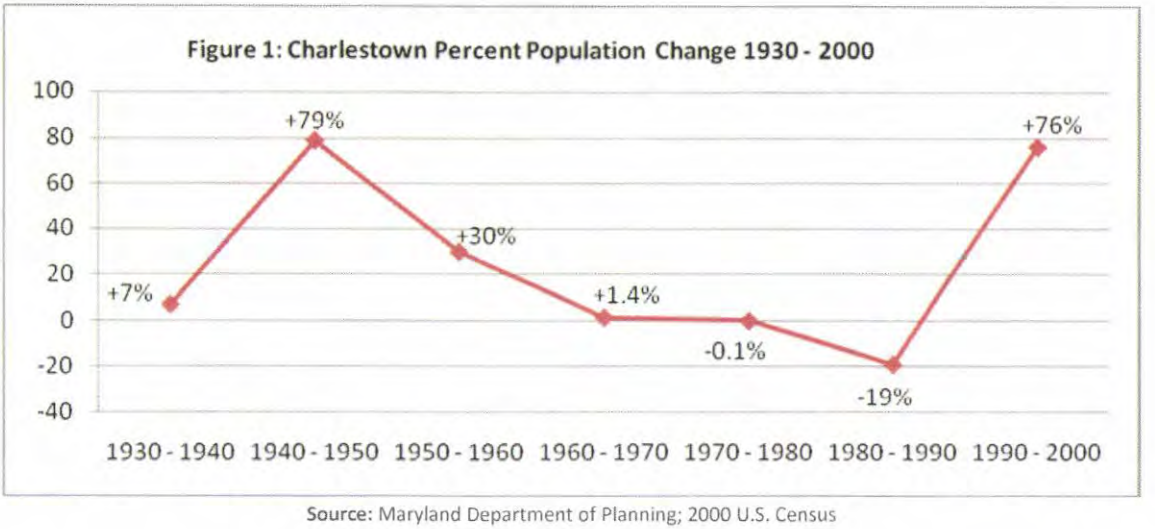
1. Engage a professional planner to take the ideas presented in the Strategic Plan and work with the Town Commissioners and public to create an updated comprehensive plan for the Town of Charlestown;
2. Review building codes for the historic district to allow for greater flexibility in lot use;
3. Revise building codes within the historic district to allow only colonial through Victorian period architecture;
4. Prepare a pamphlet for public distribution demonstrating styles of buildings and features acceptable in the historic district;
5. Create public parking areas in the historic district;
6. Create user-friendly, attractive, and walking streets in the historic district;
7. Consider allowing the rezoning of areas along Water and Bladen Streets and in other downtown areas to achieve the highest and best use of properties (includes potential commercial uses);
8. Provide for expanded municipal facilities including a larger Town Hall and Post Office;
9. Create a colonial traffic circle at the Firehouse corner including a landscaped circle and statue;
10. Acquire a Charlestown Post Office address for residents;
11. Determine the requirement for additional infrastructure, including water, streets, sewer, town support facilities, emergency facilities, police protection etc., needed to accommodate annexation and new growth (community facilities/services study and impact fee study);
12. Establish a "Tree Planting and Maintenance Program" (forest conservation) to promote green infrastructure; and
13. Consider the siting, design, and construction and support of a band shell as part of the parks program for the Town.

Chapter 2 Existing Conditions

The "Existing Conditions Chapter" describes past and present demographic trends and patterns for the Town of Charlestown. This includes social demographics such as population growth and characteristics. It also includes economic and social demographics such as income and poverty as well as housing characteristics.

POPULATION GROWTH

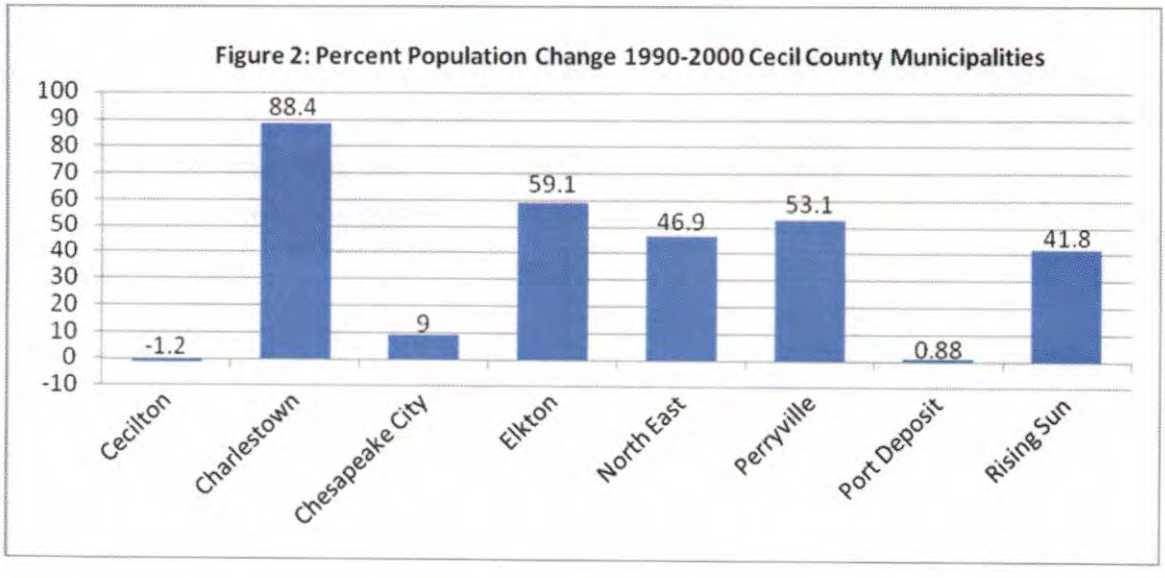
During the preparation of the Town's 1993 Comprehensive Plan, the Charlestown Town Commissioners opted not to use the U.S. Census calculation of 578 as the 1990 population of the Town, believing that the figure was understated. Consequently, the Commissioners used 850 as the figure for the 1990 population in the 1993 Plan. While it is likely that the population of the Town increases by some measure on a seasonal basis there is no concrete data to indicate that the 1990 Census population figure is incorrect. This Plan will use current and historic U.S. Census data for population totals and as the basis for calculating population increases.



Source: Maryland Department of Planning; 2000 U.S. Census

In 2005, the Maryland Department of Planning estimated Charlestown's population at 1,089, ranking it 5th largest of Cecil County's eight municipalities. The 2000 population reflects an increase of 76 percent from its population of 578 in 1990, when Charlestown was the second smallest town in the County. A review of the percent change in population in Cecil County towns between 1990 and 2000 shows that Charlestown's growth out-paced every other town in the County by a significant margin.

Table 2-1: Population Comparisons – Cecil County Municipalities								
Geographic Area	**Pop.1990**	**1995**	**% Change**	**2000**	**% Change**	**2005**	**% Change**	**1990-2005**
Cecilton	489	477	-2.5%	474	-0.6%	483	1.9%	**-1.23%**
Charlestown	**578**	**993**	**71.8%**	**1,019**	**2.6%**	**1,089**	**6.9%**	**88.41%**
Chesapeake City	735	763	3.8%	787	3.1%	801	1.8%	**8.98%**
Elkton	9,073	11,850	30.6%	11,893	0.4%	14,438	21.4%	**59.13%**
North East	1,913	2,832	48.0%	2,733	-3.5%	2,810	2.8%	**46.89%**
Perryville	2,456	3,795	54.5%	3,672	-3.2%	3,761	2.4%	**53.14%**
Port Deposit	685	671	-2.0%	676	0.7%	691	2.2%	**0.88%**
Rising Sun	1,263	1,776	40.6%	1,702	-4.2%	1,791	5.2%	**41.81%**
Sources: 1990 – 2000 data: 2000 U.S. Census; 2005 data: Maryland Department of Planning, 2007								



POPULATION CHARACTERISTICS

Population characteristics include age and gender, household make-up, education, and employment. Statistics provide a broad overview of general demographic trends in Charlestown.

Age and Gender

The median age in Charlestown is 36, slightly older than the median age in the County and in most of the surrounding municipalities. There are more people between the ages of 24 and 44 years old (the prime workforce age range) in Charlestown than there are in any other age group.

Men outnumber women in the Town by about 10 percent – with the exception of Port Deposit, Charlestown is the only Cecil County town with more men than women.

Table 2-2: Age and Sex Comparisons								
Geographic Area	Percent Of Total Population					Median age (years)	Males Per 100 Females	
	Under 18	18 to 24	25 to 44	45 to 64	65 years and over		All ages	18 and over
CECIL COUNTY	**27.7**	**7.5**	**31.2**	**23.2**	**10.5**	**35.5**	**98.2**	**95.7**
Cecilton	26.6	6.8	27.8	21.7	17.1	37	88.8	82.2
Charlestown	**26.8**	**5.9**	**34.6**	**22.3**	**10.4**	**36**	**110.5**	**107.2**
Chesapeake City	21.7	6.1	27.8	27.7	16.6	39.9	84.3	88.4
Elkton	29.4	9.8	33.5	17	10.3	30.7	91.9	87
North East	29.2	10.1	31.7	18.3	10.7	31.3	91.7	87.9
Perryville	27.2	6.4	32.5	22.9	11	35.6	94.6	93
Port Deposit	27.5	8.1	28.4	26.8	9.2	35.6	109.3	100
Rising Sun	29.7	9	30.8	16.6	13.8	33.5	86.4	77.7
Source: 2000 U.S. Census								

Households

Slightly more than 73 percent of the population lives in family households; about 27 percent live in non-family households. Of family households, about 36 percent include children under 18 years old living in the home. About 59 percent of family households are headed by married couples; about 10 percent are headed by women with no husband living in the home.

Of non-family households, about 18 percent are adults living alone and of those, about 8 percent are 65 years or older. About 41 percent of all households include a child 18 years or younger; about 21 percent have someone 65 years or older living in them. The average Charlestown household size is 2.64 people, the size of the average family is 3.03 people.

Compared to other municipalities in Cecil County, Charlestown has the highest percentage of family households, the highest percentage of married couple family households, and the lowest percentage of households headed by females with no husband present.

Table 2-3: Household and Family Comparisons										
Geographic Area	Total households	Percent of total households							Average population per-	
		Family Households				Nonfamily Households				
		Total	With own children under 18 years	Type of family		Total	Householder living alone		Household	Family
				Married couple family	Female householder no husband present		Total	65 years and over		
CECIL COUNTY	**31,223**	**74.6**	**37**	**58.6**	**11.1**	**25.4**	**19.9**	**7.1**	**2.71**	**3.12**
Cecilton	198	65.2	31.3	39.4	19.2	34.8	30.3	18.7	2.39	2.95
Charlestown	**386**	**73.3**	**35.8**	**58.8**	**9.1**	**26.7**	**17.6**	**7.3**	**2.64**	**3.03**
Chesapeake City	330	69.1	27.9	51.8	12.4	30.9	24.2	11.8	2.38	2.79
Elkton	4,446	65.2	37.2	41.7	18.3	34.8	27.4	8.3	2.55	3.13
North East	1,081	64.9	36.4	42.4	16.7	35.1	27.8	10.5	2.52	3.04
Perryville	1,443	68.5	35.1	51.6	11.9	31.5	27.3	10.8	2.52	3.05
Port Deposit	264	62.1	29.9	34.1	21.6	37.9	29.5	9.5	2.5	3.08
Rising Sun	681	67	39.4	45.8	16	33	28.5	16	2.5	3.06
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

In 2000, Charlestown had 276 residents (27 percent of the population) aged 3 years or older enrolled in school. Of these, 4 percent were enrolled in nursery school or preschool, 5 percent were in kindergarten, about 52 percent (the largest percentage of school-age children) were in elementary school (grades 1-8), 26 percent were in high school, and 14 percent were in college or graduate school.

Nearly 18 percent of the population between 16 and 19 years old were not enrolled in school and had not completed high school. A little over 80 percent of the residents of Charlestown who are 25 years or older have at least a high school degree; about 11 percent have a Bachelor's degree. With the exception of Perryville, Charlestown has the lowest percentage of adults aged 25 or over with less than a ninth grade education of all Cecil County municipalities. However, in a similar comparison, Charlestown has the lowest percentage of 25 to 34 year olds who hold Bachelor's degrees or higher.

Table 2-4: School Enrollment and Educational Attainment

Geographic Area	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 - % 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	
CECIL COUNTY	**12.2**	**18.4**	**4.6**	**81.2**	**16.4**	**18.1**
Cecilton	21.4	0	4.5	72.4	7.5	16.2
Charlestown	**17.9**	**13.6**	**2.6**	**80.9**	**11.2**	**9.1**
Chesapeake City	13.6	45.8	2.6	84.1	18.6	26.4
Elkton	20.5	14	7	77.4	16.2	16.3
North East	23.3	9.7	6.8	74.1	9.7	9.6
Perryville	7.3	7.9	2.3	81	11.1	13.3
Port Deposit	8.3	10.3	6.5	65.7	10.5	17.8
Rising Sun	3.6	11.1	5.8	81.4	13.4	13.4

Source: 2000 U.S. Census

Employment

In 2000, nearly half (47 percent) of Charlestown's labor force was employed in two occupation categories: management/professional, and production/transportation/material moving. The percentage of the labor force employed in each category was nearly equal.

The occupation category employing the next largest percentage (23.1 percent) of Charlestown's labor force was sales and office occupations, followed by government workers and construction/extraction and maintenance occupations. Sales and office jobs were the leading occupations in all other Cecil County municipalities except Chesapeake City (where it ranked a close second), followed by management and professional occupations. With the exception of Perryville, Charlestown had the largest percentage of labor force employed as government workers (local, state, or federal), 17.6 percent, of all Cecil County towns.

Table 2-5: Occupation and Industry									
Geographic Area	Percent distribution by occupation						% in selected industries		Percent gov't workers (local, state, or federal)
	, professional and related	Service occupations	Sales and office occupations	Farming, fishing and forestry occupations	extraction and maintenance	transportation and material moving	Agriculture, forestry, fishing and hunting	Manufacturing	
CECIL COUNTY	**28.1**	**13.3**	**26.4**	**0.6**	**14.3**	**17.2**	**1.9**	**15.8**	**15.1**
Cecilton	15.2	27	27	0	22.1	8.8	4.9	5.4	13.7
Charlestown	**23.7**	**15.1**	**21.4**	**0.6**	**15.8**	**23.4**	**0.6**	**13.7**	**17.6**
Chesapeake City	29.8	13.8	28.2	1.3	11.7	15.2	1.1	10.4	10.4
Elkton	24.3	15.7	29.6	0.2	10.9	19.4	0.2	16.5	12.5
North East	23.2	15.6	25.8	0.8	17.1	17.5	0.7	16.9	11
Perryville	26.3	14.3	27.8	0	12.9	18.6	0.4	13.8	22.8
Port Deposit	21.4	20.6	22.4	0	14.6	21	0	8.9	21
Rising Sun	25.7	15	29.9	0.6	11.8	17	0.6	11.1	12.3

Source: 2000 U.S. Census

In Charlestown, 4.9 percent of the civilian labor force is unemployed; among the County's eight municipalities, this is the third lowest unemployment rate. About 70 percent of the people aged 16 years and older living Charlestown are in the workforce and of those, 64 are women. Of those women, nearly 85 percent have children under the age of 6.

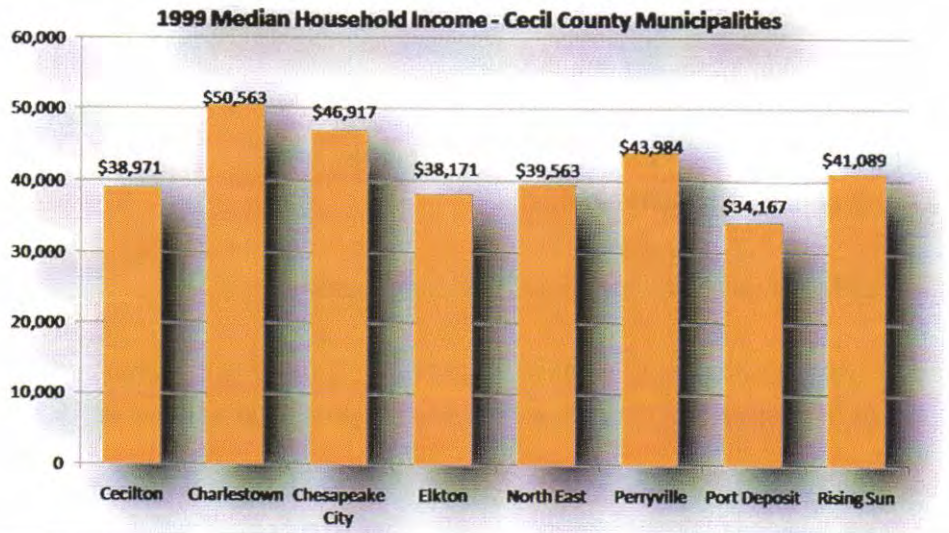
About 9 percent of Charlestown's workforce commutes to work in carpools. Less than 1 percent use public transportation to get to and from their jobs. Slightly more than half (51.5 percent) of the Charlestown workforce is employed outside of Cecil County. The average commute time for workers employed outside the home is 35.6 minutes.

Table 2-6: Employment Status and Commuting to Work								
Geographic Area	% Population 16 yrs + in labor force			Civilian labor force - Percent unemployed	Workers 16 years and over			
	Total	Female			Percent in carpools	Percent using public transportation	Who did not work at home- Mean travel time to work	% worked outside county of residence
		Total	w/children under 6 yrs					
CECIL COUNTY	**69.3**	**63.6**	**66.9**	**4.1**	**10.7**	**0.6**	**28.2**	**56.1**
Cecilton	61	55.3	59.4	9.3	2.5	1.5	30.6	48.7
Charlestown	**69.4**	**64**	**84.8**	**4.9**	**9.1**	**0.9**	**35.6**	**51.5**
Chesapeake City	61.6	57.7	78.1	4.6	7.4	0	27.2	51.3
Elkton	68	65.8	68.1	5	13.2	0.5	21.3	55.1
North East	67	59	59.2	5.9	15.3	0	27.5	45.8
Perryville	67.5	59.8	71.2	3.8	10.9	1	26.3	65.6
Port Deposit	64.5	62.3	81.1	9.9	18.5	1.5	30.6	60.1
Rising Sun	71.7	67.3	72.6	4.8	9.1	0.1	31.2	54.6
Source: 2000 U.S. Census								

INCOME & POVERTY

In 1999, at $50,563.00, Charlestown's median household income was higher than any municipality in the County and higher than the County's as well. The same was true of median family income, which in Charlestown was $57,644.00. Charlestown's per capita income ($20,959) ranked third highest of all eight County municipalities but was slightly lower than the County's. Among full-time, year-round workers in Charlestown, men significantly out-earned women – by almost 55 percent.

Figure 3



Compared to County municipalities and the County itself, Charlestown has the lowest percentage of people (5.1 percent) and families (3.2 percent) living below the poverty level.

Table 2-7: 1999 Income and Poverty

Geographic Area	Median income (dollars)		Per capita income in 1999 (dollars)	Median earnings full-time, yr-round workers (dollars)		Income in 1999 below poverty level			
						Percent of population for whom poverty status is determined			
	Households	Families		Male	Female	All ages	Related children under 18	65 years & over	% of families
CECIL COUNTY	**50,510**	**56,469**	**21,384**	**40,350**	**28,646**	**7.2**	**9.2**	**7.7**	**5.4**
Cecilton	38,971	41,563	21,719	36,071	23,068	14.1	19.8	9.4	8.4
Charlestown	**50,563**	**57,644**	**20,959**	**40,104**	**25,978**	**5.1**	**6.5**	**4.7**	**3.2**
Chesapeake City	46,917	52,813	21,621	35,250	26,471	6.2	12.7	2.3	5.2
Elkton	38,171	44,348	17,789	36,495	25,543	11.8	16	10.5	9.4
North East	39,563	39,417	18,287	34,545	26,768	15.2	19.4	14.1	14.9
Perryville	43,984	52,981	20,040	39,112	28,526	7.8	5.8	21.8	6
Port Deposit	34,167	37,813	15,297	32,083	21,932	22.2	35.4	12.8	19.4
Rising Sun	41,089	48,646	17,835	36,765	26,875	9.8	10.3	9.4	9.3

Source: 2000 U.S. Census

HOUSING

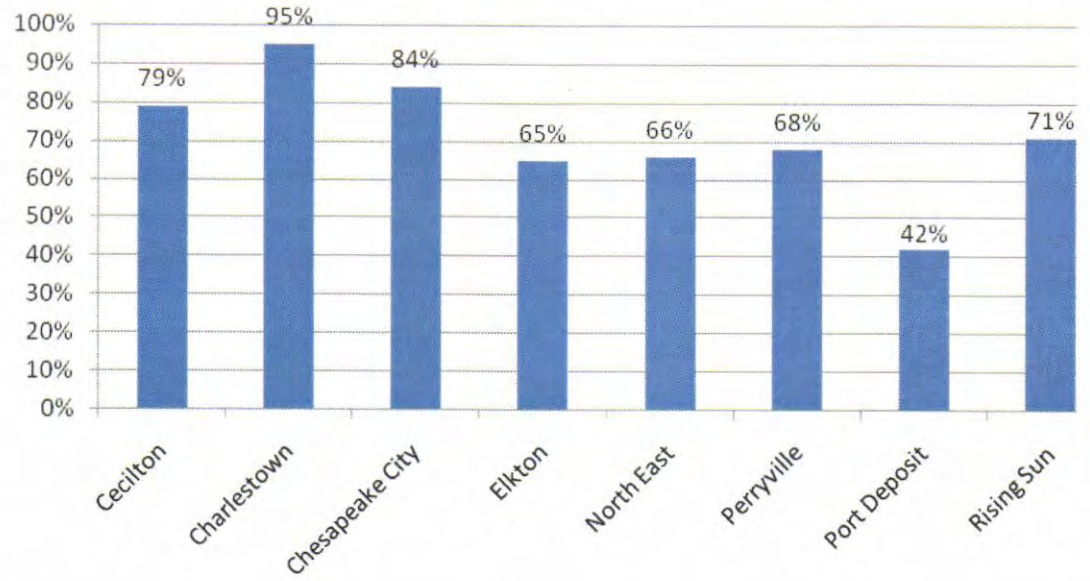
Of the 415 housing units that comprise Charlestown's housing stock:

- 395 (95 percent) are single family homes;
- five (1.2 percent) are duplexes;
- 13 (3.1 percent) are 3-4 unit multi-family dwellings; and
- two (0.5 percent) are mobile homes.

Five housing units do not have complete plumbing facilities.

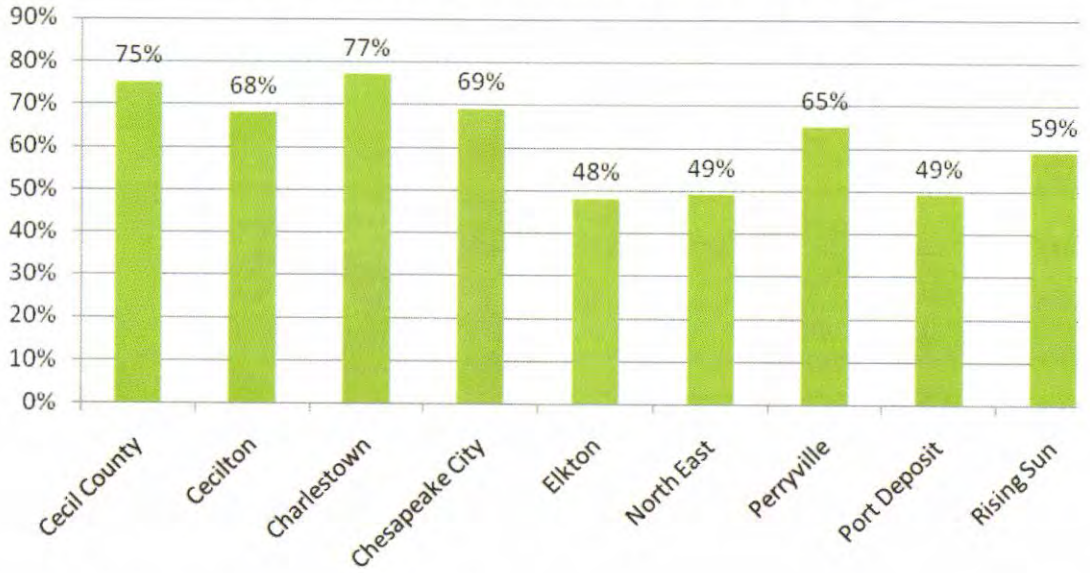
Compared to other County municipalities and to the County itself, Charlestown has a significantly higher number of single family homes as a percentage of total housing stock.

Figure 4: Percentage of Single Family Homes in Total Housing Stock



With the exception of Chesapeake City, Charlestown is the only municipality in the County with no large (10 units or more) multi-family dwellings. A larger percentage of Charlestown residents own their own homes than is found in other Cecil County towns and in the County itself. 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.

Figure 5: Percentage of Residents Who Own Their Homes



Nearly 15 percent of Charlestown's housing units are vacant. Of these, 68 percent are used seasonally, occasionally, or for recreation.

Table 2-8: Housing Occupancy		
	Number	**Percent**
TOTAL HOUSING UNITS	**451**	**100**
Occupied housing units	386	85.6
Vacant housing units	65	14.4
For seasonal, recreational, or occasional use	44	9.8
Homeowner vacancy rate (percent)		1.7
Rental vacancy rate (percent)		2.2
HOUSING TENURE		
Occupied housing units	**386**	**100**
Owner-occupied housing units	296	76.7
Renter-occupied housing units	90	23.3
Average household size of owner-occupied unit		2.57
Average household size of renter-occupied unit		2.88
Source: 2000 U.S. Census		

In 2000, the median price asked ($112,500) for a home in Charlestown was only a few hundred dollars more than the median home value ($112,200). Although this gap is also narrow in other Cecil County municipalities, it is not as slight as it is in Charlestown.

Figure 6

Median gross monthly rent in Charlestown is 24% higher than median monthly owner cost (w/mortgage). This disparity is true in all Cecil County municipalities, ranging from a high of 32% in Cecilton to a low of 16% in Elkton (Charlestown falls about in the middle).

Figure 7

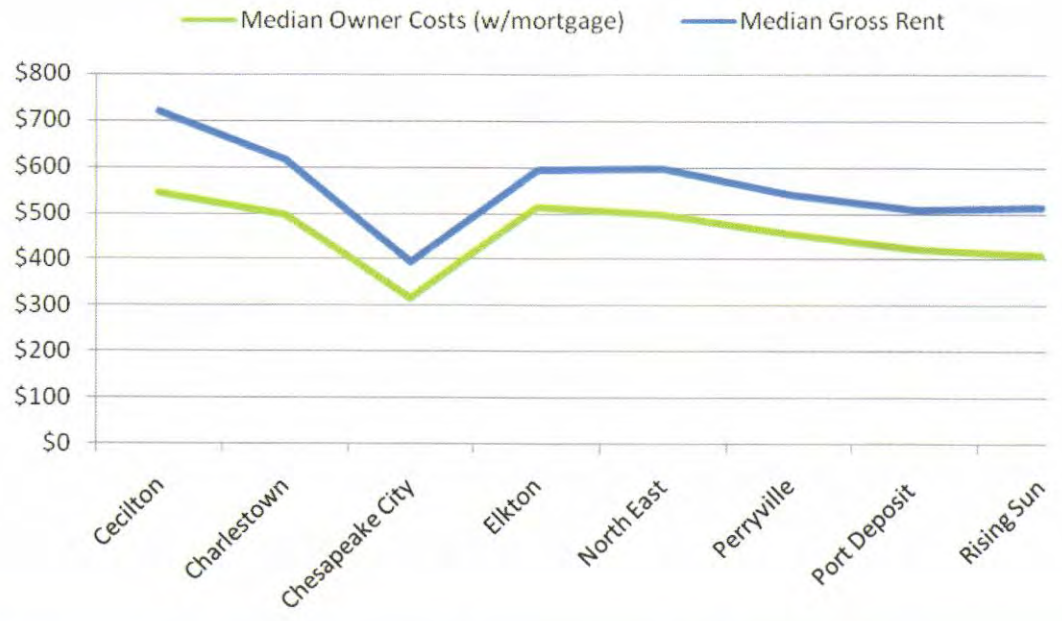


Table 2-9: Financial Housing Characteristics

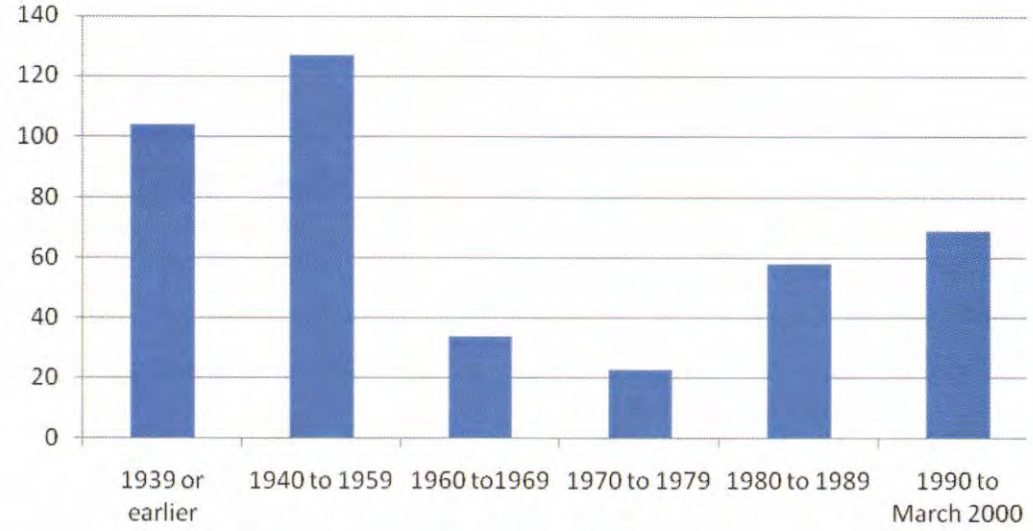
Geographic Area	Occupied housing units	Specified owners				Specified renters		
		Median value (dollars)	Median price asked (dollars)	Median selected monthly owner costs (dollars)		Median contract rent (dollars)	Median gross rent (dollars)	Percent with meals included in rent
				With a mortgage	Not mortgaged			
Cecil County	**31,223**	**132,300**	**121,900**	**1,122**	**306**	**498**	**617**	**0.9**
Cecilton	194	92,100	100,000	897	293	317	393	0
Charlestown	**379**	**112,200**	**112,500**	**1,052**	**316**	**544**	**719**	**0**
Chesapeake City	319	128,300	141,100	1,145	396	513	593	0
Elkton	4,447	106,100	137,500	974	283	498	596	0.9
North East	1,121	90,100	93,100	918	348	455	540	1.1
Perryville	1,491	108,000	85,000	1,004	291	422	507	2.1
Port Deposit	267	77,500	47,500	889	258	408	513	1.6
Rising Sun	694	117,700	NA	1,086	292	471	562	0

NA = Not available
Source: 2000 U.S. Census

Note: Charlestown housing stock data described below are obtained from the Maryland Property View CAMA (Computer Assisted Mass Appraisal) Database, which is created on a yearly basis using data obtained from the State Department of Assessments and Taxation.

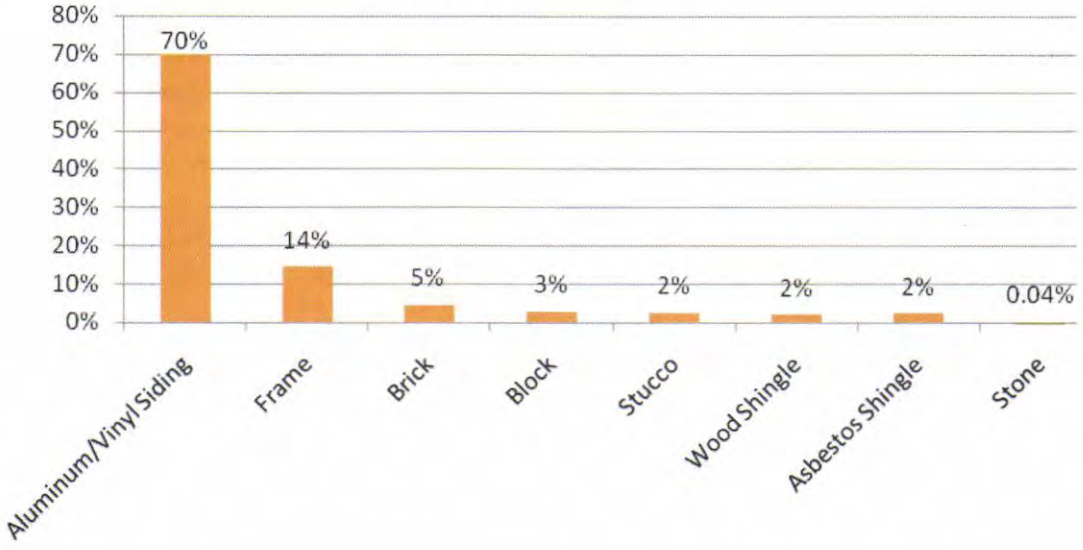
One quarter of all of Charlestown's housing units were built in 1939 or earlier. A little over 16 percent were built between 1990 and March 2000; most of these were built in the Trinity Woods and Charlestown Manor subdivisions.

Figure 8: Number of Houses Built by Decade



Nearly three-fourths (70 percent) of the housing units in Charlestown are of aluminum or vinyl siding construction.

Figure 9: Housing Construction



A little more than half of the housing units in Charlestown (52 percent) are one story structures. The remainder of the housing inventory is comprised of almost equal percentages of one-and-a-half (16 percent) and two-story (18 percent) structures, a slightly lesser percentage (13 percent) of

split foyer homes, and one three-story unit. The average housing unit in Charlestown is 1,539 square feet and has 6 rooms.

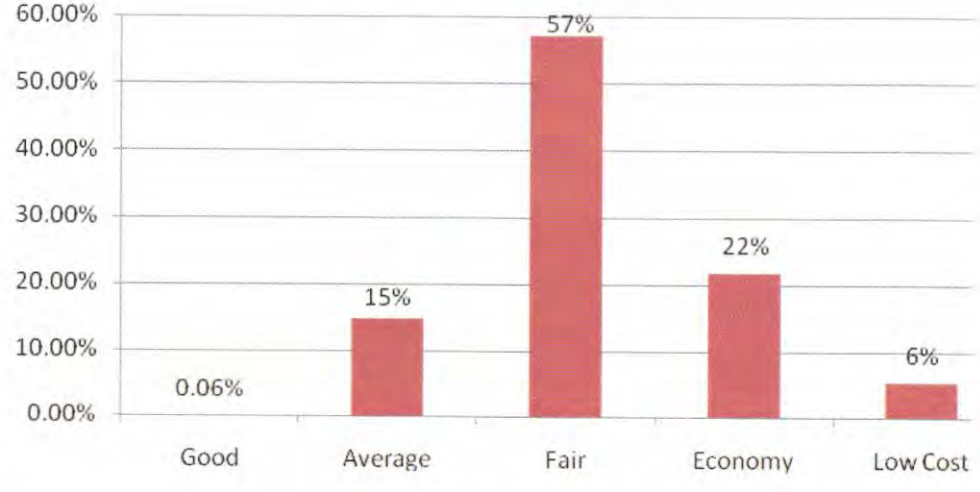
Housing grades in Charlestown range from Low Cost to Good. The Maryland PropertyView CAMA database assigns a grade between 001 and 009 for the quality of construction of a dwelling unit:

- Low Cost (001) is the lowest grade, and represents a unit that provides minimal shelter, may meet minimum building codes and is of low quality construction.
- Economy (002) homes are the next lowest quality grade. They meet minimum building codes and are of low quality construction, materials and workmanship.
- Fair (003) homes usually meet minimum local building codes, and feature acceptable workmanship and materials. Residences grades "Fair" are typically mass produced with slightly below average overall quality.
- Average (004) homes usually meet and may exceed local building codes. These dwellings are mass produced and are more commonly found than residences of other quality grades.
- Good (005) dwellings generally include individual designed, mass-produced homes in better subdivisions. These homes are built from designer plans, using skilled craftsmen and standard to good materials.

The remaining grades are Very Good (006), Excellent (007), Luxury (008), and Luxury Plus (009). Charlestown has no dwelling units rated above Grade 005 (Good).

The largest percentage (57 percent) of Charlestown's housing stock is graded Fair, the third lowest of the nine grades. About 22 percent of all housing units are rated as Economy, 6 percent are Low Cost, 15 percent are Average, and three houses (.06 percent of housing inventory) are graded Good.

Figure 10: Housing Grades



Chapter 3 Goals & Objectives

In order for a town to achieve its "Vision," it must be guided along the path to that vision (goals) and take the steps necessary to achieve it (objectives and implementation strategies). Goals and objectives build on visioning. Goals are broad, being simply clearer statements of the vision. Goals are statements of direction and guidelines for choosing tasks. Objectives are clearer statements of the specific steps required to achieve goals. Implementation strategies are the measurable tasks that are developed to achieve objectives. The following goals and objectives build on the vision of Charlestown as it is articulated.

GROWTH MANAGEMENT

GOAL: Ensure development is consistent with the overall growth goals and objectives of the 2008 *Charlestown Comprehensive Plan*.

Objective #1: Improve coordination with Cecil County to promote inter-jurisdictional coordination and cooperation.

Objective #2: Ensure that new growth is consistent with the State's eight visions, as described in the Planning Act and "Smart Growth" principles.

Objective #3: Promote compact development patterns that reflect good design practices, make efficient use of available land, and locate development convenient to facilities, services, and amenities to defray future impact costs.

Objective #4: Adopt standards and guidelines that reflect the Town's expectations concerning development and development design.

LAND USE

GOAL: Retain the unique character of Charlestown even as growth occurs.

Objective #1: Encourage compatible growth and reinvestment in existing properties.

Objective #2: Protect existing residential neighborhoods from incompatible uses.

Objective #3: Preserve significant historic structures and maintain the historic character and cultural heritage of Charlestown.

Objective #4: Encourage and facilitate infill and redevelopment within the Town to accommodate future population.

Objective #5: Insure that public lands are used in manners that best serve the needs of the population.

RESOURCE CONSERVATION

GOAL: Preserve and protect the natural resources and features of Charlestown and the surrounding environs to ensure a balance between development and the need to protect indigenous resources and/or features.

Objective #1: Require development design be done in a manner that will preserve significant natural features and other resources.

Objective #2: Encourage "green building" design and low-impact development that follows LEED (Leadership in Energy and Environmental Design) guidelines.

Objective #3: Work with the County and State to develop appropriate strategies for the enhancement and protection of green infrastructure and the green corridor.

Objective #4: Promote environmental stewardship.

Objective #5: Encourage energy conservation.

Objective #6: Minimize adverse impacts on water quality.

Objective #7: Conserve fish, wildlife, and plant habitats.

TRANSPORTATION

GOAL: Ensure the safe and efficient movement of people and goods.

Objective #1: Integrate land use and the street and highway networks to provide for the logical continuation and improvement of existing streets and highways in proper coordination with State, County, and municipal facilities in existence.

Objective #2: Minimize the adverse effects of vehicular traffic on local residential streets when reviewing new development in the vicinity.

Objective #3: Maximize the capacity, safety, and efficiency of the existing street and highway system.

Objective #4: Improve pedestrian safety by providing safe routes for pedestrians that do not include walking on the shoulders of high traffic volume roadways.

COMMUNITY FACILITIES

GOAL: Provide adequate public facilities and services to ensure the health, safety and welfare of Town residents.

Objective #1: Ensure that all current and future residences and businesses have adequate public services and facilities necessary to protect the public health, safety, and welfare to promote an attractive environment in which to live and work.

Objective #2: Plan for the appropriate expansion of the Town's water system.

Objective #3: Encourage Cecil County to establish official processes/procedures for water and sewer allocation in coordination with County towns (Growth Areas).

HOUSING

GOAL: Encourage production of safe, decent, and affordable housing for all Town residents.

Objective #1: Encourage investment in existing housing where needed to improve quality.

Objective #2: Encourage and facilitate replacement of substandard dwelling units and trailers with units meeting current building and housing code standards.

COMMUNITY DESIGN

GOAL: Design new neighborhoods and appropriate infill and redevelopment based on sound place-making principles.

Objective #1: Articulate community design aspirations through design guidelines.

Objective #2: Find a balance in community design and environmental protection, which results in a superior outcome.

Chapter 4 Land Use & Growth Management

The "Land Use Plan" is a primary component of the *2008 Charlestown Comprehensive* Plan, describing the preferred land use characteristics for various areas of the Town. 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.

Charlestown is located on the Northeast River in Cecil County, Maryland near the U.S. I-95 Corridor. The Town is rich in heritage and natural resources, an ideal location for vacationers and boaters alike.

This element of the 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 represents the mix of expected land use types and their geographic locations in Charlestown. These planning areas provide the policy basis for development regulations, which are discussed in the Implementation Chapter.

BACKGROUND

The Land Use Plan has been developed with consideration for capacity limitations and potential impacts of local land use policies on the fiscal and physical resources of the Town and surrounding areas. The Land Use Plan is a continuation of the planning and refinement of the Town's thoughts about how land should be treated, which began with the *1993 Charlestown Comprehensive Plan*. 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 water quality, natural resources, and environmentally sensitive areas.

To some degree, the Town's objectives for economic development, natural resource protection, mobility, community facilities, housing, and community character are reflected in the Land Use Plan. Along with factors outside the control of local officials, such as regional and national economic trends, local market conditions, and individual land use decisions. 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.

EXISTING LAND USE

As indicated in Table 4-1 below, the corporate limits of Charlestown encompass approximately 756 acres. Four (4) land use categories account for over 70% of the existing land use in Charlestown and include the following: 1) Detached Single-Family Residential; 2) Vacant Land; 3) Parks; and 4) Open Space.

The largest land use category, single family residential, totals approximately 261 acres and accounts for slightly more than a third of the existing land use (35%). Vacant properties, the second largest land use category, total approximately 183 acres or about a quarter of the existing land use (24%). Open space, 108 acres, accounts for a little over 14% of total land in the Charlestown.

Open space is the result of subdivision projects, some recently approved. More than one quarter of the land use category (28%) is located in Trinity Woods, a new subdivision. Parks account for a little more than 1% of the total land use. Fair Green Park, Veteran's Park, and the Athletic Complex make up approximately 10 acres of parkland located in the Town. Charlestown Elementary School, a Cecil County Board of Education property, occupies 24 acres in the Town. Some of this acreage includes athletic fields and playground areas.

"Multi-Family Residential" uses occupy only 1 acre of land in the Town. "Commercial" land use comprises only 6 acres, less than 1% of the Town's total land area. Commercial properties, primarily restaurants and retail establishments, are located in the downtown area near the waterfront along Market, Calvert, and Bladen Streets.

Table 4-1: Existing Land Use

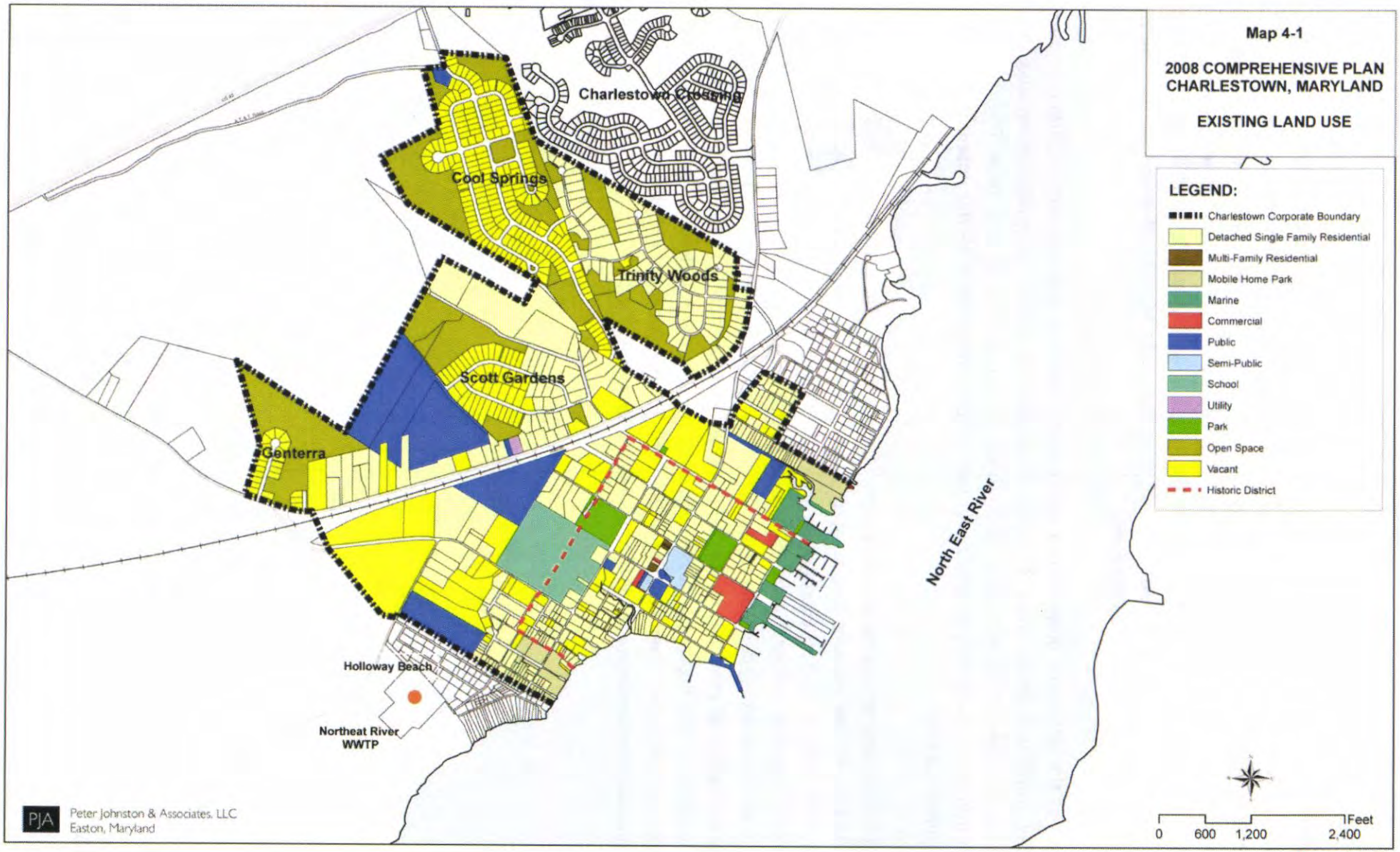
Land Use Category	Acres	Percent of Total
Detached Single Family Residential	261	34.5%
Multi-Family	1	0.1%
Mobile Home Park	13	1.7%
Commercial	6	0.8%
Marine	10	1.3%
Open Space	108	14.3%
Park	10	1.3%
Public	64	8.5%
Semi-Public	4	0.5%
School	24	3.1%
Utility	1	0.1%
Vacant	183	24.2%
Street and Railroad Right-of-Way	72	9.6%
TOTAL	**756**	**100.0%**

Note: Some acreage totals for land use categories overlap such as the school and public spaces.
Peter Johnston & Associates

Public and semi-public land (the Town Hall, Church, Fire Department etc.) make up slightly more than 9% of the total land use. Commercial and marine properties (marinas include on-land facilities) represent only 2% of the existing land use. Slightly less than 10% of the Town's land area has been used for roads, railroads, and other public right-of-ways. Much of this land comprises areas that were marked as "miscellaneous" in the previous 1993 *Charlestown Comprehensive Plan*. It includes streets, roads, collection systems, right-of-ways, rail road lines, the pump station site, dredge spoil site, etc.

About 40 of the detached single family residential properties are one acre or larger. These properties, totaling approximately 87 acres, in addition to vacant land (183 acres) and the mobile home park (13 acres) total 283 acres or about 37% of the total Charlestown incorporated area. These may qualify as "underutilized" properties with the potential for infill and/or redevelopment.

Residential development patterns vary throughout the Town. The average lot size in the "Old Town" portion of Charlestown (the area south of MD Rt. 7) is about 15,500 square feet, or about a third of an acre. The average lot size north of MD Rt. 7 is nearly 35,000 square feet (about eight tenths of an acre) over twice as large as the average lot size in the "Old Town". Overall, approximately half of the detached single family residential land use category is comprised of lots that are 8,800 square feet or less. Most of these lots are located in the "Old Town" portion of Charlestown, clustered in the historic neighborhoods. As a measure of efficiency, 40% of the residential units in the "Old Town" portion of Charlestown have been accommodated on approximately 15% of developed residential land.


Map 4-1
2008 COMPREHENSIVE PLAN
CHARLESTOWN, MARYLAND
EXISTING LAND USE
LEGEND:
Charlestown Corporate Boundary
Detached Single Family Residential
Multi-Family Residential
Mobile Home Park
Marine
Commercial
Public
Semi-Public
School
Utility
Park
Open Space
Vacant
Historic District
Charlestown Crossing
Cool Springs
Trinity Woods
Scott Gardens
Genterra
North East River
Holloway Beach
Northeat River
WWTP
PJA
Peter Johnston & Associates, LLC
Easton, Maryland
0
600
1,200
2,400
Feet
Version 12-30-07

THE CHARLESTOWN LAND USE PLAN

The Charlestown Land Use Plan defines planning areas wholly located within the current corporate boundaries of the Town. Planning areas recognize existing land use patterns and are responsive to the "Goals and Objectives" of this Comprehensive Plan. Planning areas are administrative districts that will enable Charlestown officials to develop a zoning ordinance and other regulations as well as encouragements to properly manage growth within these areas.

Descriptions of the planning areas, and the guidelines attached to them, are intended to serve as a guide for the creation of zoning districts and related development standards, used to implement this Comprehensive Plan. Zoning district provisions, including permitted uses, density, and design standards etc., should be prepared to achieve the purpose of each planning area.

As indicated in Table 4-2, the *2008 Charlestown Comprehensive Plan* divides land use into seven (7) broad and primary land use planning areas including:

1. Town Center;
2. Marine;
3. Neighborhood Conservation;
4. Neighborhood Redevelopment;
5. Green Corridor (Conservation Overlay);
6. Parks and Open Space; and
7. Public/Semi Public.

Table 4-2: Future Land Use

Land Use Category	Acres	Percent of Total
Town Center	36	5%
Marine	20	3%
Neighborhood Conservation	347	47%
Neighborhood Redevelopment	149	20%
Green Corridor (Conservation Overlay)	N/A	N/A
Parks & Open Space	118	16%
Public/Semi-Public	68	9%
TOTAL	738	100%

Peter Johnston & Associates


Map 4-2
2008 COMPREHENSIVE PLAN
CHARLESTOWN, MARYLAND
LAND USE PLAN
LEGEND:
Charlestown Corporate Boundary
Green Corridor
Public & Semi-Public
Parks & Open Space
Town Center
Marine
Neighborhood Conservation
Neighborhood Redevelopment
Charlestown Crossing
Cool Springs
Trinity Woods
Scott Gardens
Genterra
North East River
Holloway Beach
Northeat River
WWTP
PJA
Peter Johnston & Associates, LLC
Easton, Maryland
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Feet
Version 01-02-08

Town Center

The "Town Center Planning Area" encompasses approximately 36 acres and includes a mix of residential, commercial, public and semi-public, and open space uses. The Town Hall, Town Commons, Fire House and Assembly Hall as well as several vacant parcels are located in this planning area. This area also contains Town neighborhood commercial land uses such as restaurants. The Town Center is located in the heart of the Charlestown Historic District, a nationally recognized historic landmark. It is Charlestown's intent to promote the Town Center as the primary location for community activity and strengthen its role as a major determinant of the Town's identity.

The Town will accomplish the objectives of the Comprehensive Plan by encouraging an appropriate mix of residential, neighborhood-commercial, and public uses of a scale and intensity consistent with existing 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. This includes utilizing the concepts of adaptive reuse for existing structures and context sensitive infill and redevelopment. 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 Town Center Planning Area is the chief economic asset for Charlestown. For this reason, streamlining current regulations and creating flexible development standards and appropriate guidance can promote compatible design as well as reinvestment in the existing built environment. For its part, the Town should consider infrastructure improvements that increase public access, expand public parking, and improve vehicular and pedestrian safety in the Town Center. Particularly, capital improvements should address issues related to pedestrian and traffic safety to ensure a pedestrian-friendly environment and adequate on and off-street parking.

Marine

The "Marine Planning Area" totals 20 acres and encompasses land currently in maritime uses, located along the waterfront of Charlestown on the Northeast River. This includes four (4) commercial marinas and boat slips, providing services to residents and seasonal tourists. The Marine Planning Area's proximity to the "Town Center" presents opportunities to connect these two areas so that they continue to serve as the center of commercial and community activity in Charlestown.

The Town will encourage the continuation, and where feasible, the expansion of marine commercial uses and public access to the water in this Planning Area. In some waterfront communities, most notably Annapolis in Maryland, there has been pressure to convert marine land uses into multi-family residential uses. Charlestown should strictly limit or prohibit such conversions.

This Planning Area contains candidate sites that may be suitable for enhanced stormwater management through retrofitting techniques. This will assist Town and commercial marinas in complying with Maryland "Clean Marina Facilities" polices, while also improving local water quality.

Neighborhood Conservation

The "Neighborhood Conservation Planning Area" encompasses approximately 347 acres in existing residential neighborhoods characterized by detached single-family dwellings. It includes recently approved subdivisions and areas within the "Old Town." Charlestown wants to protect existing stable residential neighborhoods, maintaining property values and intact neighborhoods, while encouraging context sensitive infill and redevelopment that can take advantage of existing public investment in infrastructure.

The Planning Area is located in portions of Town where single-family residential development patterns are generally established or where services and facilities will be adequate for the anticipated population. Regulations for the Neighborhood Conservation planning areas 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 or larger 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. Depending on the character of the immediately surrounding area, density could range from 2 to 4 dwelling units per acre. Design guidelines should encourage small building footprints, e.g., a preference for 2 story dwellings. In order to promote infill and redevelopment the Town will need to review current zoning and eliminate impediments to infill and redevelopment projects.

Neighborhood Redevelopment

The "Neighborhood Redevelopment Planning Area" totals 149 acres and includes land on the north and south sides of MD Rt. 7 that may be appropriate for infill and larger scale redevelopment projects. 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.

The Neighborhood Redevelopment Planning Area includes existing low-density residential areas, primarily in detached single-family dwellings. It also includes large vacant or undeveloped tracts of land and smaller vacant lots and parcels. Development regulations and standards should be most flexible in the Planning Area so as to encourage appropriate infill and redevelopment.

Green Corridor (Conservation Overlay)

The "Green Corridor" is an overlay planning area that varies in width from 350 feet to 950 feet depending on location and the proximity of sensitive environmental features. The Green Corridor is designed to protect existing natural resources and key drainage corridors, to maintain bio-diversity, and protect water quality in adjacent waters. It incorporates streams and stream buffers, nearby sensitive areas, and soils with development limitations. The Green Corridor is a key area for appropriate stormwater management retrofitting and low impact stormwater design for new development. To some extent, the Green Corridor is a continuation of past Town polices, in regards to new development, to preserve open space that is important to local ecological functioning.

The importance of the Green Corridor concept extends beyond the current boundaries of Charlestown into County areas. These areas have been designated as the future Charlestown Growth Area to promote their continued preservation (see the Municipal Growth Element). A large natural buffer that runs the length of the stream corridor is a key to protecting water quality in the Charlestown area (see Natural Resources and Water Resources Elements). Properties affected by the Green Corridor should be accorded a great deal of flexibility to ensure reasonable use of property while achieving resource protection objectives.

Parks & Open Space

The "Parks and Open Space Planning Area" totals approximately 118 acres. It consists of neighborhood parks in the "Old Town," including historic commons, as well as open space areas in new subdivisions. Open space areas in new developments, including stream buffers, not only provide space for passive recreation but also assist with local ecological functions to protect water quality.

Charlestown maintains significant open space areas and park spaces. It is the desire of the Town to maintain an emphasis on preserving its aesthetic and environmental qualities and providing public access to the waterfront. Policies in regards to these public spaces seek to preserve character by minimizing potential conflicting land uses.

There is a perceived public need in the community for additional cemetery space. Several Town owned properties could be used to satisfy this demand and meet the perceived need. These properties include the historic commons. The Town may wish to consider forming a "Citizens Committee" to evaluate the need for a new cemetery and the merits of locating it on Town owned property.

Public/Semi-Public

The "Public/Semi-Public Planning Area" totals approximately 68 acres. This land includes the Charlestown Elementary School, Town Hall, Fire Station, Fishing Pier, and several vacant parcels. It also includes the pump station site, dredge spoil site, streets, roads, collection systems, right-of-ways, rail road lines, and other land constituting the Town's infrastructure system.

Charlestown maintains significant public and semi-public spaces including areas on the Northeast River, one of the Town's scenic attribute. Public and semi-public spaces emphasize preserving the Town's aesthetic and environmental qualities and providing public access to the waterfront. As a public facility and space, the Charlestown "Town Dock" is a unique attribute, which is available for use by residents. This is a valuable public facility and should be retained.

In 2004, the Charlestown Strategic Plan: *A Vision for the Charlestown of Tomorrow*, outlined several key recommendations in relation to public areas and facilities. The recommendations include a new Town Hall, Post Office, and creating public parking spaces in the Historic District to promote tourism.

Chapter 5 Municipal Growth

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

Source: MapQuest

BACKGROUND

Charlestown is centrally located to major metropolitan areas in the mid-Atlantic region and is served by Interstate 95 (I-95) corridor. The closet urban areas are Wilmington, Delaware and Baltimore, Maryland.

Source: MapQuest

Travel times and distances to large metropolitan centers are as follows:

- Wilmington, Delaware is 40 minutes and approximately 30 miles;
- Baltimore, Maryland is 57 minutes and approximately 47 miles;
- Philadelphia, Pennsylvania is 1 hour and 14 minutes and approximately 62 miles; and
- New York, New York is 2 hours and 39 minutes and approximately 147 miles.

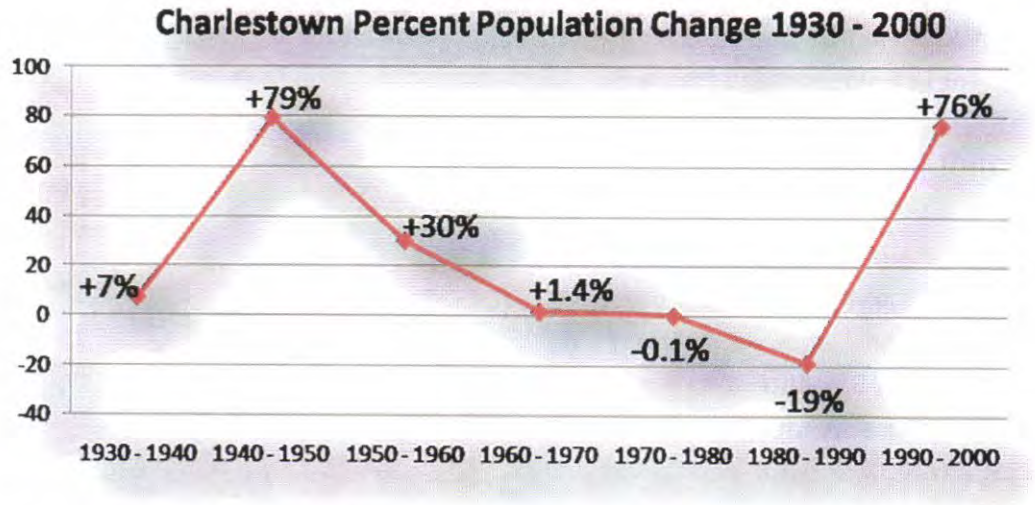
Charlestown is located on Maryland's Eastern Shore and the Northeast River, part of the Chesapeake Bay. The Town has numerous marinas and provides an ideal setting for vacationing, recreation, and boating. According to the Charlestown Citizens Advisory Committee (CAC), the Town's significant growth in the past several decades is due to a

combination of desirable features, which have promoted development. These include abundant natural and heritage resources as well as direct access to the Northeast River for boating and recreation. A more detailed description of Charlestown is contained in the "Community Profile" chapter of this Comprehensive Plan.

GROWTH TRENDS & PATTERNS

Charlestown has experienced population "booms" and "busts" over the last 75 years. As shown in Figure 1 below, the period from 1930 to approximately 1940 witnessed a large increase in the Town's population. From 1940 through 1990 the Town experienced a significant population decline. Charlestown experienced the largest population decline from 1980 to 1990 (negative 19%).

Figure 1



More recently, Charlestown has had significant population growth. The Town's population has steadily increased in the last 15 years (1990 – 2005). As indicated in Table 5-1 State figures based on U.S. Census data indicate an 88% increase in Charlestown's population from 1990 to 2005. This is an approximate 3% annual growth rate. Between 1990 and 2005 Charlestown's growth out-paced every other town in Cecil County by a significant margin. As of 2005, the Maryland Department of Planning (MDP) estimated Charlestown's population at 1,089 making it the 5th largest municipality in Cecil County.

Table 5-1: Maryland Population Comparisons – Cecil County Municipalities							
Geographic Area	**1990**	**1995**	**% Change**	**2000**	**2005**	**% Change**	**% Change 1990-2005**
Cecilton	489	477	-2.5%	474	483	1.9%	-1%
Charlestown	**578**	**993**	**71.8%**	**1,019**	**1,089**	**6.9%**	**88%**
Chesapeake City	735	763	3.8%	787	801	1.8%	9%
Elkton	9,073	11,850	30.6%	11,893	14,438	21.4%	59%
North East	1,913	2,832	48.0%	2,733	2,810	2.8%	47%
Perryville	2,456	3,795	54.5%	3,672	3,761	2.4%	53%
Port Deposit	685	671	-2.0%	676	691	2.2%	1%
Rising Sun	1,263	1,776	40.6%	1,702	1,791	5.2%	42%
Source: Maryland Department of Planning, 2007: 1990-2000 U.S. Census – 2005 Data							

LAND USE PLANNING

Charlestown is located adjacent to a designated "Growth Area" for Cecil County (see Figure 2). It also is a designated "Priority Funding Area" (see Map 5-1). Charlestown is surrounded by three County land use planning districts as described in the 1990 *Cecil County Land Use Plan*. These include the following:

1. Development District;
2. Suburban District; and
3. Mineral Extraction District.

Located along the Maryland Route 40 (MD Rt. 40) and Interstate 95 (I-95) corridors, the "Development" and "Suburban" Planning Districts are the County's designated growth areas. According to the 1990 *Cecil County Comprehensive Plan*, the County anticipates much of its future development will occur in these planning Districts.

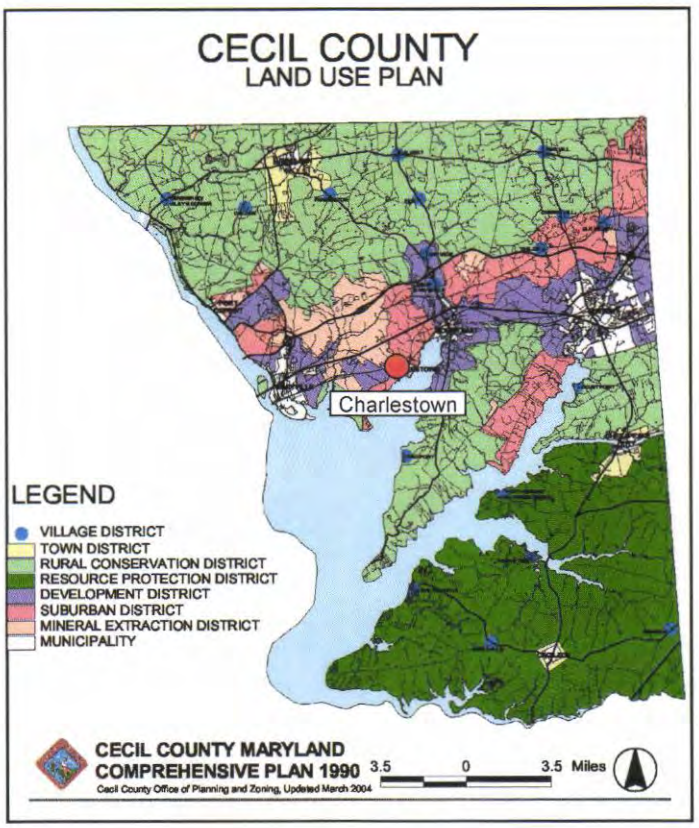
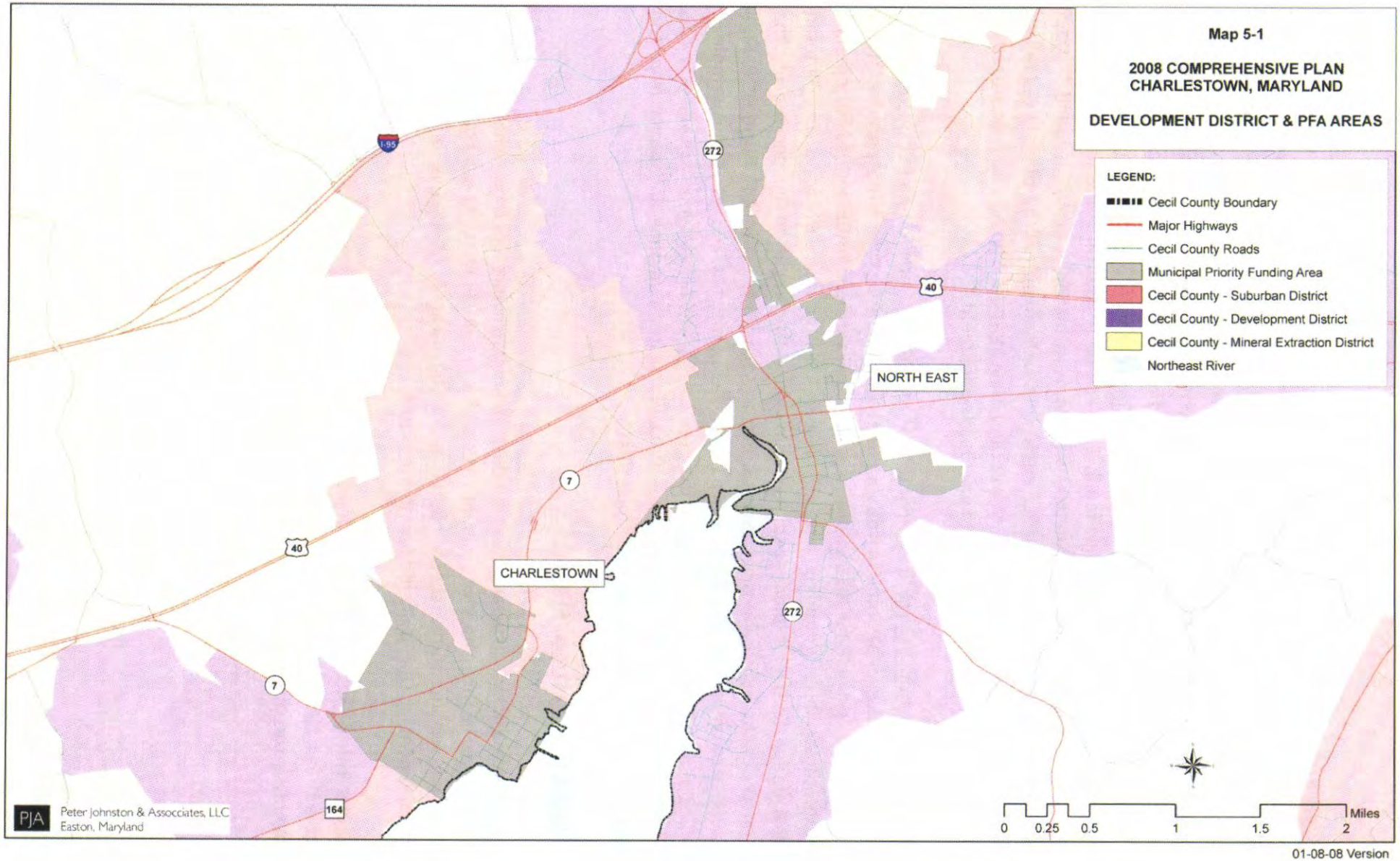


FIGURE 2: Cecil County Land Use Plan Map as shown in the 1990 *Cecil County Comprehensive Plan*.

Development District: The Cecil County Comprehensive Plan states that "the purpose of the Development District is to encourage intense residential, commercial and industrial development."[1] Cecil County has designated this Planning District as the most effective to be served by public infrastructure investment, including water and sewer. Density guidelines for residential development with public water and sewer indicate "up to four (4) dwelling units per acre for single family homes, up to twelve (12) dwelling units per acre for townhouses, and up to sixteen (16) dwelling units per acre for apartments."[2]

[1] *Cecil County Comprehensive Plan*. Prepared by Rogers, Golden, and Halpern, Inc. and Redman/Johnston Associates. December 1990, pg. 6.
[2] Ibid, 7.


Map 5-1
2008 COMPREHENSIVE PLAN
CHARLESTOWN, MARYLAND
DEVELOPMENT DISTRICT & PFA AREAS
LEGEND:
Cecil County Boundary
Major Highways
Cecil County Roads
Municipal Priority Funding Area
Cecil County - Suburban District
Cecil County - Development District
Cecil County - Mineral Extraction District
Northeast River
NORTH EAST
CHARLESTOWN
I-95
272
40
7
164
PJA
Peter Johnston & Associates, LLC
Easton, Maryland
0
0.25
0.5
1
1.5
2
Miles
01-08-08 Version

Suburban District: The purpose of the "Suburban District" is to "provide development opportunities in appropriate areas outside of the Development District and thus reduce development pressures on rural areas."[3] The Cecil County Comprehensive Plan describes this district as transitional areas between urban and rural areas, promoting the concepts of planned communities and clustering. Density guidelines for residential development with public water and sewer indicate "up to three (3) dwelling units per acre for conventional subdivisions; up to three and a half (3.5) dwelling units per acre for cluster development on single family lots; and up to four (4) dwelling units per acre for planned residential communities with some attached housing included."[4] "The actual timing and location of higher intensity development will be directly related to availability of public water and sewer and development should be encouraged at appropriate locations contiguous to existing development."[5]

Mineral Extraction District: It is the intent of the Cecil County Comprehensive Plan that mining activities occur only in the "Mineral Extraction District." The purpose of the district is to "provide for the restoration of mineral extraction sites for uses compatible with those in surrounding areas."[6] Mineral Extraction District is an "interim designation."[7] The ultimate land use following extraction is to be decided in "the context of the comprehensive plan in effect at such time."[8] Principio Business Park, a 1,000-acre enterprise zone/industrial park located north of MD Rt. 40, is one example of a post mining land use. According to the *Cecil County Master Water and Sewer Plan*, this facility is served with water from the Principio Water Company and sewer from the Northeast River Wastewater Treatment Plant.

Priority Funding Areas (PFAs):

In regards to State assistance and funding for infrastructure upgrades, changes to the "Maryland Finance and Procurement Article" for Priority Funding Areas-PFA's, highlight the need for inter-jurisdictional coordination. This includes discussions of PFA density requirements in the Town and County Growth Areas.[9]

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

[3] Ibid, 16.
[4] Ibid, 19.
[5] Ibid, 16.
[6] Ibid, 29.
[7] Ibid, 29.
[8] Ibid, 29.
[9] *Annotated Code of Maryland: State Finance and Procurement Article: Title 5: State Planning; Subtitle 7B: Priority Funding Areas.* (http://www.dsd.state.md.us/comar/Annot_Code_Idx/StateFinProcIndex.htm)

capacity of the community except for limited peripheral or in-fill development."[10] 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 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."[11]

As illustrated on the *Cecil County Priority Funding Areas Map* (see Attachment B), the County has designated areas surrounding Charlestown and North East as County "Certified" PFA Areas, according to Maryland Department of Planning data.[12] 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."[13]

The Town's growth and annexation areas are current located within the County's PFAs. Any annexations after October 1, 2006, must be submitted to the Maryland Department of Planning for PFA certifications. Properties annexed into the Town do not retain County PFA status and do not automatically become PFAs.

FUTURE POPULATION GROWTH

Charlestown's population projections through 2025 are shown in Table 5-2. Population growth for the Town from 2005 to 2025 is projected to increase by approximately 86% in the period between 2010 and 2025. The projected annual average growth rate between 2000 and 2025 will be approximately 5%. The most substantial increases are expected by 2015 (a 63% increase) as dwelling units in approved subdivisions are constructed. Charlestown's population is expected to steadily increase from approximately 1.2 percent of Cecil County population in 2000 to approximately 1.4 percent of the County population in 2025.

Population and dwelling unit projections are based on the following assumptions:

- Population projections assume average household size will decrease commensurate with the Maryland Department of Planning's (MDP) projected trend in average household size for Cecil County.

[10] Ibid.
[11] Ibid.
[12] *Cecil County Priority Funding Areas Map*. Prepared by the Maryland Department of Planning (MDP). March 2008.
[13] *Annotated Code of Maryland: State Finance and Procurement Article: Title 5: State Planning; Subtitle 7B: Priority Funding Areas.* (http://www.dsd.state.md.us/comar/Annot_Code_Idx/StateFinProcIndex.htm)

- Total Infill development potential is 441 dwelling units: 261 existing lots of record in recently approved subdivisions will be constructed by 2015; and 21 lots in a pending subdivision (Genterra) will be constructed by 2015.
- As a result of increased emphasis on infill and redevelopment, approximately 180 infill residential units will be added in the "Old Town" portion of Charlestown (south of MD Rt. 7) by 2025, albeit at a slow pace throughout the planning period.
- No additional residential units are anticipated to be added to Charlestown as a result of new annexations until 2015 or later.

Table 5-2: Population Projections for Cecil County and Charlestown 2000 - 2025

Classification	2000	2010	2015	2020	2025	Change	Percent	Annual
Cecil County	85,951	108,100	121,650	134,500	147,350	61,399	71%	3%
Charlestown	**1,019**	**1,196**	**1,664**	**1,869**	**2,075**	**1,056**	**104%**	**4%**
Dwelling Units	379	453	640	730	820	441	116%	5%
% of County Population	1.19%	1.11%	1.37%	1.39%	1.41%	N/A	N/A	N/A

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

GROWTH PLAN: INFILL & REDEVELOPMENT

Infill areas include the remaining lots in the recently approved subdivisions of Trinity Woods, Cool Springs, and Scott Gardens and an estimated 21 lots in a pending subdivision (Genterra). Infill areas also include existing lots of record and small acreages in the "Old Town" (south of Route 7) portions of Charlestown (see Table 5-3).

Table 5-3: Infill and Redevelopment Land - Charlestown

Classification	Vacant Parcels	Acres	Potential # of DUs
*Recent Subdivisions	282	79	282
"Old Town" Infill/Redevelopment†	86	111	159
TOTAL	**368**	**190**	**441**

***Note:** Recent subdivisions include Trinity Woods, Scott Gardens, and Cool Springs, which are lots of record. Pending subdivisions include Genterra with 21 lots.
†Vacant and underutilized properties
Source: Peter Johnston & Associates

Infill and Redevelopment Capacity

Infill capacity of recent subdivisions is based on the number of vacant lots currently available for development. Potential yield in the "Old Town" portions of Charlestown was determined by first identifying vacant lots and underutilized parcels using Maryland Property View data, verified using recent aerial photography from 2006. Lots or properties that exhibit limited development potential were eliminated from consideration. These include parcels requiring significant off-site road or utility

improvements, properties with extensive sensitive environmental features, and properties located in the "Green Corridor" shown on the Charlestown Land Use Plan. This conservative approach to estimating infill potential in the "Old Town" seems appropriate considering how little infill and redevelopment has actually occurred in the Town over the last several decades.

Additional Factors Influencing Growth

The MDP projects a population increase in Cecil County of approximately 61,399 in the period 2000 to 2025. This increase is partially influenced by the United States Department of Defense "Base Realignment and Closures Program" (BRAC realignment), which has been identified in this Comprehensive Plan as an additional factor that will influence County growth.

According to the MDP's 2006 *BRAC Report: Eight Jurisdiction Overview*, the eight Maryland jurisdictions impacted by BRAC include Baltimore City and the following counties: 1) Anne Arundel; Baltimore; Cecil; Harford; Howard; Montgomery; and Prince George's. "Growth pressures will be strongest in Harford and Cecil counties based on an analysis of BRAC demand and anticipated supply of both new and existing housing units available to all in-migrants."[14]

MDP indicates a total of 25,312 households are expected to locate in the eight-jurisdiction study area as a result of the BRAC-related jobs for Maryland. MDP projects the highest household totals in Harford County (6,533, or 25.8%), Anne Arundel County (4,457, or 17.6%), and Baltimore County (3,653, or 14.4%)."[15] Other household totals are as follows:

- Baltimore City (2,549, or 10.1%);
- Montgomery County (2,274, or 9.0%);
- Cecil County (1,998, or 7.9%);
- Prince George's County (1,995, or 7.9%); and
- Howard County (1,853, or 7.3%).

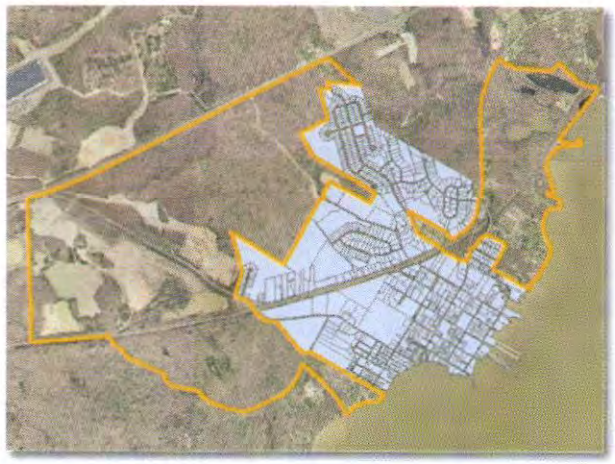
According to MDP, "Cecil County is expected to have the second strongest development pressure due to BRAC even though it is only expected to have the sixth highest number of BRAC households in the eight-jurisdiction study area." The 1,998 BRAC households are estimated to represent approximately 29% of the expected supply of housing

[14] BRAC Report. Prepared by the Maryland Department of Planning, 3.
[15] Ibid, 5.

available to all in-migrants over the 2009 to 2015 time period. MDP assumes that Cecil County has the land capacity to absorb the expected BRAC households, "but must immediately take the steps and get the appropriate funding necessary for the investments to meet infrastructure requirements, which will support a more compact development pattern."[16]

"OUT OF TOWN" GROWTH & ANNEXATION AREA

The Charlestown Growth & Annexation Area, as shown on Map 5-2, represents the Town's long range growth expectations and is a priority annexation area. The Growth Area totals approximately 1,339 acres.



The Charlestown Growth Area totals 1,339 acres and includes land, which has been disturbed through surface mining activities as well as Holloway Beach and Charlestown manor (two historic Cecil County subdivisions/developments).

Annexation & Growth Area

The Charlestown Growth Area includes several large vacant tracts of land surrounding the Town. Some tracts are wooded and others indicate surface mining activities, which are located on select parcels to the west of Town. This portion of the Growth Area is located in Cecil County's Mineral Extraction District. Development is anticipated for this area as a post mining land use.

The Charlestown Growth Area also includes two historic County subdivisions; Charlestown Manor and Holloway Beach. Charlestown Manor is an existing 45-acre/182-lot Cecil County subdivision located north-east of Town. As of 2006, approximately 48 lots totaling 14 acres were vacant. A substantial portion of Charlestown Manor is located in the Chesapeake Bay Critical Area. This area is designated as a "Limited Development Area" (LDA) under Cecil County's Chesapeake Bay Critical Area Ordinance. Holloway Beach is an existing 25-acre/108-lot Cecil County subdivision located southwest of Town. It is 51% built-out. As of 2006, approximately 52 lots totaling 25 acres were vacant[17]. A substantial portion of Holloway Beach is located in the Chesapeake Bay Critical Area. This area is designated as an "Intense Development Area" (IDA).

[16] Ibid, 6 and 7.
[17] Source: 2006 Maryland Property View, 2006 aerial photography

A large portion of the Growth Area, located north and west of Charlestown Manor, is located in the Chesapeake Bay Critical Area. This land includes several large vacant parcels and some small parcels with current dwellings. Much of this area is designated as a "Resource Conservation Area" (RCA) under Cecil County's Critical Area Ordinance. Development is limited in the RCA. Any growth in the future would require "Critical Area Growth Allocation" from Cecil County. For the purposes of this Comprehensive Plan, a substantial portion of this area has been depicted as a "Conservation Corridor" (see Map 5-2) due to the presence of sensitive environmental areas.

Annexation of the properties in the Charlestown Growth Area is not anticipated within the next 6 years. However, the Town does anticipate future annexation and development at some point. Charlestown has articulated several reasons for annexation of these areas including:

- Protecting Charlestown'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;
- Enabling and requiring Smart Growth densities for new development;
- Ensuring natural resource conservation and sensitive areas protection consistent with the recommendations of the Charlestown Comprehensive Plan, including the "Green Corridor" concept;
- Requiring appropriate stormwater "Best Management Practices" (BMP's) to enhance and protect water quality in receiving waters;
- Addressing potential health and water quality issues associated with failing septic systems or septic systems located close to major tributaries (Holloway Beach/Charlestown Manor);
- Providing additional alternative access to MD Rt. 40, a primary County arterial system.

Annexation Policies

The Comprehensive Plan maps a proposed Growth and Annexation Area. Properties located within this Growth Area are eligible for annexation. This policy includes small properties where annexations will be undertaken to clarify boundaries, prevent "enclaves," and/or extend service to areas in need of municipal services for health or safety reasons.

Prior to annexing any land area not included in the Growth and Annexation Plan, the Town will first consider appropriate amendments to this Comprehensive Plan and will

follow the procedural requirements for comprehensive plan amendments and annexation established in State law (Articles 66B and 23A), including those of Maryland House Bill 1141. This will ensure that the proposed annexation is consistent with the goals and objectives of this comprehensive plan, that appropriate consideration has been given to the adequacy of public facilities and services, and that County and State agencies are afforded an opportunity to comment on the proceedings. In addition, the following annexation policies will apply to future annexations:

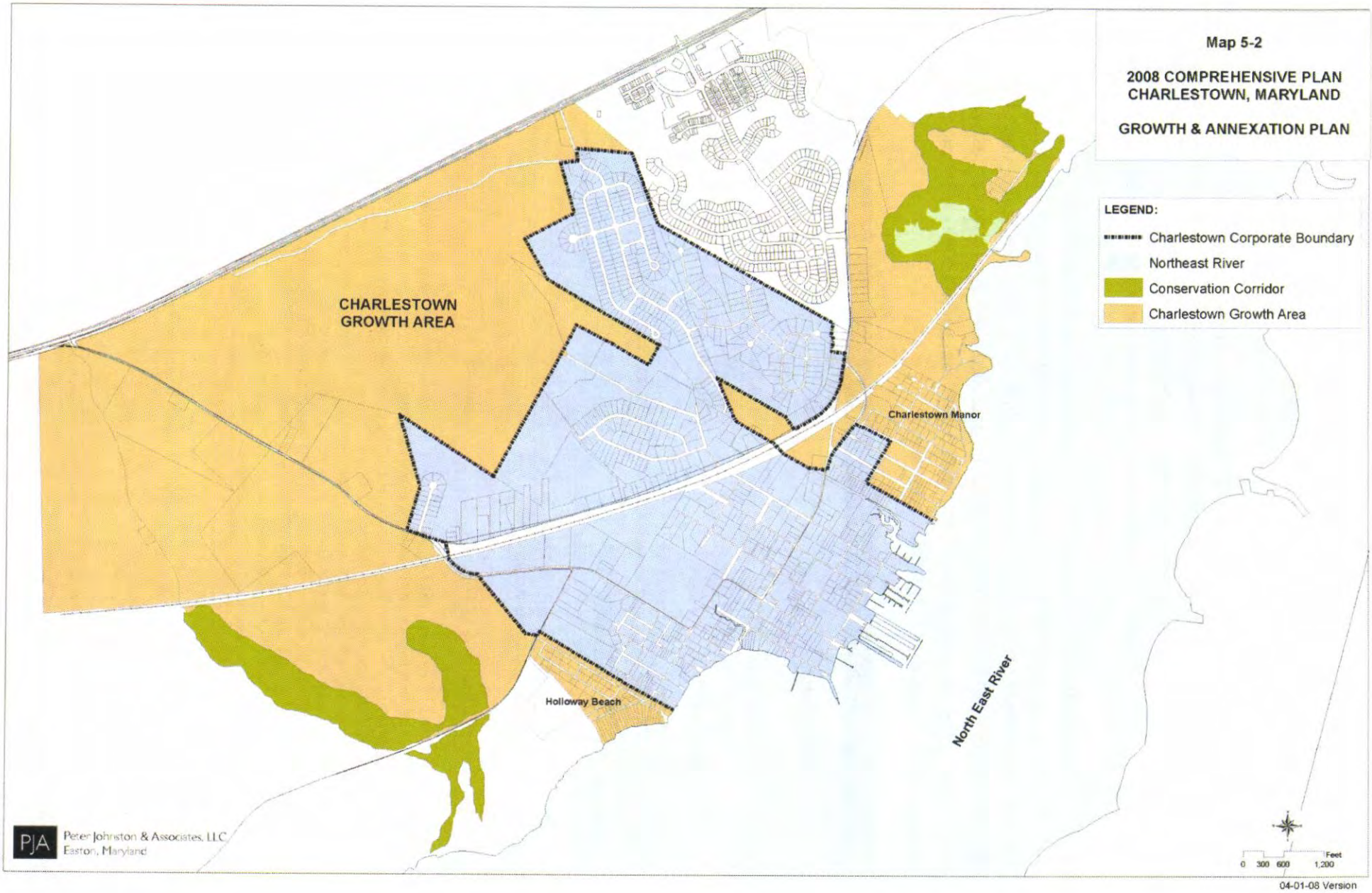
- Proposed annexation areas will be economically self-sufficient and will not result in larger municipal expenditures than anticipated revenues, which would indirectly burden existing Town residents with the costs of services or facilities to support the area annexed.

- 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.

- 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 *Charlestown 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).

- 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.

- 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 5-2
2008 COMPREHENSIVE PLAN
CHARLESTOWN, MARYLAND
GROWTH & ANNEXATION PLAN
LEGEND:
Charlestown Corporate Boundary
Northeast River
Conservation Corridor
Charlestown Growth Area
CHARLESTOWN
GROWTH AREA
Charlestown Manor
Holloway Beach
North East River
PJA
Peter Johnston & Associates, LLC
Easton, Maryland
0 300 600 1,200
Feet
04-01-08 Version

IMPACTS OF GROWTH

Population growth will have impacts on public services and facilities provided by the Town. Population growth in Charlestown also will impact services and facilities provided by Cecil County. The following table summarizes the estimated potential impacts on public facilities and services (Town and County) associated with Town growth.

Infill and redevelopment areas within Charlestown total approximately 190 acres with a potential for 441 dwelling units. The impacts of growth for Charlestown from 2000 to 2025 are summarized in Table 5-4. Impacts include total projected dwelling units from infill and redevelopment, projected population increases, sewer and water, as well as other public facilities and services such as schools, libraries, police, recreation land demand, and fire and rescue (emergency services).

Table 5-4: Impacts of Charlestown Growth on Public Facilities & Services

Classification	Infill/Redevelopment Areas
Total Dwelling Units	**441**
Population	**1,056.00**
Sewer (gallons per day - GPD)	**110,250**
Water (gallons per day - GPD)	**110,250**
School (new students)	**210**
- High School	68
- Middle School	47
- Elementary School	95
Library (gross floor area - GFA)	**106**
Police (personnel)	**3**
Recreation Land (acres)	**32**
Fire & Rescue (Emergency Services)	
- Personnel	2
- Facilities (gross floor area - GFA)	845

Sources:
Maryland Department of Planning – MDP: Municipal Growth Element Model (Smart Growth lot size, underbuild assumptions, school enrollment multipliers, and recreation land demand);
Maryland Department of the Environment – MDE: Water and Wastewater Capacity Management Plans (sewer and water gpd demand estimates – 250 gpd per dwelling unit);
American Library Association (library facility square footage multiplier);
International Association of Police Chiefs and other organizations (personnel multiplier);
2000 U.S. Census for Charlestown/Maryland Department of Planning Population Projections for Cecil County (persons per household based on descending trend in household size);
International City Council Management Association. (fire personnel multiplier); and
National Planning Standard (fire facility square footage multiplier).

Implications of Growth

The most significant implications of Charlestown's "Growth Plan," as indicated in Table 5-4 are impacts on school facilities. As discussed in the Community Facilities chapter, the middle and high schools that serve Charlestown are already operating at enrollment levels that exceed their State Rated Capacities (SRC). In order to accommodate the additional students projected for Charlestown as a result of growth through 2025, the middle and high schools that serve Charlestown students will need to increase their capacities before 2025. Additional elementary school students projected as a result of growth will bring Charlestown Elementary School to approximately 100 percent of its SRC in 2025.

Public Schools: As indicated in Table 5-4 above, the projected impact of Charlestown's population growth on schools is approximately 210 new students: 95 elementary school students; 47 middle school students; and 68 high school students. Charlestown Elementary School, the only school located within the Town, has a State Rated Capacity (SRC) of 292 students (as discussed in the Community Facilities Element). Full-time enrollment at the school in 2006 was 196 students, approximately 67% of the school's SRC. The projected increase in elementary school students in Charlestown by 2025 is 95 students, which would bring enrollment to 291 students, or 99% of the school's SRC.

North East Middle and High schools and Perryville Middle and High schools, all of which serve students in Charlestown, have current enrollments which are at or exceed the SRC. Any increase in students, as a result of growth in Charlestown, would worsen already overcrowded conditions in these schools.

When SRC levels are exceeded in Cecil County public schools, it is the policy of the Board of Education, upon recommendation of the Superintendent of Schools, to consider redistricting if there is space available in one or more neighboring schools, provided it is programmatically and demographically feasible. If redistricting is not feasible for a school that has exceeded its SRC, then construction of a new facility or an addition to an existing facility is considered. [18]

With the exception of Perryville Middle School and Charlestown Elementary School, all of the schools that will be impacted by growth in Charlestown are included in the County's FY09 Public Schools Capital Improvements Plan projects list, with funding for planned additions and renovations to increase capacity for each facility anticipated to be in place by 2012. Perryville Middle School is currently undergoing a renovation and

[18] FY09 Cecil County Public Schools Capital Improvements Plan, September 24, 2007

expansion project that is 85% complete, and scheduled to be completed by 2009.[19] As a result of these improvements, the SRC of every school that serves Charlestown, with the exception of Charlestown Elementary, will accommodate the projected increase in students from Charlestown.

Charlestown Elementary underwent extensive additions and renovations in 2004, including an additional 25,000 square feet of building space for classrooms and a new gymnasium. The 2008 Cecil County Public Schools Master Plan rated the physical condition of the facility "very good". While the full impact of the projected increase in elementary school students in Charlestown will not be felt until 2025, the Town of Charlestown should maintain communication with the County Board of Education regarding growth in the Town, so that the Board is able to assess capacity needs for Charlestown Elementary School and plan for expansions or renovations in time to adequately serve the increased student enrollment.

Library: Residents of Charlestown are located within an easy drive of two branches of the Cecil County Public Library: North East Public Library and Perryville Public Library. Perryville Public Library was recently expanded to 15,000 square feet and is scheduled to open in January of 2008. County library expansions and renovations are funded through the Cecil County Fiscal Year Capital Budget. The projected impacts of growth illustrated in Table 5-4 indicate that an additional 106 square feet of library space will be needed to accommodate the additional residents projected for Charlestown. The total square footage of the combined facilities of the North East and Perryville public libraries will adequately serve the needs of the projected increase in population of Charlestown.

Recreation Land: Charlestown contains 118 acres of park and open space land, 8.25 acres of which are dedicated public parks serving the existing population. The State of Maryland uses a standard ratio of 30 acres of parkland per 1,000 population, meaning that 1,000 additional people generate the need for 30 additional acres of parkland. Based on this standard, the Town's 118 acres of park and open space land exceed the minimum land required for recreation purposes and should be adequate to serve the needs of the future projected population.

While recreational land supply is adequate, it would benefit the Town to regularly assess recreational facilities (equipment and programs) to ensure that as segments of the population change or mature, new and changing recreation needs are being met. Also, additional land and facilities for neighborhood parks will be required as new residential developments are planned and approved.

[19] Ibid

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

As illustrated in Table 5-4, police and emergency services will be impacted to a small degree as a result of the projected increase in Charlestown's population. Based on industry standards for calculating staffing levels of emergency services personnel, three additional police personnel and 2 additional fire/rescue personnel will be needed to serve the projected increase in population.

Pursuant to the Cecil County Code, the County funds municipal fire companies an amount which is based on the assessable base within each fire district, as certified annually by the State Department of Assessments and Taxation. The fire companies are also compensated for providing ambulance services within their respective districts. As Charlestown's assessable tax base increases due to population growth, emergency services funding will increase at an equal pace to support the additional demand for services, thus ensuring adequate emergency services and personnel for the future are commensurate with increased population.

The County Capital Budget also includes monies to support the operations of the Sheriff's Office. The FY 07 Capital Budget provides additional funding for four additional deputies for the Sheriff's Office. These additional personnel will be sufficient to serve the needs of the projected population increase of Charlestown.

Additional Facility Needs: The Town also 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 existing Town Hall occupies only a portion of the lot it stands on, which allows for expansion of the facility should it be required. A review of staffing levels for both administrative and public works employees should be conducted annually (or every five years) to determine adequacy. Expansions of the Town Hall, Town staff, and municipal services can be made and funded as the assessable tax base in the Town expands.

In the 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 DRRA that includes offsetting fees, or it will enact appropriate impact fees.

Water and Sewer: Assuming County sewer capacity allocation policies give preference to municipal growth, sewer demand can be accommodated in the existing Northeast River Wastewater Treatment Plan (WWTP). It is assumed that all phases of Trinity Woods, Scott Gardens and Cool Springs (new subdivisions in Charlestown) have been granted sewer allocation by Cecil County. Water demand can be accommodated within the Town's current water appropriations permit (see discussion in the Water Resources Element).

Potential Impacts Associated with the Growth & Annexation Area

For the purposes of calculating potential developable land, a net acreage figure was determined for the Growth Area. Net acreage calculations excluded land designated as "Conservation Corridors." The net Charlestown Growth Area is approximately 1,056 acres and includes a potential dwelling unit (DU) range from 2,200 DUs (Scenario 1) to 5,704 DUs (Scenario 2), as indicated in Table 5- 6. Holloway Beach, Charlestown Manor, and smaller existing properties of record were examined to determine development potential (vacant land/lots). Examination included utilization of existing aerial imagery, as well as a review of Maryland Property View-MPV taxation and assessment records.

The potential impacts associated with the annexation and development of the Charlestown Growth Area was calculated based on two potential development scenarios. The first scenario (Scenario 1) is if the properties are developed in a similar manner to recent subdivisions in Cecil County and Charlestown (i.e., Charlestown Crossing in the County and Trinity Woods, Scott Gardens, and Cool Springs in the Town). Table 5-5 summarizes the development characteristics of these recent subdivisions.

Table5-5: Characteristics of Recent Development (Trend Analysis)

Subdivision	Total Acres	Area in Lots (Acres)	Number of Lots	Remaining Land Area	AVG Lot Size (SF)	Land Area per Lot	Gross DUs per Acre
Trinity Woods	78	50	85	36%	39,973	0.92	1.09
Cool Springs	93	55	216	41%	18,770	0.43	2.32
Scott Gardens	52	32	66	38%	34,517	0.79	1.26
Genterra	30	6	21	79%	63,094	1.45	0.69
TOTAL	**254**	**144**	**388**	**43%**	**28,492**	**0.65**	**1.53**
*Charlestown Crossing	223	113	592	49%	18,731	0.43	2.33
TOTAL	**477**	**127**	**983**	**73%**	**21,128**	**0.49**	**2.06**

***Note:** Charlestown Crossing is a Cecil County development located adjacent to Charlestown.
Source: Peter Johnston & Associates

Based on the characteristics of recent subdivisions, Scenario 1 assumes the following:

- Average Development Yield is 2 dwelling units per gross acre; and
- Remaining Land (land other than building lots including road right of ways, common open space, stormwater management areas, sensitive areas, forest conservation, etc.) is 40% of the gross site area.

Scenario 1 is most reflective of how the properties may be developed should Cecil County designate what is now a "Mineral Extraction" planning district as a "Suburban" planning area after mining ceases or Charlestown continues to require development similar in character to recently approved subdivisions.

The second scenario (Scenario 2) is based on development standards that will permit a minimum of 3.5 dwelling units per acre in planned mixed-use communities. These assumptions include:

- Average Development Yield is 3.5 dwelling units per gross acre;
- Average Lot Size (for detached single family residential units) is 8,000 square feet; and
- Remaining Land (land other than building lots including road right of ways, common open space, stormwater management areas, sensitive areas, forest conservation, etc.) is 40% of gross site area.

The feasibility of Scenario 2 was tested based on all units being detached single family residential dwellings on 8,000 square foot lots. However, a planned mixed-use development could include townhouse and multi-family units as well. The environmental benefits of compact mixed development include: reduction of the loss of forest land needed for development, reduction in vehicle miles traveled (VMTs) and associated air pollution, and reduction in new septic tanks added.

Scenario 2 is 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 related to Total Maximum Daily Loads (TMDL Nutrient Caps), development regulations will need to require compact mixed-use communities. Despite the fact that Scenario 2 results in more impacts on County and Town facilities and services, considered in the context of Cecil County's overall growth management planning, it may have merit.

Table 5-6: Charlestown Growth Area Analysis		
CLASSIFICATION	**SCENARIO 1 (21,780 sq. ft. lot size)**	**SCENARIO 2 (8,000 sq. ft. lot size)**
Growth Area Dwelling Units	2,034	5,538
❖ Holloway Beach Dwelling Units	108	108
❖ Charlestown Manor Dwelling Units	58	58
Total Dwelling Units	**2,200**	**5,704**
Total Population	**5,808**	**15,057**
Sewer Demand (GPD)	550,000	1,425,891
Water Demand (GPD)	550,000	1,425,891
SCHOOL	1,047	2,715
- High School	339	878
- Middle School	235	610
- Elementary School	473	1,226
LIBRARY (floor area)	581	1,506
POLICE (personnel)	15	39
RECREATION LAND (acres)	174	452
FIRE & RESCUE		
- Personnel	9	24
- Facilities	4,646	12,046

Sources:
Maryland Department of Planning – MDP: Municipal Growth Element Model (Smart Growth lot size, underbuild assumptions, school enrollment multipliers, and recreation land demand);
Maryland Department of the Environment – MDE: Water and Wastewater Capacity Management Plans (sewer and water gpd demand estimates – 250 gpd per dwelling unit);
American Library Association (library facility square footage multiplier);
International Association of Police Chiefs and other organizations (personnel multiplier);
2000 U.S. Census for Charlestown/Maryland Department of Planning Population Projections for Cecil County (persons per household based on descending trend in household size);
International City Council Management Association. (fire personnel multiplier); and
National Planning Standard (fire facility square footage multiplier).

Table 5-7: Northeast River Wastewater Treatment Plant (WWTP) Estimates (2006)			
Classification	**Permitted Capacity**	**Design Capacity**	**Maximum Capacity**
WWTP Capacity	1,200,000	2,000,000	2,670,000
WWTP Daily	930,000	930,000	930,000
Infill Need	110,000	110,000	110,000
Balance	**160,000 gpd**	**960,000 gpd**	**1.63 mgd**

Assumptions:
Assumes Permitted Capacity by the Maryland Department of the Environment (MDE) is 1.2 mgd for the Northeast River Wastewater Treatment Plant (WWTP).
Assumes Potential Design Capacity is 2.0 mgd with Biological Nutrient Removal – BNR for WWTP.
Assumes Potential Maximum Capacity is 2.67 mgd with Enhanced Biological Nutrient Removal – ENR for WWTP.
Assumes 110,000 gpd for infill and redevelopment within the current corporate limits of Charlestown.
Source: 2004 *Cecil County Water & Sewer Master Plan*

As indicated in Table 5-6, sewer demand will increase significantly for the Charlestown Growth Area. For sewerage, the two Growth Area scenarios were evaluated against the wastewater capacity assumptions, outlined in Table 5-7:

Scenario 1 - Trend Analysis (2,200 DUs):

- Percent of remaining "Permitted Capacity" = 344%.
- Percent of potential "Design Capacity at Biological Nutrient Removal-BNR" = 57%.
- Percent of potential "Maximum Capacity with Enhanced Biological Nutrient Removal-ENR" = 34%.

Scenario 2 - Smart Growth Analysis (5,704 DUs):

- Percent of remaining "Permitted Capacity" = 891%.
- Percent of potential "Design Capacity at Biological Nutrient Removal-BNR" = 149%.
- Percent of potential "Maximum Capacity with Enhanced Biological Nutrient Removal-ENR" = 87%.

In conclusion, regardless of the how residential development in the Charlestown Growth Area occurs, Scenario 1 (low density) or Scenario 2 (smart growth density), Town growth beyond its corporate limits will create substantial demands on the capacity of the Northeast River WWTP. In 2004, the *Cecil County Master Water and Sewer Plan* reported that the Northeast River WWTP served the towns of North East and Charlestown, the I-95 North Service Center, Cecil County Community College, Bay View Elementary School, Cecil County Vocational Center, North East Commercial Plaza, Peninsula and North East Commerce Center Industrial Parks, numerous communities in the County, and the Cecil County Central Landfill leachate system. Competing demands for sewer allocation, primarily among Charlestown, North East, and Cecil County, underscore the critical need for Inter-jurisdictional discussions.

Development of the Charlestown Growth Area will require upgrades to the existing Northeast River Wastewater Treatment Plant from Biological Nutrient Removal to Enhanced Nutrient Removal. It also may require new wastewater treatment and distribution facilities. New wells, storage tanks, and distribution facilities will be required for water. For a detailed analysis of water and wastewater in relation to Growth Areas, see the Water Resources Element of this Comprehensive Plan.

INTER-JURISDICTIONAL COORDINATION

The *Charlestown Comprehensive Plan* highlights the need for increased inter-jurisdictional coordination with Cecil County. From Charlestown's perspective, the substantive issues related to new growth and development in and around the Town include the following:

- The Cecil County Development and Suburban Districts, shown in the 1990 *Cecil County Comprehensive Plan*, are developing and it is anticipated that these areas will continue to grow. The location of the Development District west of Charlestown conflicts with the Town's desire for a greenbelt. The Town and County need to seriously consider the need for conservation areas, even within the Development District.

- The Cecil County Mineral Extraction District anticipates development as a post mining land use in the Charlestown area, which is stipulated as a policy in the 1990 *Cecil County Comprehensive Plan* to provide for the restoration of mineral extraction sites for uses compatible with those in surrounding areas. Charlestown's future growth/annexation area is currently in the Mineral Extraction District. The post excavation land use for this property is of concern to the Town.

- Development in Cecil County is occurring on the peripheral areas of Charlestown. The pending Charlestown Crossing subdivision is an example. In the future, the Town believes that new development in and around the Town should be consistent with Smart Growth and sound place-making principles.

- Charlestown officials have indicated that sewer capacity sufficient for the Town to fully realize its growth plans may not exist at the present Northeast River Wastewater Treatment Plant (WWTP) without upgrades from Biological Nutrient Removal (BNR) to Enhanced Nutrient Removal (ENR). The Town believes that sewer allocation policies should be mutually agreed upon by the County and municipalities, transparent, and support sound planning for the region.

- Effective inter-jurisdictional coordination and cooperation between Cecil County and Charlestown has been lacking in the past.

Coordination for Effective Growth Management

It is apparent from the prior discussion of growth-related impacts that there is a critical need 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 TMDLs, school capacity, demands on emergency services, public infrastructure and transportation facilities. This sentiment was underscored by the Maryland Department of Planning in its BRAC Report. MDP wrote that Cecil County "must immediately take the steps and get the appropriate funding necessary for the investments to meet infrastructure requirements

which will support more compact development patterns."[20] In regards to State assistance and funding for infrastructure upgrades, changes to the *Annotated Code of Maryland: State Finance and Procurement Article; Title 5: State Planning; Subtitle 7B: Priority Funding Areas* (PFA's), further highlights the need for inter-jurisdictional coordination. This includes discussions of PFA density requirements, as outlined in the law, for Growth Areas.[21]

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:

- Water and Sewer Allocations procedures;
- Cooperative watershed planning initiatives including the North East River Watershed;
- Coordinated policies concerning County land uses adjacent to the Town;
- Coordinated policies concerning conservation of green infrastructure; and
- Funding for public facilities and services, i.e., Adequate Public Facilities Ordinance, impact fees, excise taxes.

Effective mechanisms for County/Town dialogue, coordination, and agreement also are needed. Acceptable coordinated strategies should be formalized in ways that bind each participant. Forums for on-going coordination and cooperation include a 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 Cecil County is needed as a critical step in the broader planning process. It is fortuitous that Cecil County has undertaken an update of the *1990 Cecil County Comprehensive Plan*. The comprehensive plan update process presents an opportunity for Cecil County to address many of the issues raised herein.

[20] Maryland Department of Planning *Base Relocation and Closure (BRAC) Report* - December 2006
[21] *Annotated Code of Maryland: State Finance and Procurement Article: Title 5: State Planning; Subtitle 7B: Priority Funding Areas.* (http://www.dsd.state.md.us/comar/Annot_Code_Idx/StateFinProcIndex.htm)

Chapter 6 Resource Conservation

Managing growth and development in Charlestown must be balanced with consideration for the natural resources that are essential to the Town's quality of life. Charlestown's historic identity and present day charm are intertwined with its natural setting and its roots as a rural, waterfront community. The conservation and protection of key natural resources and sensitive areas will be crucial to preserving the character of Charlestown.

BACKGROUND

Charlestown is situated on the banks of the Northeast River, a tributary of the Chesapeake Bay. Throughout the Town there are areas that are susceptible to environmental degradation due to the presence or proximity of sensitive natural features such as the Critical Area, floodplain, wetlands, wild plant and animal habitats, and forests.

In its most recent Comprehensive Plan, Cecil County forecasts that much of its future growth will occur in and/or adjacent to municipalities. The Plan's future Land Use recommendations include the following:

> "Focusing higher density residential development in the Towns of Cecilton, Charlestown, Chesapeake City, Elkton, North East, Perryville, Port Deposit, and Rising Sun would maximize the use of existing community facilities and infrastructures while preserving the traditional roles of these Towns as community centers. The County should work closely with these Towns to identify parcels with high development potential for residential uses." [1]

Development in and around Charlestown has already compromised the integrity of some of its most important resources and sensitive areas, including contiguous forests and species habitat. Building and clearing activities in areas of highly erodible soils and potentially highly erodible soils have already occurred in two major subdivisions. The Maryland Department of Natural Resources (DNR) delineation of these resources provides little protection against development. Effective local regulations and environmental review are required. While the Town has instituted regulatory controls to protect some of its resources, some of the controls, as in the case of the Forest Conservation Ordinance, were instituted after the resources were already damaged or severely compromised. In other cases protective mechanisms administered for the Town by the County, as in the case of the Erosion, Grading and Sediment Control Ordinance, are not being effectively enforced.

[1] *Cecil County Maryland 1990 Comprehensive Plan*

Currently, there are only minimal mechanisms in place to ensure protection of such sensitive areas as streams, threatened and endangered species habitat, and wetlands. To safeguard all of Charlestown's fragile ecosystems and the animal and plant populations they support, the Town should address the need for their protection though effective public policy and implementation provisions. The Town also should create strategies to replenish lost or depleted natural resources and sensitive areas to the extent possible.

Future development in and around Charlestown should be directed away from sensitive environmental areas and guided towards areas where environmental impacts would be less severe. Regardless of location, all future development should be subject to minimum performance standards for environmental protection and natural resource conservation. Environmentally sensitive building and site-design guidelines that follow the U.S. Green Building Council's LEED (Leadership in Energy and Environmental Design) guidelines should be encouraged to minimize the potential negative impacts of such things as forest and habitat disturbance and stormwater flows on adjacent sensitive areas, aquatic resources and water quality. LEED Homes is a voluntary initiative to actively promote the transformation of the mainstream home building industry towards more sustainable practices.[2] Incentive programs for private citizens to incorporate LEED principles in all home construction, repair and renovation projects should be developed by the Town to educate the public and ensure that the natural environment is disturbed as little as possible by the impacts of the built environment.

SENSITIVE AREAS

The Maryland Economic Growth, Resource Protection and Planning Act of 1992 added the requirement to Article 66B that comprehensive plans contain a Sensitive Areas Element which describes how the jurisdiction will protect the following sensitive areas:

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

In addition, in its 2006 session, the Maryland Legislature passed House Bill 1141 (HB 1141), which included expanding sensitive areas elements of comprehensive plans to include wetlands and agricultural and forest resource protection or conservation areas. Charlestown's sensitive areas and their total acreage are illustrated on Map 6-1, Sensitive Areas, and in Table 6-1.

[2] U.S. Green Building Council LEED website: www.usgbc.org

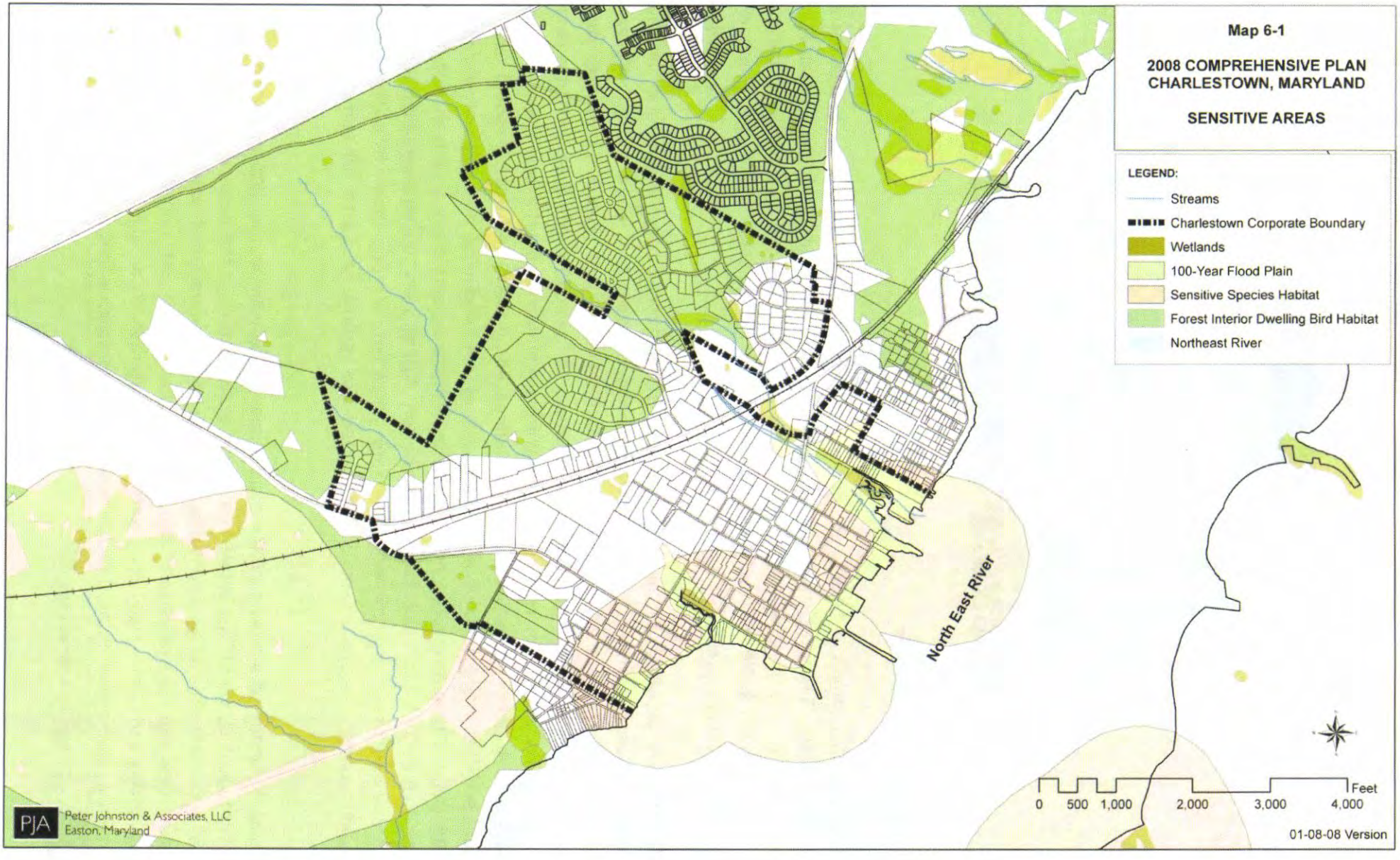

Map 6-1
2008 COMPREHENSIVE PLAN
CHARLESTOWN, MARYLAND
SENSITIVE AREAS
LEGEND:
Streams
Charlestown Corporate Boundary
Wetlands
100-Year Flood Plain
Sensitive Species Habitat
Forest Interior Dwelling Bird Habitat
Northeast River
North East River
0 500 1,000 2,000 3,000 4,000
Feet
01-08-08 Version
PJA
Peter Johnston & Associates, LLC
Easton, Maryland

Table 6-1: Sensitive Areas Acreage	
Sensitive Area	**Acreage**
NWI Wetlands	12.568
Critical Area Limited Development Area	82.737
Critical Area Intensely Developed Area	91.417
100-Year Floodplain	58.108
500-Year Floodplain	64.499
Sensitive Species Group 2 (State Listed)	96.52
Sensitive Species Group 3 (of DNR Concern)	45.563
Forest Interior Dwelling Species	301.399
Total Sensitive Areas	**752.811**

Source: MD Department of Natural Resources

Streams and Stream Buffers

Streams and their adjacent buffers are home to countless species of animals and plants and transport valuable nutrients, minerals and vitamins to rivers and creeks and, in turn, the Chesapeake Bay. Streams also support recreational fishing and serve as spawning areas for commercial fish stock. Floodplains, wetlands, and wooded slopes along streams are all important parts of the stream ecosystem.

As development activity consumes large amounts of land, forest cover and natural vegetation along streams are diminished. The cumulative loss of open space and natural growth reduces the ability of remaining land along streams to buffer the effects of greater stormwater runoff, sedimentation, and higher levels of nutrient pollution. Stream buffers are areas along the lengths of stream banks, established to protect streams from man-made disturbances. The effectiveness of buffers to protect stream water quality 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 (some plants are more effective at nutrient uptake than others), and maintenance of the buffer. Buffers are a "best management technique" that reduces sediment, and nitrogen, phosphorus and other runoff pollutants by acting as a filter, thus minimizing damage to streams. Stream buffers also improve habitat for fish and other stream life.

The basic structure of a stream buffer in an urban setting is broken up into three zones which differ in functions, width, vegetative target, and allowed uses. In the eastern and northwestern United States the streamside zone is often maintained as mature forest, with strict limitations on all other uses. The streamside zone also produces shade and woody debris, which are crucial to stream quality and to the organisms, plants, and animals that rely on streams for food and habitat. The middle zone is typically a 50 to 100 feet wide forested area that is managed to allow some

clearing. The outer zone, usually about 25 feet wide, is ideally forest but also can include turf. The three zone buffer is variable in width and should be increased to allow for protection of special areas such as wetlands and the floodplain.

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.

Streams located in and around Charlestown flow to the Northeast River. While disturbances from development have already occurred along portions of these streams there are lengthy segments that exist in undeveloped areas (mostly north and northwest of the Old Philadelphia Road) that should be protected to prevent further disturbance from the built environment.

Tidal and 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. They are also within the protective jurisdiction of the federal government through the U.S. Army Corps of Engineers.

Palustrine and Estuarine system wetlands can be found within and surrounding the Town of Charlestown. Estuarine system wetlands are tidal wetlands and include deep water tidal habitats and adjacent tidal wetlands and are often partially surrounded by land. Palustrine system wetlands are non-tidal wetlands dominated by trees, shrubs, plants and undergrowth with low salinity and shallow depths (less than 6 feet). Estuarine wetlands can be found along the southern end of the Charlestown Manor subdivision along Red Clay Creek. Palustrine wetlands are widely scattered in areas within the Town and along its edges, however a number are concentrated in the Trinity Woods subdivision. Palustrine wetlands that border tidal wetlands (as they do at the southern end of the Charlestown Manor subdivision) 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.

Floodplain

Flood and flood-related losses are created by inappropriately located structures which are inadequately elevated or otherwise unprotected and vulnerable to floods, or by development which increases flood damage to other lands or development. While protection of life and property provided the initial basis for protection of floodplains, there has been a growing recognition in recent years that limiting disturbances within floodplains can serve a variety of additional 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.

The Charlestown Zoning Ordinance designates its Floodplain District as "all areas subject to inundation by floodwaters of the 100-year frequency, as defined by the United States Department of Housing and Urban Development, Federal Insurance Administration." Areas in Charlestown that are situated within the 100-year floodplain and therefore subject to periodic flooding include properties located adjacent to and slightly inland from the Town's waterfront (see Sensitive Areas Map). Additional floodplain areas are located further inland, in several neighborhoods of Charlestown Manor and Trinity Woods.

Watershed

Charlestown is within the Northeast River watershed, a subwatershed of the Elk River Watershed and part of the Upper Eastern Shore Tributary Strategy watershed. The Northeast River watershed is bounded by the Principio Creek watershed to the west and by the Elk River to the east. Charlestown is located within the tidal segment of the Northeast River; this segment differs from a true estuary in that there is little invasion of salt from the lower Chesapeake Bay for most of the year. The Northeast River watershed has an area of approximately 45,557 acres and is predominately rural in nature, consisting mainly of forest and agricultural. The land uses in the watershed consist of forest and other herbaceous cover (41.1 %), mixed agriculture (41.0%), water (0.3%), and urban areas (17.6%)[3]. Within this rural setting Charlestown and the Town of North East are the major urban areas; the two towns, along with the Northeast River Wastewater Treatment Plant, contain the largest areas of impervious surface in the watershed.[4]

[3] Based on 2000 Maryland Land Use Data
[4] Maryland Department of the Environment

Sensitive Species Habitat

DNR's Wildlife and Heritage Division has identified Sensitive Species Project Review Areas in all Maryland jurisdictions. These areas are delineated to indicate potential threat from environmental impacts due to the proximity of certain sensitive species habitat. DNR designates these areas to provide local governments with information for assessing environmental impacts and reviewing potential development projects or land use changes within these areas.

DNR lists three Sensitive Species Project Review Areas (SSPRA) totaling 977 acres in and around Charlestown. The largest of these is a 645-acre area located just outside the Charlestown corporate boundary, at the southwestern end of Town. This area is designated as a Group 1 Area, containing habitat for federally-listed rare, threatened, and endangered species and rare natural community types.

The second area encompasses about 211 acres in the southeastern part of Town and includes the waterfront. This is a Group 2 Area and contains habitat for State-listed rare, threatened, and endangered species and rare natural community types. The smallest area is located adjacent to the Group 2 Area and extends north along the shoreline and inland about two blocks. This area is 123 acres and is designated as a Group 3 Area, containing species or natural communities of concern to DNR, but with no official status.

Forest Interior Dwelling Species

The forests in and around Charlestown are potential habitat areas for Forest Interior Dwelling Species (FIDS), a group of species that require habitat conditions in the interior of forests for optimal reproduction and survival. DNR identifies potential FIDS habitat areas for all jurisdictions in Maryland. 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 (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: a) highly area-sensitive species, b) riparian forest at least 600 feet in width, c) mature river terrace, ravine, or cove hardwoods, located at least 300 feet from the nearest forest edge, d) at least 5 contiguous acres of old growth forest located at least 300 feet from the nearest forest edge, or e) contiguous forest acreage of greater than 500 acres. A FIDS habitat with contiguous forest greater than 500 acres is designated as Class 1.

Charlestown is surrounded by DNR-designated FIDS habitat, and most of it is Class 1, high quality habitat (see Sensitive Areas Map). The largest area (1,021 acres, with an interior forest area of just under 700 acres) borders the southwestern boundary of the Town and extends into the Town along Route 267 almost to Baltimore Street. A second large area (1,016 acres, with an interior forest area of over 700 acres) extends southward into Town boundaries from the Town's western and northwestern edges almost to the Old Philadelphia Road.

FOREST CONSERVATION

Large areas of forested land can be found throughout Charlestown, particularly in the areas located in the western and northern sections of the Town. Large forested tracts continue out past the perimeters of these areas. Smaller pockets of wooded areas lie adjacent to and between residential neighborhoods, and street trees can be found in the more densely populated areas of the Town and along the waterfront.

The 2004 report "*Vision for the Charlestown of Tomorrow*", prepared by the Town's Strategic Planning Committee, recommended the Town adopt a Tree Planting and Maintenance Program. The program is presently being developed by the Town with the assistance of the County's State Forestry Service Agent.

Green Infrastructure

Maryland's green infrastructure is a network of undeveloped lands that provide the bulk of the State's ecosystem services, such as cleaning the air, filtering water, storing and cycling nutrients, conserving soils, regulating climate, and maintaining hydrologic function. These types of natural support systems are all provided by forests, wetlands, and other natural lands. These ecologically valuable lands also provide marketable goods and services, like forest products, fish and wildlife, and recreation.

The Maryland 2000 Green Infrastructure Assessments (GIA) 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 resources. 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 identified two types of important resource lands - "hubs" and "corridors." Hubs are typically large contiguous areas, separated by major roads and/or human land uses, that contain 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) that support 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).

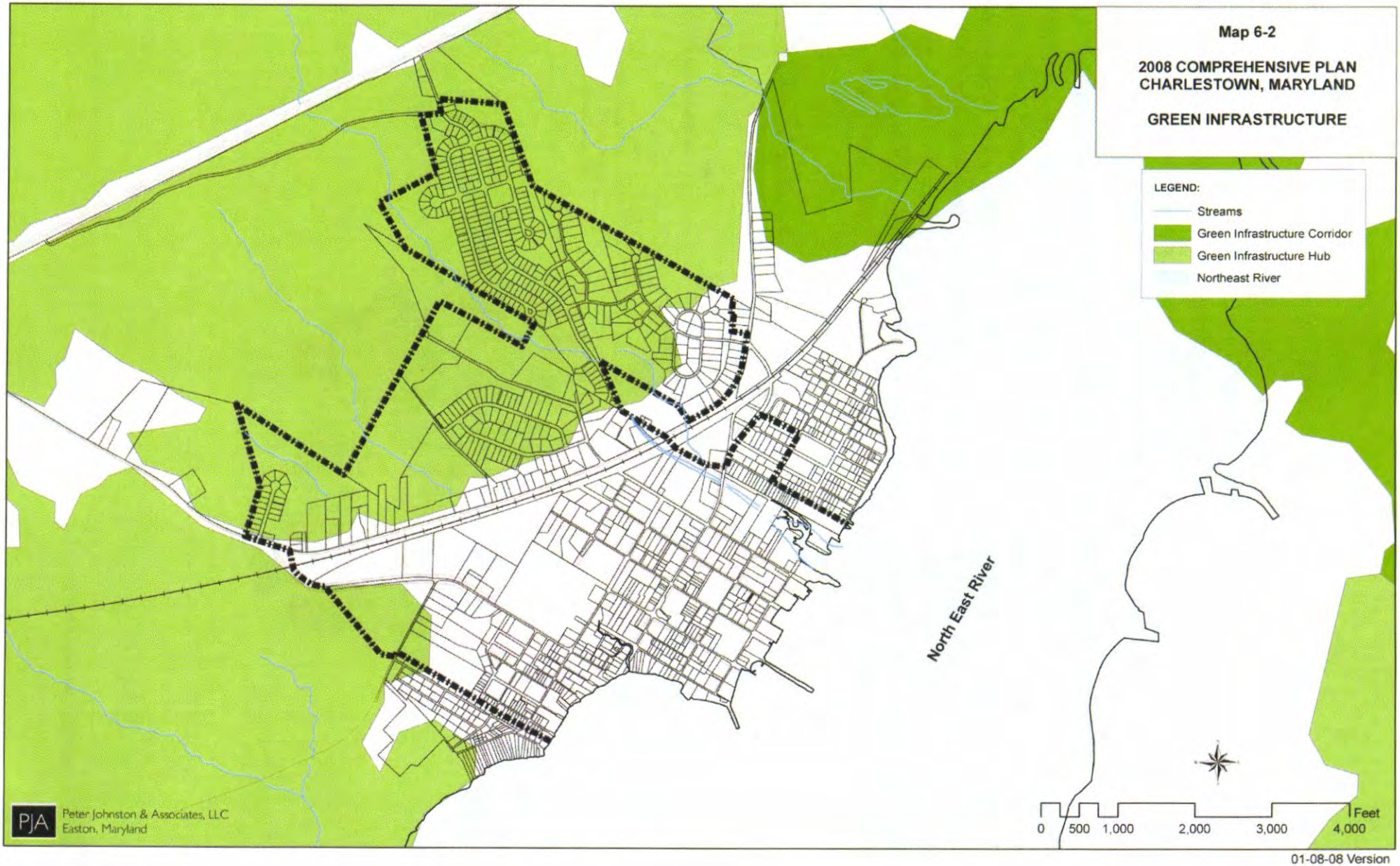
Corridors are linear features connecting hubs together to help animals and plant species to move between hubs. Generally speaking, corridors connect hubs of similar type (hubs containing forests are connected to one another; while those consisting primarily of wetlands are connected to others containing wetlands). Corridors generally follow the best ecological or "most natural" routes between hubs. Typically these are streams with wide riparian buffers and healthy fish communities. Other good wildlife corridors include ridge lines or forested valleys. Developed areas, major roads, and other unsuitable features are not suitable corridors.

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, human disturbance increases, opportunistic edge species replace interior species, and populations of many animals become too small to persist. Therefore, it is important to consider the location of development, particularly if it threatens important green infrastructure.

The 2005 Cecil County Land Preservation, Parks and Recreation Plan identified green infrastructure hubs in the County that have remained intact from development. Some of the largest of these hubs were located west and north of Charlestown in the County's Mineral Extraction District (see Green Infrastructure Map).

The Cecil County Land Use Plan states that the main characteristic of the Mineral Extraction District is that "it protects mineral deposits of economic importance from preemption by development, until the deposits have been mined. After mineral extraction is complete, a special study and possible Plan amendment will determine the future use of the land, taking into account the type and intensity of adjacent land uses and the availability of infrastructure and services."[5] One of the primary goals of the District is to strictly control development in sensitive and critical resource areas to protect natural resources.

[5] *Cecil County, Maryland 1990 Comprehensive Plan*


Map 6-2
2008 COMPREHENSIVE PLAN
CHARLESTOWN, MARYLAND
GREEN INFRASTRUCTURE
LEGEND:
Streams
Green Infrastructure Corridor
Green Infrastructure Hub
Northeast River
North East River
PJA
Peter Johnston & Associates, LLC
Easton, Maryland
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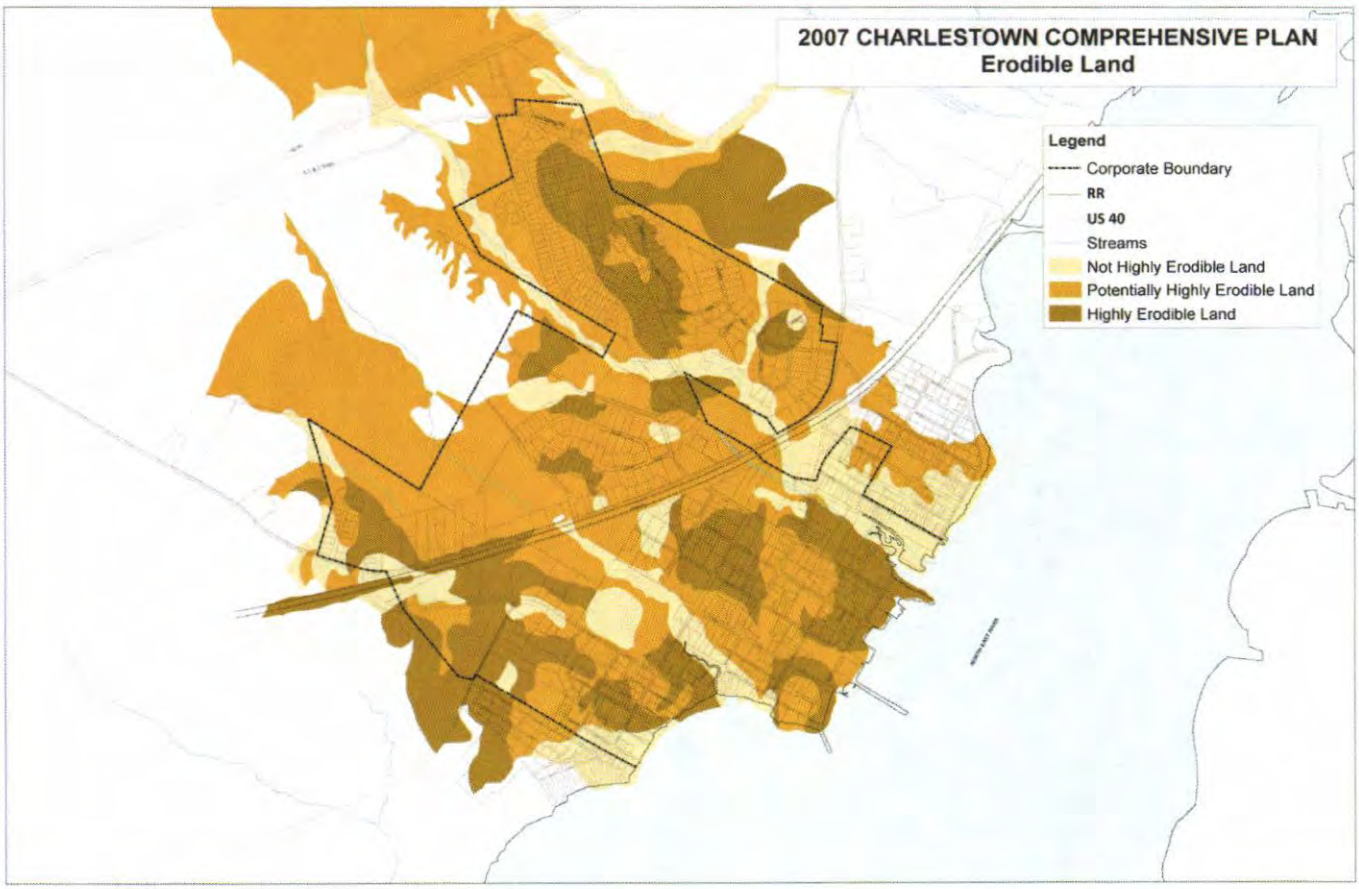
SOILS

The 1973 Soil Survey of Cecil County, published by the National Cooperative Soil Survey (NCSS), identifies the soils in and surrounding Charlestown as predominantly Keyport-Loamy and clayey land-Beltsville association. These Coastal Plain soils are deep and well- to moderately well-drained, nearly level to steep, and range from gravelly loamy sand to clay.

Identifying highly erodible lands is important to conserving soil and maintaining vegetative cover to reduce stream sedimentation. Soil characteristics can determine the suitability of land uses in a specific area, including whether there is capacity for urban development and agriculture. Large areas of highly erodible soils can be found throughout Charlestown, including in the Trinity Woods subdivision and in the northeaster and southwestern quadrants of the Town (see Erodible Land map). Large tracts of highly erodible land can also be found just outside the Town's eastern boundary, in an area of approximately 40 acres lying between Trinity Woods and the Old Philadelphia Road (Route 7), and outside the Town's western boundary just north of Holloway Beach.



Potentially highly erodible soils exist in large areas in and around Charlestown, as well. An area of approximately 150 acres that begins just east of Theresa Lane and north of the old railroad right of way, extends north past the corporate boundary into open land in the County's Mineral Extraction District. Another area of about 75 acres lies along the western boundary of Trinity Woods and extends into the County' Mineral District north of the corporate boundary. Nonpoint source pollution, which is associated with a variety of land-based activities including mining, is the major 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 moving over and through the ground. As this runoff moves, it picks up and carries away 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.[6]

It is very likely that erosion caused by development in and around Charlestown, particularly in areas of erodible soils that are either adjacent to or near streams and ditches, has contributed to nonpoint source pollution in the North East River.

PROTECTED LANDS

Charlestown's protected lands are comprised of conservation easements, parks, and open space (see Protected Lands Map).

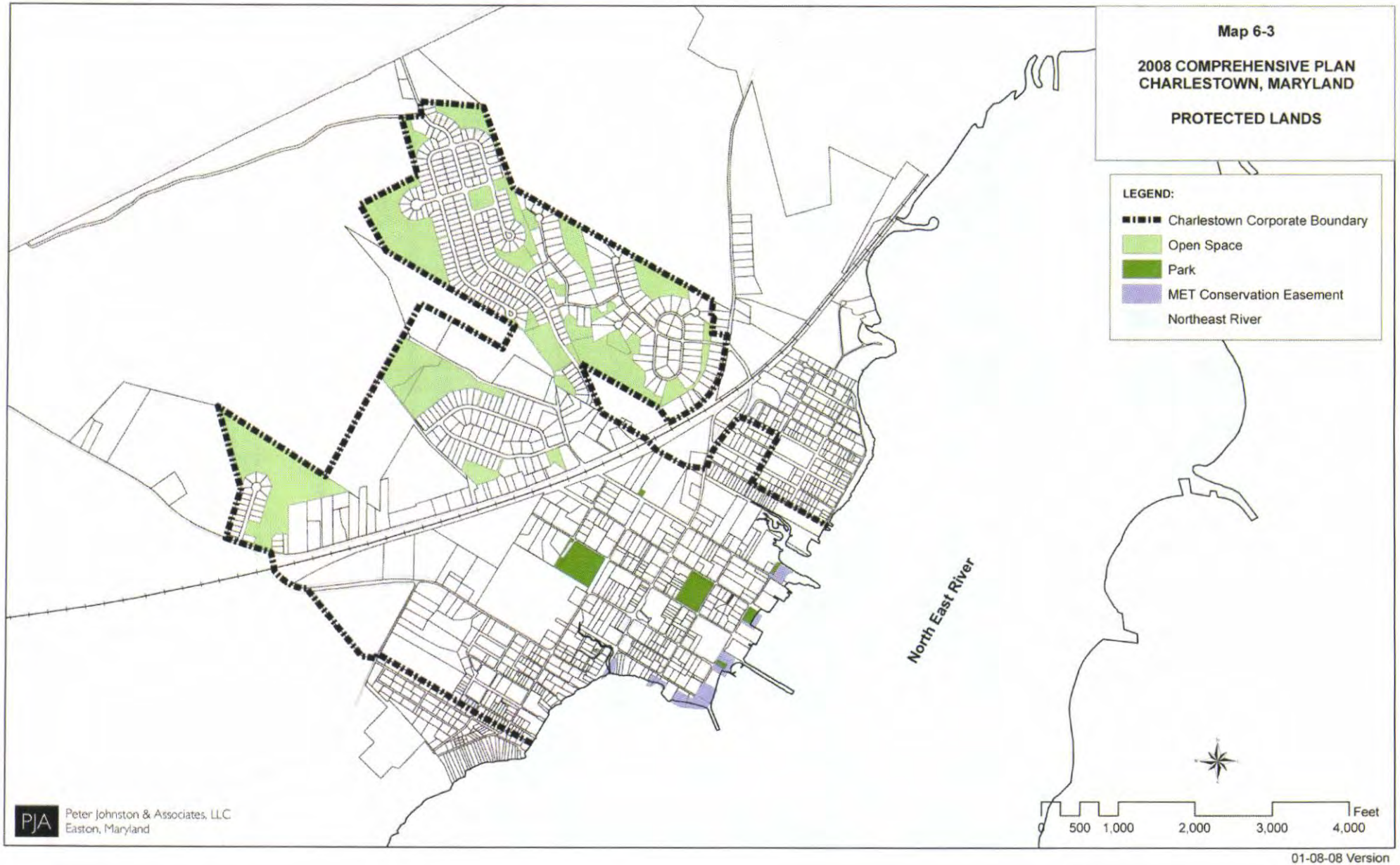
Conservation Easements

In addition to federal, State and local government land preservation programs, private property owners also contribute to efforts to protect valuable resource land. A conservation easement is one of the tools available to landowners to preserve natural resources and open space. A landowner who donates an easement on his property limits the right to develop and subdivide the land, now and in the future, but still remains the owner of the property. A non-profit organization or land trust accepts the easement and agrees to monitor it forever to ensure compliance with its terms. The landowner, in exchange for the donation of the easement, receives significant tax benefits at the Federal, State and local property tax levels.

[6] MD DNR Coastal Zone Management Division, Watershed Services Unit 2003 Annual Report

Charlestown landowners may work with the Maryland Environmental Trust (MET) and The Cecil Land Trust to establish conservation easements on their properties. MET is a statewide land trust governed by a citizen Board of Trustees. It was created by the General Assembly in 1967 to preserve open land in Maryland, including farmland, forest land, and significant natural resources. The Trust's primary tool for doing this is the conservation easement. The Cecil Land Trust is a non-profit charitable organization located in Elkton that provides assistance to Cecil County landowners interested in land conservation.

MET holds conservation easements on 13 properties in Charlestown, totaling 6.6 acres. All of these properties are located on the North East River; 5 are located along Conestoga Street, the remaining 8 are located on Water Street. Three of the properties on Water Street are owned by the Town.


Map 6-3
2008 COMPREHENSIVE PLAN
CHARLESTOWN, MARYLAND
PROTECTED LANDS
LEGEND:
Charlestown Corporate Boundary
Open Space
Park
MET Conservation Easement
Northeast River
North East River
PJA
Peter Johnston & Associates, LLC
Easton, Maryland
0 500 1,000 2,000 3,000 4,000
Feet
01-08-08 Version

Agricultural easements and districts are another mechanism for protecting valuable agricultural land. The Maryland Agricultural Land Preservation Foundation (MALPF) was created in 1977 by the Maryland General Assembly to preserve the State's productive agricultural land and woodland. MALPF works with County governments and private citizens to create Agricultural Easements and Districts where development is limited or prohibited entirely to insure opportunity for continued farming. At present there are no such easements or districts located in or around Charlestown.

Park and Open Space

Parks and open space are also protected lands. Charlestown has about 8.25 acres of park land (for a detailed account of the parks in Charlestown please refer to the Community Facilities chapter) and about 100 acres of open space.

Program Open Space (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. The 100 acres of open space in Charlestown account for about 14 percent of the Town's total land. In Charlestown, open space is the result of subdivision projects, some recently approved. More than one quarter of the Town's total open space, 28 percent, is located in Trinity Woods.

CHESAPEAKE BAY CRITICAL AREA

The Chesapeake Bay Critical Area Protection Program (Natural Resources Article 8-181-8-1816) was passed by the Maryland General Assembly in 1984 because of concern for the decline of the quality and productivity of the waters of the Chesapeake Bay and its tributaries. The decline was found to have resulted, in part, from the cumulative effects of human activity that caused increased levels of pollutants, nutrients, toxins, and also from the decline in more protective land uses such as forest land and agricultural land in the Bay region. The Critical Area includes the Chesapeake Bay, its tributaries to the head of tide, tidal wetlands, plus all land and water within 1,000 feet beyond the landward boundary of these waters and wetlands. The General Assembly enacted the Critical Area law for the following purposes:

- To establish a Resource Protection Program for the Chesapeake Bay and its tributaries by fostering more sensitive development activity for certain shoreline areas so as to minimize damage to water quality and natural habitats; and
- To implement the Resource Protection Program on a cooperative basis between the State and affected local governments, with local governments establishing and implementing their programs in a consistent and uniform manner subject to State criteria and review.

- To achieve these two purposes the law specified the creation of a Commission appointed by the Governor and representing the local jurisdictions, State agencies, and diverse interests. The Commission was charged with developing a specific set of criteria to regulate land use in the Critical Area, and the General Assembly approved these criteria during the 1986 legislative session (COMAR 27.01.01 -27.01.11). Subsequently, the Criteria were used by each of the affected local jurisdictions to prepare their own local Critical Area programs, ordinances, and regulations to manage and regulate land use within the Critical Area.

The goals of the Critical Area program are to accomplish the following:

- To conserve fish, wildlife, and plant habitats; and
- To establish land use policies for development in the Critical Area which accommodate growth and address the fact that even if pollution is controlled, the number, movement, and activities of persons in that area can create adverse environmental impacts.

Charlestown Critical Area Program

In accordance with the Critical Area Act, all of the 60 jurisdictions (16 counties and 44 municipalities) in Maryland within the Critical Area are required to establish land use policies for development that will accommodate growth and minimize the impact of human activities on the Bay. The Town of Charlestown adopted a Critical Area Program along with a series of implementing provisions contained in the Charlestown Zoning Ordinance and Subdivision Regulations in May, 1988. The policies and goals included in the Charlestown Critical Area Program and the specific requirements and standards included in the Charlestown Zoning Ordinance and Subdivision Regulations were developed in accordance with the Critical Area Act and Criteria to accommodate future growth of the Town while addressing the associated environmental impacts.

174 acres of Charlestown are in the Critical Area, nearly a quarter (23.5%) of the total land area of the Town. The predominant land use within the Critical Area is residential, however The Charlestown Critical Area Overlay District (District O) was created to implement zoning regulations and measures designed to protect and enhance water quality and habitat resources located within the Town's Critical Area. The District provides special regulatory protection for the resources located within the Town Critical Area, minimizes negative impacts to water quality and natural habitats, and fosters more sensitive development along shoreline areas.

The Critical Area Overlay District encompasses all lands within and waters located within 1,000 feet of the landward boundaries of all tidal waters, tidal wetlands and tributary streams in the Charlestown Critical Area (see Critical Area Map). The District uses three different land use classifications to effectively implement different performance standards for development and redevelopment in those areas:

- Intensely Developed Areas (IDA);
- Limited Development Areas (LDA); and
- Resource Conservation Areas (RCA)

These land use areas are defined by the Chesapeake Bay Critical Area criteria as follows:

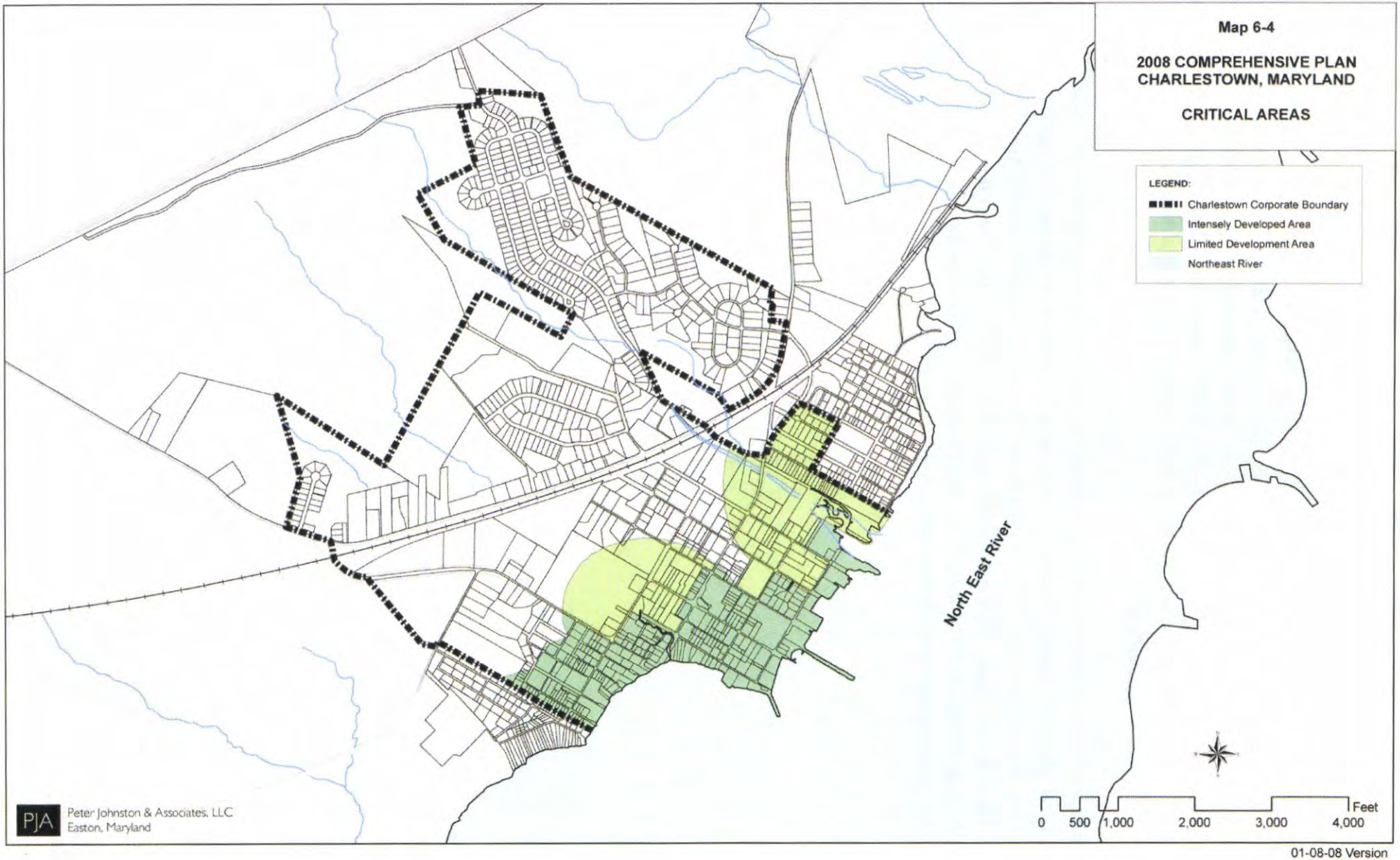
Intensely Developed Area (IDA): IDAs are the most intense land use classification in the Critical Area. In accordance with the Criteria, IDAs are areas where residential, commercial, institutional and/or industrial development is predominant and relatively little natural habitat occurs. In the Charlestown IDA, density and minimum lot sizes are determined by the density regulations of the underlying base zoning districts. There are 91 acres of land in the Charlestown IDA. The IDA is bounded on one side by the Town limits along the North East River and includes 240 properties, 88 percent of which are residential. Density within the IDA is 3.3 buildings per acre and the average lot size is 8,557 square feet. The average lot size within the IDA is .44 acres. The average residential lots size within the IDA is a quarter of an acre.

Limited Development Area (LDA): LDAs are those areas developed in low or moderate intensity uses and contain areas of natural plant and animal habitats. The quality of runoff from these areas has not been substantially altered or impaired. In the LDA, density and minimum lot sizes are determined by the density regulations of the underlying base zoning districts; however, in zoning districts that permit residential use, density may not exceed 3.99 dwelling units per acre. The Charlestown LDA totals 83 acres and contains 70 properties, 86 percent of which are residential.

Resource Conservation Area (RCA): RCAs are areas characterized by nature-dominated environments such as wetlands, forests, and abandoned fields and areas where resource utilization activities (agriculture, forestry, fisheries activities, and aquaculture) take place. In the RCA, residential density may not exceed 1 one dwelling unit per 20 acres, regardless of the density regulations of the underlying base zone. Properties outside of Town limits west of Holloway Beach and north of Charlestown Manor are in the RCA.

The Critical Area Overlay District ordinance establishes development standards for all three land use areas. Development on grandfathered lots must comply with the development standards as much as possible. Development standards include requirements for identifying and protecting environmental and sensitive features located within the Critical Area, including but not limited to plant and wildlife habitat, forests and woodlands, hydric and highly erodible soils, steep slopes, streams, wetlands and shorelines.

The ordinance also establishes a Buffer Management Area within the IDA, LDA and RCA districts of the Critical Area. The Buffer Management Area is a 100-foot wide strip that extends landward from the shoreline boundary of the Critical Area. Because the Town's Critical Area land is entirely within the IDA, the Buffer Management Area is also entirely within the IDA. Development and redevelopment standards for the Buffer Management Area include regulations on existing and new structures, and planting offsets for impervious surfaces.


Map 6-4
2008 COMPREHENSIVE PLAN
CHARLESTOWN, MARYLAND
CRITICAL AREAS
LEGEND:
Charlestown Corporate Boundary
Intensely Developed Area
Limited Development Area
Northeast River
North East River
Peter Johnston & Associates, LLC
Easton, Maryland
PJA
0 500 1,000 2,000 3,000 4,000
Feet
01-08-08 Version

SENSITIVE AREAS POLICIES

Streams and Stream Buffers

Charlestown has established development standards to protect streams and stream buffers in its Critical Area Overlay District and its Subdivision Regulations. These standards require retention or creation of natural buffers along all perennial and intermittent streams. The minimum perennial stream buffers must be expanded to include contiguous one-hundred-year floodplain and nontidal wetlands, hydric soils, highly erodible soils and soils on slopes greater than 15 percent to a maximum distance of 300 feet.

Streams and stream buffers located outside the Critical Area are protected as part of the Town's efforts to assist property owners in complying with current State law governing the protection of wetlands. This law requires an undisturbed 25-foot buffer around non-tidal wetlands. In some cases, wetlands along streams form a natural buffer, and may be more extensive than a standard buffer width of 50 or 75 feet. However, in areas where there are no wetlands adjacent to the stream, little or no buffer may be required. Most recent studies recommend some sort of stream buffer, especially in urbanized or urbanizing areas.

Floodplain

Charlestown adopted a Floodplain Ordinance in 1991 to encourage appropriate construction practices within the floodplain. This protection is achieved through the review of all new development, new construction, and substantial improvements to existing structures in all floodplain zones and by the issuance of permits for those activities that comply with the objectives of the Floodplain Ordinance.

The Ordinance requires development and new construction in the floodplain to meet certain flood protection measures including elevating the first floor of structures at least one foot above flood level and utilizing certified flood-proof construction techniques. Where alternative building sites on a parcel are available for construction outside the 100-year floodplain, then construction in the floodplain is prohibited unless an applicant can proved hardship (other than economic). Improvements that are not substantial are required to be constructed to minimize damage during flooding or be elevated to the greatest extent possible. Proposed floodplain subdivisions must submit plans for maintenance of forest cover, flood protection setbacks, re-vegetation, accommodation of stormwater runoff, and prevention of erosion.

The Charlestown Zoning Ordinance also establishes a Floodplain (FP) District for all areas in the Town subject to flooding during a 100-year flooding event. Within the FP District no modification, alteration, repair or new construction of buildings, structures or fill (or any combination of them) is allowed that would impair its ability to carry and discharge floodwaters or increase the water surface elevation of the 100-year flood by more than one foot. Water supply and sanitary sewage systems in the FP District must be designed to preclude infiltration of floodwaters into the systems and discharges from the systems into floodwaters.

Tidal 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. 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.

Nontidal Wetlands

A twenty-five-foot setback from all nontidal wetlands is required for all development around the extent of the delineated nontidal 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 1991, the State of Maryland enacted the Forest Conservation Act to protect the forests of Maryland 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.

Charlestown adopted its own Forest Conservation Ordinance in 1993. It requires applications for development of areas of 40,000 square feet or more to include a forest stand delineation and forest conservation plan for the lot or parcel on which the development is located (unless the activity is exempted). It also establishes forest conservation thresholds for all land use categories. The forest conservation threshold sets the percentage of the net tract area at which the reforestation requirement changes from a ratio of 1/4 acre planted for each acre removed above the threshold to a ratio of 2 acres planted for each acre removed below the threshold. The Ordinance also requires the retention of contiguous forest that links undeveloped or heavily

vegetated areas within the site; conservation of rare, threatened or endangered species, and preservation of trees, shrubs and plants located in sensitive areas including the 100-year floodplain, streams and stream buffers, steep slopes, nontidal wetlands and critical habitats.

After reasonable efforts to minimize the cutting or clearing of trees and other woody plants have been exhausted in the development of a subdivision, site plan or project plan, grading and sediment control activities, and implementation of the forest conservation plan, the forest conservation plan must provide for reforestation, or payment into the forest conservation fund, consistent with mandated forest conservation thresholds for applicable land use categories (see Table 6-2).

Table 6-2: Forest Conservation Threshold Requirements	
Category of Use	**Threshold Percentage**
Institutional development areas	20 percent
High density residential areas	20 percent
Mixed use and planned unit development areas	15 percent
Commercial and industrial use area	15 percent

Within a development site, riparian stream buffers must be established or expanded to a width of at least 50 feet, and forested corridors must be established or expanded to at least 300 feet to facilitate wildlife movement. Forest buffers adjacent to critical habitats must also be established or enhanced.

Forest buffers are also required adjacent to differing land uses and to highways or utility rights of way. To increase the overall area of contiguous forest, the Town also requires that forested areas be established adjacent to existing forests (two tracts are considered noncontiguous if they are separated by at least 30 feet of non-forested habitat, such as a road, cropland, etc.).

If little or no forest exists in the site, the applicant must conduct afforestation on the lot or parcel. An agriculture or resource area tract having less than 20 percent of the net tract area in forest cover must be afforested up to at least 20 percent of the net tract area. Institutional development areas, high density residential areas, mixed use and planned unit development areas, and commercial and industrial use areas with less than 15 percent of net tract area in forest cover must be afforested up to at least 15 percent of the net tract area. Afforestation and reforestation agreements are secured by bond or other form of approved security for a period of two years.

Charlestown's Strategic Planning Committee 2004 report, *Vision for the Charlestown of Tomorrow*, recommends the adoption of a Town Tree Planting and Maintenance program to promote tree planting within Town limits. The development of an Urban Forestry program would be a more effective way of accomplishing the goal of preserving and enhancing the Town's existing green canopy. Urban Forestry programs have the added benefits of strong citizen involvement and U.S. Forest Service technical and financial assistance, which in turn will enhance the Town's efforts to create, protect, and fund these valuable green resources.

Finally, significant tracts of Forest Interior Dwelling Species (FIDS) habitat are located in areas surrounding the Town's corporate boundary, in locations that are designated as potential growth areas for the Town. While the Town has not established any regulatory mechanisms to protect FIDS habitat, it is recommended that as growth areas are determined and established, specific ordinances be created to address FIDS protection measures as part of the development process.

Habitats of Threatened and Endangered Species

While the Town's Critical Area Overlay District protects wildlife and plant habitats, to ensure the protection and safety of threatened and endangered species habitat within all areas of the Town's jurisdiction, the Charlestown Zoning Ordinance and Subdivision Regulations should include the provisions for the protection of these habitats on all land within the Town limits, including prohibiting development, or requiring protection measures in project designs of proposed construction projects, 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).

Grading, Erosion and Sediment Control

The Town currently has an agreement with Cecil County to adopt the County's Grading, Erosion and Sediment Control Ordinance as its own. The County implements and enforces the ordinance on the behalf of the Town. Applicants must submit an Erosion and Sediment Control Plan to the Cecil 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 are 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.

The County requires a grading permit for any proposed development activity that may:

- Introduce sediment into any watercourse of the County or State;
- Move more than 100 cubic yards of material, or disturb more than 5000 square feet of earth (including basement and pool excavations, pond construction and fill operations in addition to site grading, residential, commercial, industrial development and construction);
- Create undue erosion and sediment damage to lands adjacent to or in the vicinity of the subject site or the stream itself; or
- Involve grading or disturbance in the Critical Area.

Although the Town has adopted these measures to protect sensitive soils, building and clearing activities in areas of highly erodible and potentially highly erodible soils have already occurred in two major subdivisions in Charlestown. A more vigorous effort should be undertaken by the County and the Town to protect further disturbances in areas where the presence of erodible soils is known. In light of the relatively ineffective enforcement efforts of the County (as discussed previously in this Chapter), and to the proximity of the County's Mineral Extraction District to the areas of highly erodible soils within the Town, the Town should consider adopting an independent and more stringent approach to sensitive soils policies and protection efforts.

Stormwater Management

Within the Critical Area, developers are required 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, in the future more emphasis will need to be placed on low impact stormwater management practices and best management practices for reducing non-point source polluting, including:

- Nutrient Management: reduce fertilizer applications to grassed areas and lawns in the Town.
- Forested Buffers: establish, maintain, or expand linear wooded areas along rivers and streams to help filter nutrients, sediments and other pollutants in runoff.
- Stream Restoration: improve habitat and water quality in degraded urban streams. The Town should initiate a Town-wide "stream walk", an on-the-ground review of streams and other waterways located within Town limits, to determine where stream quality is diminished or threatened. Streams in need of restoration typically are characterized by destabilized stream channels and eroded stream banks. This effort should be coordinated with the regional

Tributary Strategy representative. A stream walk should be conducted as an annual event to ensure that restoration efforts are effective and to evaluate if additional measures may be required. This program would be an excellent vehicle for public involvement in Town conservation efforts. Residents, groups, and students can participate in stream restoration projects by "adopting" a stream or waterway and learning, then implementing, best management practices to protect streams and reduce pollutant loading in the Chesapeake Bay.

- Reduce Impervious Cover: Work with developers, homeowners associations and individual homeowners to implement techniques such as clustered houses, narrow streets, reduced parking lot areas, shared driveways, pervious paving materials, and other techniques.

Finally, new development and 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.

Chesapeake Bay Tributary Strategy

Maryland, along with its partners, "has committed to develop a new Tributary Strategy that will achieve the nutrient reduction goals established in the *Chesapeake 2000 Agreement* and restore living resources in the Bay and its tributaries. This strategy includes basin specific nutrient and sediment control actions necessary to reduce nutrient pollution from every source, including agricultural fields, urban and suburban lands, and waste water treatment plants. These ten basin specific plans are referred to collectively as Maryland's Tributary Strategy or the Tributary Strategies.

Maryland' has 10 tributary teams that play an important role on many fronts of the bay restoration efforts. Appointed by the Governor, the Teams meet monthly and are comprised of citizens, farmers, business, and local government volunteers. Primarily, the teams focus on developing and implementing the tributary strategies, including policy, restoration, outreach and education activities.

Charlestown is located in the Upper Eastern Shore basin which drains approximately 960 square miles of land, including all of Kent County and portions of Cecil, Queen Anne's, and Talbot Counties in the Upper Eastern portion of the State. Major water bodies, include the Miles, Chester, Elk, Bohemia, Sassafras, and Northeast Rivers. There are numerous tributary creeks and several large embayments (Eastern Bay, Prospect Bay, Crab Alley Bay). Back Creek forms the western end of the Chesapeake and Delaware Canal.

The urban strategy [for the Chesapeake Bay and tributaries] acknowledges that urban development, impervious surfaces and sprawl development have a profound influence on the quality of Maryland's waters. The strategy includes a plan to address these impacts through stormwater treatment of developed land, reduction of nitrogen from septic sources and a sound land use strategy".[7]

Many of the recommendations in the Charlestown Comprehensive Plan directly support the Chesapeake Bay Tributary Strategy. These include forested buffers, stream restoration, stormwater retrofits, enhanced stormwater management design and other measures to manage nutrients in urban development. Assuming the County and municipalities in the watershed can effectively coordinate their land use planning, they also can claim "sound land use strategy" as well.

[7] Maryland's Tributary Strategy, Executive Summary 2004 Tributary Strategy Executive Summary Sept 2004)

Chapter 7 Community Facilities

Public services and facilities provided by Charlestown 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 in order to anticipate when and where facility expansion will be needed.

BACKGROUND

Preparation of a Community Facilities element in the Comprehensive Plan is a preliminary step in addressing supply and demand for community facilities and services including education and recreation facilities, police and emergency services, roads, streets and sidewalks, and water and sewer service. This element of the Comprehensive Plan examines existing community facilities and services. The Municipal Growth Element of this Plan recommends actions the Town should take to insure adequate community facilities and services are available to meet the needs of future populations.

COMMUNITY FACILITIES INVENTORY

Town Hall and Government

The Charlestown Town Hall is located on Market Street and houses the offices of the Town Administrator and Town Clerk. Town Boards and Commissions hold regular, public meetings at the Town Hall. Charlestown has an elected board of five Town Commissioners who each serve a 2-year term. Commissioners are volunteers and are not compensated for sitting on the board. Town elections are held on the second Monday of January each year with two Commissioner seats open one year and three seats open the next. After they are sworn in, the Commissioners vote for officers. Town Commission meetings are held in the Town Hall every second and fourth Tuesday each month. The Town encourages all residents to take an active part in Town government and attend Town meetings. Additional Town boards and commissions include:

- Planning and Zoning Commission;
- Historic District Commission;
- Board of Appeals;
- Ethics Commission; and
- Election Board

Postal Service

Charlestown is a registered postal zone of the United States Post Office (21914). The Post Office is located at the Town Hall on Market Street. The 2004 Strategic Planning Committee report, *Vision for the Charlestown of Tomorrow*, recommends that every resident of Charlestown acquire a Post Office Box.

Police Protection

Police protection in Charlestown is provided by the Cecil County Sheriff's Department and the Maryland State Police. The Sheriff's office is located in Elkton, the State Police have barracks located in the towns of North East and Perryville.

Emergency Services

Fire protection in Charlestown is provided by the Charlestown Fire Company, Inc., an all-volunteer organization. Established in 1948, the company's station is located on Market Street. A $1.3 million building project was recently completed to upgrade the station's fire and emergency medical services. The department's fleet of emergency vehicles includes:

- 1 Engine/Rescue with Hurst (Jaws of Life) equipment;
- 1 Engine/Pumper;
- 1 Utility Pickup;
- 1 Brush Truck, and
- 1 ALS Ambulance

The Charlestown Fire Company also provides basic life support (BLS) and emergency medical services (EMS), along with Advanced Life Support (ALS) in conjunction with Cecil County's ALS/EMS service.

Trash Removal and Recycling

The Town has a municipal trash removal service which operates on Mondays. Town maintenance workers will also pick up recyclable materials but the Town does not have a mandated recycling program.

Parks and Recreation

Charlestown contains 118 acres of park and open space land; of that total, 8.25 acres are dedicated public parks, including the Charlestown Athletic Complex, the Stone Wharf, Veteran's Park, Fair Green Park, and Trinity Woods Park. A .3-acre undeveloped park site, Charlestown Meadows, is also located in the Town. [1]

The Athletic Complex, located on the corner of Cecil and Frederick Street, adjacent to Charlestown Elementary School, is a 4.8 acre site with basketball and tennis courts, a ball field, a multi-purpose playing field and 3 tot lots. A short (.3 mile) trail is also located on the site.
Fair Green Park, located on Bladen Street behind the Town Hall, about two blocks from the waterfront, is a .4-acre neighborhood park with a half basketball court, picnic pavilion and a tot lot. Maryland Project Open Space (POS) funds were recently awarded to the Town for construction of fencing around the park.

The Stone Wharf is a .4-acre waterfront mini-park located at the foot of Frederick Street. Built on the cribbing of the Town's original wharf, it is open to the public for "free" fishing (i.e., fishing license not required).

Veteran's Park is a .5-acre, waterfront park with a boat ramp and small shoreline that provide public access to the water. Picnic tables and a picnic pavilion are also located on the site.
Trinity Woods Park is a .25-acre open space area in the Trinity Woods subdivision. The Town will begin development of the park (a basketball court and playground equipment are planned) with funds secured from the Town and a 2005 POS grant.

Charlestown Elementary School contains recreation facilities on the school's 1.6 acre grounds, including a basketball court, a ball field, a multi-purpose playing field, and 2 tot lots.

Schools

The only school located within the Town of Charlestown is Charlestown Elementary School, on Baltimore Street. Students in pre-Kindergarten through 5th grade are enrolled in the school, which serves the children of Charlestown as well as children who live in unincorporated areas surrounding the Town. Charlestown Elementary was built in 1959 and an addition was constructed in 1998. Both the 1959 and 1998 sections of the school underwent extensive renovations in 2003-4. An additional 25,397 square feet of facility space, including classrooms and a new gymnasium, were added to the facility at that time, bringing the school's size to just over

[1] Source: *Cecil County 2005 Land Preservation, Parks and Recreation Plan*

42,500 square feet. The physical condition of the school was rated "very good" in the 2008 Cecil Public Schools Master Plan.

The State of Maryland evaluates the functional student capacity of each public school in the State and assigns a State Rated Capacity (SRC) for each school based on its evaluation. SRC is defined as "the maximum number of students that reasonably can be accommodated in a facility without significantly hampering delivery of the educational program.[2]" A percentage of utilization based on a school's SRC is then used as a criterion for evaluating whether that particular school is overcrowded such that relief is needed and provision of additional space may be warranted. For example, a school that is 100 percent utilized has reached its SRC. A utilization percentage over 100 percent indicates that the school has surpassed its student capacity and is overcrowded. The higher the percentage over 100, the more overcrowded a school is.

In September, 2006, full-time enrollment at Charlestown Elementary School was 196 students. The School has an SRC of 292, putting it at 67 percent of capacity for the 2006-2007 school year. This indicates that the size of the school is adequate to serve the needs of students who attend it.

Older students in Charlestown attend North East Middle and High schools or Perryville Middle and High schools, depending on where they live in Charlestown. All of these schools are operating at or over their State Rated Capacities (see Table 7-1).

Table 7-1: Capacity of Schools Serving Charlestown

School	Full-Time Enrollment	State Rated Capacity	Percent Utilized
Charlestown Elementary	196	292	67%
North East Middle	831	712	117%
Perryville Middle	686	688	100%
North East High	1114	1009	113%
Perryville High	972	860	129%

Source: *2008 Cecil Public Schools Master Plan – September 2006.*

The Cecil Public School Capital Improvements Plan contains projections for Charlestown Elementary enrollment over the next ten years (see Table 7-2). At year ten, enrollment is projected to be 262 students, which will place it at 90 percent capacity, still within the range of the school's functional capacity.

[2] Maryland State Department of Education

Table 7-2: Charlestown Elementary School Projected Student Enrollments							
Grade	**Actual**	**Year 1**	**Year 2**	**Year 3**	**Year 4**	**Year 5**	**Year 10**
PRE-K	20	20	20	20	20	20	20
KINDERGARTEN	29	30	30	30	30	30	33
1st Grade	37	30	30	28	36	36	38
2nd Grade	32	35	30	30	30	39	41
3rd Grade	35	33	35	30	30	30	41
4th Grade	29	35	32	35	32	32	42
5th Grade	24	29	36	32	39	36	47
TOTAL	**206**	**212**	**213**	**205**	**217**	**223**	**262**

Note: Figures include full-time and part-time enrollments
Source: *2008 Cecil Public Schools Master Plan*

Library

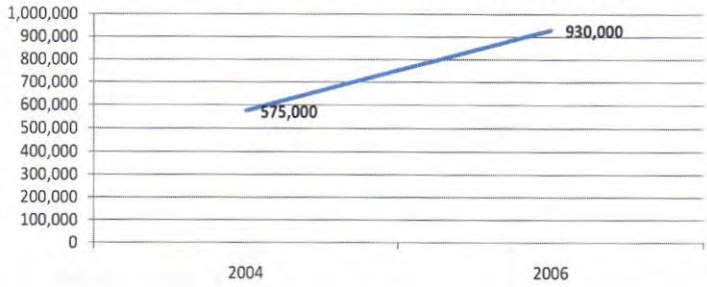
Residents of Charlestown have access to two County public library branches that are located within easy driving distance of Charlestown, in the towns of North East and Perryville. Ground was broken in July, 2006 for a new facility for the Perryville branch library. The library was formerly housed in a 2,000 square foot building. The new facility will occupy a 15,000 square foot building with a geothermal heating system and state-of-the-art information technology. The new facility is scheduled to open in January of 2008.

Water and Sewer Service

The Charlestown water system is comprised of three wells, although only two are used regularly. The third well is used to provide supplemental service as needed. The Town's water supply is treated for iron removal, pH adjustment, and disinfection. Storage is currently provided with a 500,000 gallon elevated storage tank. In 2004, the permitted capacities of the system were 157,000 gallons per day (gpd) average daily flow and 250,000 gpd maximum daily flow. In 2004, demand on the system was approximately 85,000 gpd.

Sewer service in Charlestown is provided by the County-owned Northeast River Advanced Wastewater Treatment Plant (WWTP), located at Seneca Point on the Northeast River. The plant has a design capacity of 2.0 mgd and a permit capacity of 1.2 mgd. In 2006, it was operating at approximately 0.930 mgd (930,000 gpd). Recent improvements to the plant included new oxidation ditches, improved solids handling facilities, new ultra-violet disinfection units and, in 2005, an upgrade to biological nutrient removal (BNR) treatment level. When the plant is upgraded to Enriched Nutrient Removal (ENR) the plant's permitted capacity will increase to 2.67 mgd.

Figure 1: Northeast River WWTP Gallons Per Day Influent Sewage 2004-2006



Sources: Maryland Department of the Environment, Charlestown Town Commissioners

Chapter 8 Water Resources

The Charlestown Comprehensive Plan's "Water Resources Element" (WRE) is a mandated requirement of Maryland House Bill 1141 (HB 1141). The purpose of the WRE is to provide additional layers of planning for water resources in relation to existing use and proposed use, based on an analysis of growth and development trends.

BACKGROUND

The Charlestown WRE is directly linked to the following Plan elements: 1) the Land Use Plan; 2) the Municipal Growth Element; 3) Community Facilities; and 4) Resource Conservation. The Charlestown WRE addresses three major areas including water (both supply and quality), wastewater treatment and discharge, and stormwater management. 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 coordinated management strategies.

"Appendix 1: Water Resources Technical Supplement" contains detailed information regarding water resources in the Charlestown vicinity. The Technical Supplement was prepared by Earth Data Incorporated (EDI). EDI is a field-oriented hydrogeologic and environmental consulting firm with more than 30 years of experience evaluating, optimizing, and predicting impacts to the groundwater resources of the State of Maryland.

CHARLESTOWN WATER RESOURCES

Hydrogeologic Setting

The Town of Charlestown, Maryland is located within the Atlantic Coastal Plain Physiographic Province. The Coastal Plain is underlain by a thick wedge of sedimentary deposits consisting of sands, silts, gravels and clays that dip and thicken toward the Atlantic Ocean. Based on data from the deepest wells in the area and from selected reports, approximately 150 feet of Coastal Plain sediments occur above the crystalline basement bedrock complex in the vicinity of Charlestown.[1]

[1] Hansen, 1978

The Town of Charlestown and the immediate surrounding area lies within the outcrop area of the Cretaceous sediments of the non-marine Potomac Group.[2] The Potomac Group is characterized by inter-bedded gravelly sand, sand, silt and clay. Aquifers in the Potomac group are used for water supply from Cecil to Charles Counties. Residential and commercial users of groundwater in the Charlestown area primarily draw water from wells that access the Potomac aquifer.

Charlestown Water System

The Charlestown water system is comprised of three wells. Two of these are used regularly, while the third well is used to provide supplemental service as needed. Construction details of the wells, obtained from well completion reports filed with Maryland Department of the Environment (MDE), are summarized in Table 8-1.

Table 8-1: Charlestown Wells

Classification	Athletic Field Well	Cecil Street Well
Well Permit No.	CE88-1910	CE88-2612
Year Drilled	1991	1992
Well Diameter	6-inch	6-inch
Total Depth	132 feet	144 feet
Screen Interval	100'-132'	118'-143'
Reported Capacity	100 gpm	100 gpm

Source: Earth Data Inc.; Maryland Department of the Environment

The general hydrogeology in the vicinity of the Town of Charlestown, as shown in Table 8-1, is based on a review of existing literature on the local geology along with the geophysical logs and driller's logs from recent test well drilling in the vicinity. The Town's water supply is treated for iron removal, pH adjustment, and disinfection. Storage is currently provided with a 500,000 gallon elevated storage tank.

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.

[2] Higgins and Conant, 1990

The current Groundwater Appropriation Permit (GAP) (CE1988G087/03) for the Town of Charlestown issued by MDE authorizes the annual average withdrawal of 207,000 gallons per day (gpd) and 300,000 gpd during the month of maximum use from two wells completed in the lower Potomac aquifer. A modest increase to the permit was approved by MDE in 2005. The current permit is set to expire on September 1, 2017.

In the five year period from 2003 to 2007 the Town's annual water use has been fairly steady and has averaged approximately 32.75 million gallons per year. Withdrawals in 2005 were the highest at 35.84 million gallons. For the same period annual withdrawals averaged approximately 90,000 gallons per day (gpd), and withdrawals during the month of maximum use averaged approximately 108,600 gpd. Both values are well below the maximum withdrawals allowed under the Town's current GAP.[3]

According to the 2004 *Cecil County Water and Sewer Master Plan* (2004 Water & Sewer Plan), Charlestown estimated that proposed developments requesting service in 2004, and existing developed areas requesting service, would result in a demand of approximately 152,000 gpd within 0 to 5 years (2004 to 2009). This would have meant an increase of 36% in demand and would have utilized 97% of the system's permitted gpd capacity for average daily flow. At the time, the Town anticipated that providing water service to a proposed large subdivision would require an additional storage tower, more wells, and treatment facilities.[4] The subdivision, "Charlestown Crossing," ultimately chose to provide water and sewer service to residents through a privately-owned water system (Principio Water Company).

Additional water service in the Charlestown area is provided by the Principio Water Company. According to the 2004 Water and Sewer Plan, the water company will construct improvements to its system to serve the residences and businesses in Charlestown Crossing and the Principio Business Park. The improvements will include additional storage capacity of up to 1.5 million gallons or more, additional wells, pumping facilities, and additional lines to distribute up to 1.0 million gallons per day (mgd). Connections to other municipal and private systems are being considered to improve the regional distribution of water in the area and a reservoir may be added to provide additional storage. The completed system will be able to serve anticipated residential and commercial/industrial connections in the service area.[5]

[3] Earth Data Incorporated, 2008
[4] *2004 Cecil County Master Water and Sewer Plan*
[5] Ibid

The 2004 Water and Sewer Plan recommends the area located on the peninsula of land between the North East and Elk rivers as the best potential site in the 5th Election District (in which Charlestown is located) for wells. Other potential well sites in the district are located along the north side of the district, north of Theodore Road, which may have sites that would yield 50 to 100 gpm (72,000 to 144,000 gpd), and north of U.S. Route 40. However it is unlikely that wells greater than 5 to 10 gpm (7,200 to 14,000 gpd) can be developed in that area.[6]

Projected Water Demand - Charlestown

To calculate future demand on Charlestown's water system, a per-household water usage multiplier of 250 gpd (MDE estimate of single family household daily water usage) was used with projected dwelling unit totals for the Town. Water demand is based on existing dwellings as well as potential units, which may be built through infill development of vacant and underutilized lots within the current municipal boundary (see Table 8-2).

According to an analysis of water resources in the Charlestown vicinity performed by EDI, groundwater resources and the Town's current level of permitted withdrawals are adequate to meet the increased demands that will result from projected growth within the current corporate limits through the year 2025. Related to Charlestown's GAP increase, MDE determined that annual average withdrawals of 207,000 gpd and 300,000 gpd during the month of maximum use were reasonable and that no significant negative impacts would occur to the aquifer resource or neighboring water users.

Table 8-2: Charlestown Projected Water Demand
Based on Population Growth Within the Corporate Boundary (Including Infill Development)

Classification	2000	2010	2015	2020	2025	Increase 2000-2025
Population	1,019	1,196	1,664	1,869	2,075	1,056
Dwellings	379	453	640	730	820	441
Water GPD	94,750	113,250	160,000	182,500	205,000	110,250
% average daily flow capacity	46%	55%	77%	88%	99%	71%
% maximum daily flow	32%	38%	53%	61%	68%	

Notes:
Population projections assume average household size will decrease commensurate with MDP's projected trend in average household size for Cecil County.
Population totals include growth of existing population plus increased population as a result of infill development.
Average daily flow capacity/maximum daily flow: 207,000 gpd/300,000 (2005 Water Appropriation Permit)

[6] Ibid

Table 8-2 illustrates that by 2025, projected water usage will be at 99% of the system's average daily flow capacity. As noted in the County's 2004 Water & Sewer Plan, significant increases in demand will require additional storage capacity and expansion of water treatment facilities. EDI further notes that additional production wells will need to be drilled in order to meet the increased water supply demands and provide adequate reserve capacity. Due to the relatively shallow nature of the lower Potomac aquifer and somewhat limited available drawdown, it is very important that new wells be properly located (spaced apart), designed and constructed so as to minimize drawdown in the wells and interference impacts with other groundwater supplies.[7]

Expansions to the water system should be made by 2025 to accommodate growth that may occur after the planning period (2025). In addition to system expansion, a critical review of existing facilities may be needed to determine if repairs or improvements can be made to conserve or increase the current water supply. A feasibility analysis may need to be conducted to ascertain whether the system is capable of handling increased flows. Studies related to water supply, distribution and treatment capacity should be started on about the time the systems reach 75 percent of capacity.

Table 8-3: Growth Area – Projected Water Demand

GROWTH AREA (1056 Acres)	Scenario 1	Scenario 2
Dwelling Units	2,200	5,704
Population	5,808	15,057
Water (GPD)	550,000	1,425,891
- percent of average daily capacity (207,000 gpd)	266%	689%
- percent of maximum daily flow (300,000 gpd)	183%	475%

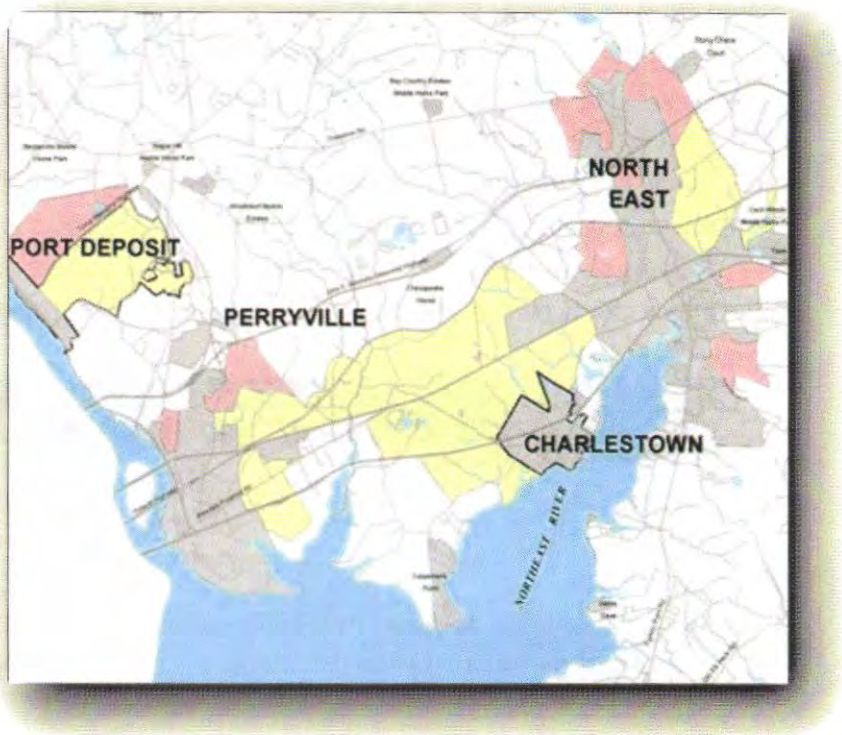
Notes:
Lots/dwelling unit totals based on lot size assumptions of 21,780 sq.ft. for Scenario 1 and 8,000 sq.ft. for Scenario 2 (Smart Growth). Population projections assume average household size will decrease to 2.53 persons commensurate with MDP's projected trend in average household size for Cecil County

Sources:
MDP Municipal Growth Element Model (Scenario dwelling unit yield, sewer/water gpd demand estimates);
2005 Water Appropriation Permit (average daily capacity and maximum daily flow)

[7] Earth Data Incorporated, 2008

Development in the growth area is not anticipated in the planning period prior to 2025. Table 8-3 illustrates potential Charlestown growth as derived from the growth area defined in the Municipal Growth element of this Plan. Two scenarios are used to project population in the growth area based on number of lots/dwelling units. As seen in Table 8-3, and according to EDI, based on the limited hydrogeologic data that exists for the lower Potomac aquifer in the vicinity of Charlestown, it appears there will not be adequate groundwater resources to support Scenario 1 development in the growth area through the year 2025.

Figure 1 Cecil County Water Service Areas



The magnitude of the Scenario 2 increase is such that existing data will not support a reasonable conclusion regarding the suitability of the aquifer resource to meet the demand. In both instances additional study of the area's groundwater resources, including test drilling and pumping, would be required before a final conclusion could be reached regarding future groundwater availability to meet possible demands.

It is important to note that the ability of Charlestown to obtain modifications to their groundwater appropriation permit (GAP) to potentially meet Scenario 1 water supply demands in their defined growth area is directly related to additional future competition for groundwater resources from other municipalities and private water companies. In addition, several new production wells will need to be drilled in order to meet the daily demand and reserve capacity requirements. The importance of future production well location and design cannot be overstated.

Future Water Service Charlestown

Future Water Service Areas in the Charlestown vicinity are depicted in Figure 1 above.[8]. Areas in gray are existing service areas (W-1). This service classification is somewhat

[8] Excerpted: Water Service Areas Map, *2004 Cecil County Master Water and Sewer Plan.*

misleading in regards to Charlestown. Some of the Town is currently served, however additional water demand will occur as infill development takes place.

Areas in yellow are W-2 service areas, which are projected to have water service in 0 to 5 years (2004 Water & Sewer Plan); areas in pink are W-3 service areas, which are projected to have water service in 6 to 10 years (2004 Water & Sewer Plan). The significant implications of these maps are that the County plans on providing water service to what is now a designated "Mineral Extraction" zone. This reinforces the assumption that the "reuse" of land for these areas will be for some form of urban land use (development). As per this assumption, the size of the W-2 service area implies that growth in the Cecil County portion of the service area and in Charlestown will exceed current storage and distribution capacity and significant service expansion will likely be required.

Meeting the water supply and distribution demands in the region will require that the Town work with neighboring water suppliers and the County to review alternative solutions, including connections to other municipal and private systems to improve the regional distribution of water in the area (as discussed in the County's 2004 Water and Sewer Master Plan).

Long-term strategies will need to be developed to accommodate future water needs (beyond 2025), including the water demand anticipated for the Charlestown Growth Area (see Table 8-3) as well as demand associated with development in the County's Development District. The Town should explore alternative strategies for ensuring an adequate, reliable supply of water, including expanding the municipal water system (and where applicable, requiring developers to fund expansions to the water system necessary to support their development), purchasing water from regional water suppliers, creating regulations requiring that recharge areas for new groundwater sources be protected from development, and conducting annual evaluations of existing facilities to insure that maximum efficiency levels are being met.

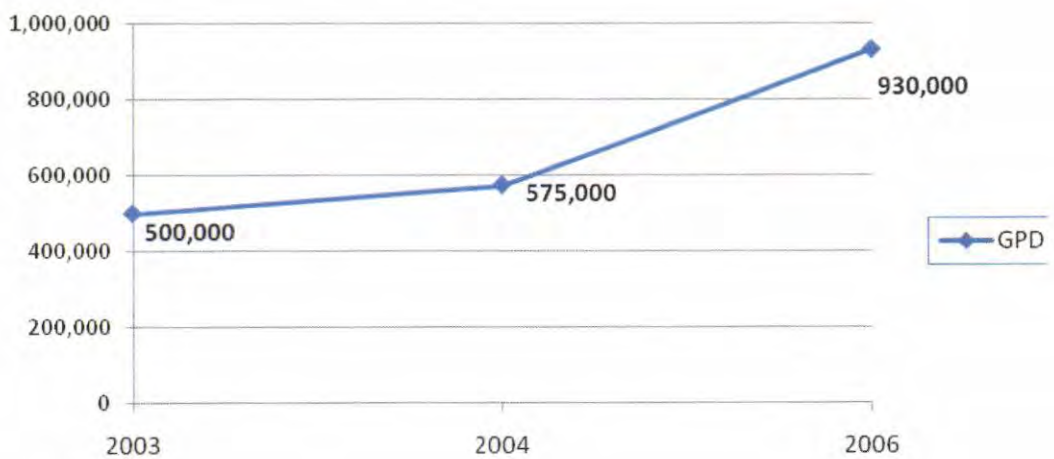
NORTHEAST RIVER WASTEWATER TREATMENT PLANT

Sewer service in Charlestown is provided by the County-owned Northeast River Wastewater Treatment Plant (WWTP), located at Seneca Point on the Northeast River. The plant has a design capacity of 2.0 mgd and a permit capacity of 1.2 mgd. In 2004, the Master Water and Sewer Plan reported that the Northeast River WWTP served the towns of North East and Charlestown, the I-95 North Service Center, Cecil County Community College, Bay View Elementary School, Cecil County Vocational Center, North East Commercial Plaza, Peninsula and North East Commerce Center Industrial Parks, numerous communities in the County, and the Cecil County Central Landfill leachate system.

Background

At the time (2004), the plant was operating at approximately 0.575 mgd, an increase of 75,000 gpd over the plant's 2003 flow. Most recent improvements to the WWTP included an upgrade in 2005 to Biological Nutrient Removal (BNR), new oxidation ditches, improved solids handling facilities, and new ultra-violet disinfection units. These upgrades did not increase the plant's design capacity of 2.0 mgd. However, with minor design changes, the plant's BNR technology can obtain Enhanced Nutrient Removal (ENR) levels of treatment[9]. Under the MDE's nutrient caps, the maximum capacity of the Northeast River WWTP (2.67 mgd) may be reached when the plant is upgraded to ENR treatment level. In 2006, the Northeast River WWTP plant was operating at approximately 0.930 mgd.

Figure 2: Northeast River WWTP GPD Influent Sewage 2003-2006



Sources: *2004 Cecil County Water and Sewer Master Plan*, Cecil County Commissioners

[9] Maryland Department of the Environment, November 2007

The 2007 *Base Realignment and Closure (BRAC) Action Plan* identifies a need to improve water and sewer facilities in Cecil County, particularly in the designated Growth Areas:

> "The public utilities infrastructure located within the Growth Area (however defined) is inadequate to permit the County to commence to channel high-density residential development within that area and away from private-well-and-septic development in the rural tier. The development of regional public utility and infrastructure within the Growth Area is therefore critical, both to provide incentives for development but, just as important, to take pressure off of growth in the rural tier. There is a consensus that the lack of water and sewer service within the Growth Area will also severely impede the efficient development of commercially and industrially zoned land there, and that a regional water and sewer authority should be established to develop such infrastructure."[10]

The 2006/2007 *Cecil County State of the County Report* noted that the 2.67 mgd cap on the Northeast River WWTP capacity "will hinder county efforts to provide waste water infrastructure in the growth corridor." In a resolution approved by the Cecil County Commissioners to upgrade the plant's capacity allocation between residential and commercial or industrial uses in September 2006, the plant's average daily flow was noted as approximately 0.93 mgd, an increase of 355,000 gpd over the plant's 2004 flow. The resolution established two WWTP usage classifications: (a) Industrial and Commercial use; and (b) Residential use. The allocation of the plant's remaining capability among the two categories was established at 191,000 gallons per day (gpd) for industrial and commercial use and 879,000 gpd for residential use. Some 80,000 gpd were reserved for projects granted "Fast Track" designation by the Cecil County Commissioners.

The Report further notes that, while MDE denied the County's request to use the Northern Agricultural Residential (NAR) and Southern Agricultural Residential (SAR) down zoning to gain credits to expand the Northeast River WWTP capacity, MDE intends to establish a "credit program" wherein jurisdictions can earn credits that can be used to expand WWTP capacities by undertaking projects that will reduce nutrient or other pollution loading in the Bay. However, it is likely that credit transfers will be confined to watersheds. In other words, as concerns the Northeast River WWTP, "credits" achieved must be located in the Northeast River watershed.

Projected Sewer Demand - Charlestown

Table 8-4 indicates that the Northeast River WWTP capacity will support projected sewer usage as a result of growth within Charlestown through 2025. This assumes that the County does not commit all of the remaining capacity in the Northeast River WWTP

[10] BRAC Action Plan, Recommendations of the Cecil County BRAC Advisory Panel Subcommittees, July 2007

to potential development projects located the Development District, Suburban and/or Mineral Extraction planning districts and thereby preempt Charlestown's growth.

Table 8-4: Charlestown Projected Sewer Demand
Based on Population Growth Within the Corporate Boundary (Including Infill Development)

Classification	2000	2010	2015	2020	2025	Increase 2000-2025
Population	1,019	1,196	1,664	1,869	2,075	1,056
Dwellings	379	453	640	730	820	441
Sewer Usage GPD	94,750	113,250	160,000	182,500	205,000	110,250
% usage of remaining permitted capacity	8%	10%	13%	15%	17%	26%

Notes:
Population projections assume average household size will decrease from 2.64 to 2.53 persons commensurate with the projected trend in average household size for Cecil County. Population totals are comprised of growth of existing population plus increased population as a result of infill development.
Permitted Capacity for the Northeast River Wastewater Treatment Plant is 1.2 mgd.
Sources:
MDP Municipal Growth Element Model (sewer gpd demand estimate)
Cecil County Water and Sewer Master Plan (WWTP capacity totals)

Table 8-5 illustrates potential growth as derived from the defined Town Growth Areas. Development of Growth Areas is not anticipated in the planning period to 2025. Potential sewer required to serve the Growth Area requires planning between the County and Town, as this level of service is not anticipated or available in the current wastewater system.

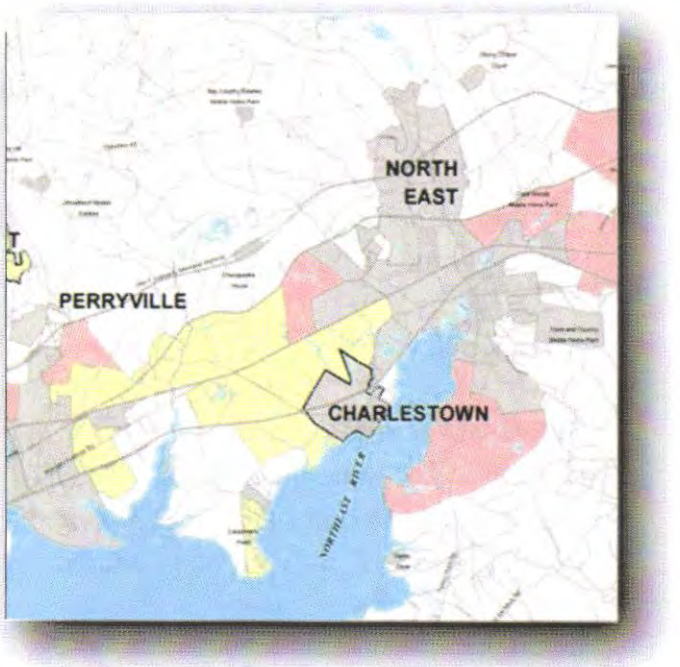
Table 8-5: Growth Area – Projected Sewer Demand

GROWTH AREA (1056 acres)	Scenario 1	Scenario 2
Dwelling Units	2,200	5,704
Population	5,808	15,057
Sewer Demand (GPD)	550,000	1,425,891
- Percent of Remaining Permitted Capacity (Actual)	344%	891%
- Percent of Potential Design Capacity (BNR)	57%	149%
- Percent of Potential Maximum Capacity (ENR)	34%	87%

Notes:
Lots/dwelling unit totals based on lot size assumptions of 21,780 sq.ft. for Trend Scenario; 10,000 sq.ft. for Zoning Scenario; and 8,000 sq.ft. for Smart Growth Scenario. Population projections assume average household size will decrease from 2.64 to 2.53 persons commensurate with the projected trend in average household size for Cecil County
Sources:
MDP Municipal Growth Element Model (Smart Growth lot size and sewer gpd demand estimate)
Cecil County Water and Sewer Master Plan (WWTP capacity totals)
Assumptions:
Assumes WWTP Permitted Capacity is 1.2 mgd.
Assumes WWTP Potential Design Capacity is 2.0 mgd with BNR.
Assumes WWTP Potential Maximum Capacity is 2.67 mgd with ENR.
Assumes 110,000 gpd for infill and redevelopment within the current corporate limits of Charlestown.

Future Sewer Service - Charlestown

Figure 3: Cecil County Sewer Service Areas

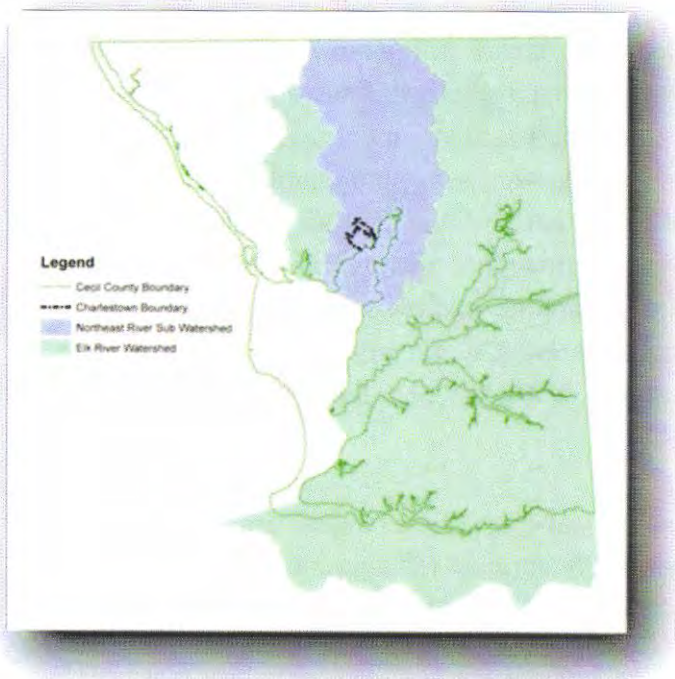


Future Sewer Service Areas in the Charlestown vicinity are depicted in Figure 3[11]. Areas in gray are existing (S-1) service areas. Like the water service maps, this classification is somewhat misleading as it leads one to assume that additional sewer capacity will not be needed within the corporate limits of Charlestown.

Areas in yellow are S-2 service areas, which are projected to have sewer service in 0 to 5 years areas in pink are S-3 service areas, which are projected to have sewer service in 6 to 10 years.

WATER QUALITY

Figure 4: Northeast River Watershed



The Watershed

Charlestown is located within the Northeast River Sub-Regional Watershed, which is part of the larger Elk River Watershed (Upper Eastern Shore Basin). The land area surrounding Charlestown drains into the Northeast River via several smaller streams and creeks, which run through the Town. The Northeast River watershed covers approximately 45,557 acres of predominantly rural land. In its study of the Northeast River watershed, MDE characterized 41% of the land within the watershed as forest and other herbaceous cover, 41% as mixed agricultural land, and 18% as urban areas. Charlestown, the Town of North East, and the Northeast River Wastewater Treatment Plant constitute the largest areas of impervious surface in the watershed.[12]

[11] Excerpt: Sewer Service Areas Map, *2004 Cecil County Master Water and Sewer Plan*
[12] Maryland Department of the Environment

According to the *1998 Maryland Clean Water Action Plan: Unified Watershed Assessment, Watershed Prioritization, and Plans for Restoration Strategies*, the Northeast River watershed is listed as a "Category 1 Priority Restoration Watershed." Category 1 watersheds are those designated as not meeting clean water and other natural resource goals, thus requiring restoration. The Northeast River is listed as an impaired water body on the 303(d) listing under the Clean Water Act (CWA). Impairments that are listed include nitrogen and phosphorus. Erosion/sedimentation also is listed as a concern. These findings also are noted in the 2005 Tributary Strategy for the Upper Eastern Shore Basin.

Total Maximum Daily Loads – TMDLs

TMDL's Northeast River
TOTAL NITROGEN (TN) & TOTAL PHOSPHORUS (TP)

- TN Point Source = 84,268 lbs/year
- TN Non-Point Source = 74,749 lbs/year
- TP Point Source = 7,906 lbs/year
- TP Non-Point Source = 3,763 lbs/year

Source: Maryland Department of the Environment

TMDLs are a regulatory mechanism to identify and implement additional controls on both point (i.e., wastewater treatment plants) 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.

Total Maximum Daily Loads (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. According to the State, point sources include wastewater treatment plants with direct discharge permits into waterways (National Pollutant Discharge Elimination System Permits-NPDES). 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. This includes projected growth and a margin of safety: "TMDL = Point Sources + Non-Point Sources + Projected Growth + Margin of Safety"

Water quality standards identify the uses for each water-body, for example, drinking water supply, contact recreation (swimming), and aquatic life support (fishing), and the scientific criteria to support that use. The North East water quality standards are based on use for contact recreation.

A TMDL cap has been applied to the Northeast River. According to the Maryland Department of the Environment's (MDE) Report: *Total Maximum Daily Loads of Nitrogen and Phosphorus for the Northeast River in Cecil County Maryland*, "the water quality goal of the TMDL is to reduce high chlorophyll concentrations (a surrogate for algal blooms),

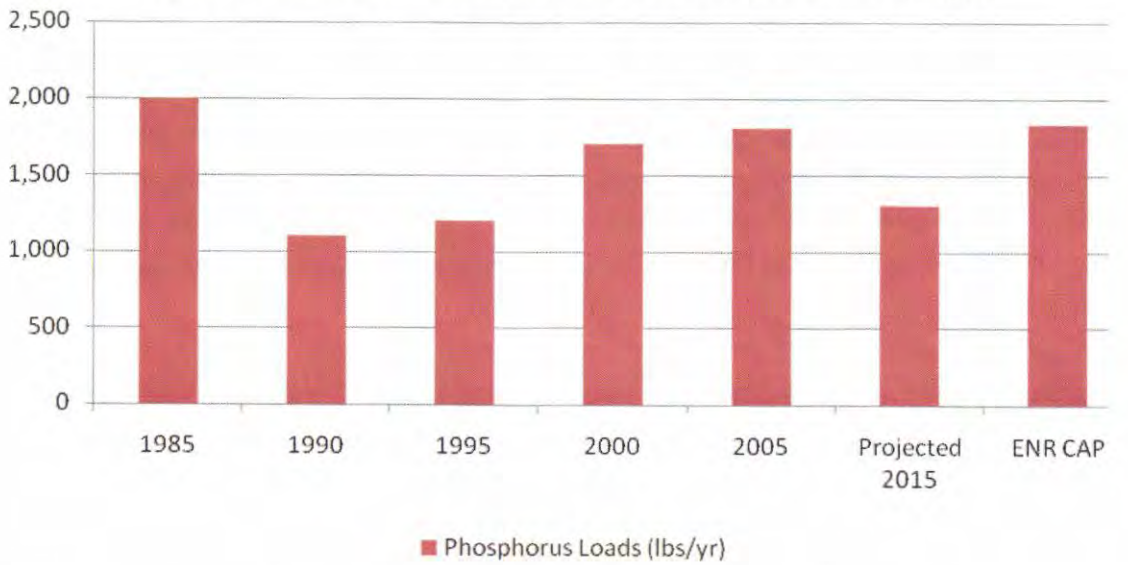
and to maintain the dissolved oxygen criterion at a level whereby the designated uses for the Northeast River will be met." The TMDLs for the nutrients nitrogen and phosphorus were determined using a State water quality model.

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. There are three permitted point sources that discharge nutrients to the Northeast River watershed: the Northeast River WWTP, the Morning Cheer WWTP and the Cecil County small (Phase II) municipal separate storm sewer system (MS4). Cecil County is a jurisdiction with municipal stormwater discharges to the Northeast River that are considered as a point source of nutrient loads from urban sources during storm events.[13]

The Maryland Department of the Environment (MDE) reviewed recorded phosphorus and nitrogen loads from the Northeast River WWTP in November 2007. MDE projects that the Northeast River WWTP will load 1,300 lbs. of phosphorus and 16,000 lbs. of nitrogen per year into the Northeast River in 2015 (see charts). MDE has set a loading cap of 24,364 lbs. of nitrogen and 1,827 lbs. of phosphorus for the Northeast River WWTP when it is upgraded to ENR treatment level.

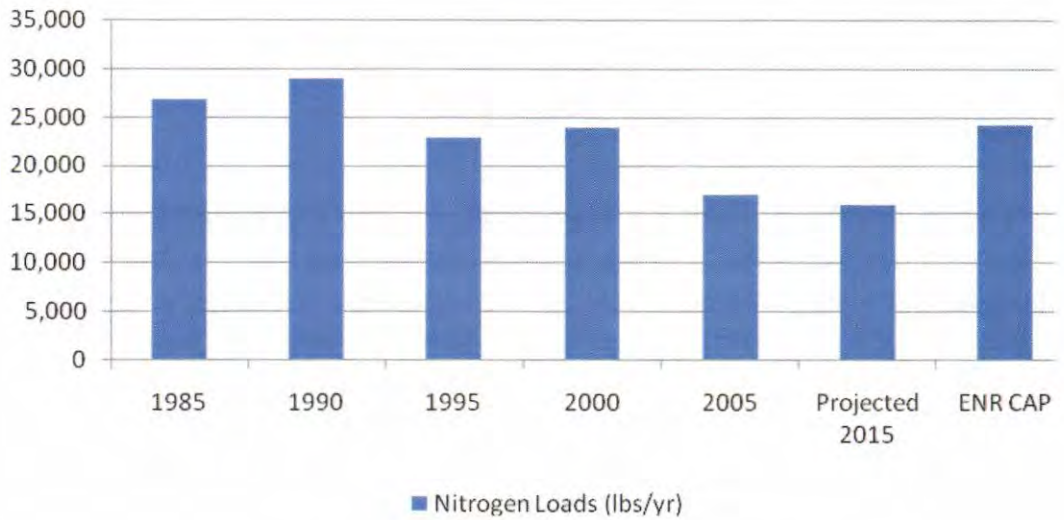
Figure 4: November 2007 Northeast River WWTP Phosphorus Loads (lbs/yr)



Source: Maryland Department of the Environment, November 2007

[13] *Decision Rationale, Total Maximum Daily Load of Nutrients for Northeast River, Cecil County, Maryland,* U.S. Environmental Protection Agency (EPA)

Figure 5: November 2007 Northeast River WWTP Nitrogen Loads (lbs/yr)



Source: Maryland Department of the Environment, November 2007

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 is a significant contributor to non-point source loading.

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).

More recently, awareness of the need to improve water quality has increased. With this awareness Federal, State and, local programs have been established to reduce pollutants contained in stormwater discharges to our waterways. These programs promote the concept and practice of preventing pollution at the source, before it can cause environmental problems.

A primary determinant of future growth is the assimilative capacity of receiving waters for stormwater runoff associated with land use change. Assimilative capacity is expressed in the TMDLs for the receiving waters. The following discusses the implications of TMDLs for the Northeast River Watershed, stormwater runoff and growth in Charlestown.

In the Northeast River Watershed, "the average annual TMDL for nitrogen is 168,344 lbs/yr, and the average annual TMDL for phosphorus is 12,110 lbs/yr. The allowable loads have been allocated between point and nonpoint sources. The nonpoint source loads are allocated 74,749 lbs/year of total nitrogen and 3,763 lbs/year of total phosphorus. The point sources are allocated 84,268 lbs/year of total nitrogen and 7,906 lbs/year of total phosphorus. Urban land, yet to be developed, is provided a future allocation of 5,829 lbs/year of nitrogen and 276 lbs/year of phosphorus. An explicit margin of safety makes up the balance of the allocation."[14]

As can be seen from the previous citation, MDE's calculation of TMDLs takes into account some level of growth in the watershed. MDE has established future allocations for urban growth. These future allocations represent the "assimilative surplus loading capacity that is either currently available, or projected to become available due to planned implementation of environmental controls or other changes."[15]

MDE has elected to reserve loads equal to 5% of the current non-point pollution source loads to address the future regional development." The future allocations for the North East River Watershed are summarized in Table 8-6. MDE states that, "the loads reserved in the future allocation should be sufficient for future regional development within the timeframe in which the TMDL allocations could be adjusted."

Table 8-6: Average Annual Allocations for Non-Point Sources - Northeast River

Classification	Total Nitrogen (lbs/yr)	Total Phosphorus (lbs/yr
Nonpoint Source	74,749	3,763
Future Allocation	5,829	276
Margin of Safety	3,498	165
Total	**84,076**	**4,204**

Source: *"Total Maximum Daily Loads of Nitrogen and Phosphorus for the Northeast River in Cecil County, Maryland"*, MDE January 2004

[14] *Total Maximum Daily Loads of Nitrogen and Phosphorus for the Northeast River in Cecil County, Maryland*, Final Report, Maryland Department of the Environment, January 2004
[15] Ibid

Charlestown Non-Point Source Loading

To estimate future levels of pollution from non-point sources in Charlestown, calculations were made using measurements of annual rainfall and impervious surface area based on land use and Environmental Protection Agency (EPA) estimates of standard concentrations of nitrogen and phosphorous in urban area stormwater runoff. The EPA simple model for calculating pollutant loads is as follows:

L = 0.226 * R * C * A: Where L = Annual Load (lbs), R = Annual runoff (inches), C = Pollutant concentration (mg/l), A = Acres of impervious surface, and 0.226 is the unit conversion factor for converting milligrams to pounds.

Table 8-7: Charlestown Pollutant Loadings from Infill Development

INFILL	IMPERVIOUS SURFACE† (acres)	RUNOFF (annual inches of water††)	RUNOFF (Liters)	Nitrogen Concentration (2.0 mg/l†)	Total Nitrogen (lbs/yr)
NITROGEN LOADS					
Single Family Residential	48	2,285	234,904,284.53	469,808,569.05	1,036
PHOSPHOROUS LOADS					
INFILL	**IMPERVIOUS SURFACE† (acres)**	**RUNOFF (annual inches of water††)**	**RUNOFF (Liters)**	**Phosphorous Concentration (.26 mg/l†)**	**Total Phosphorous (lbs/yr)**
Single Family Residential	48	2,285	234,904,284.53	61,075,113.98	135

†**Source:** Stormwater Manager's Resource Center (SMRC), EPA Offices of Water and Wastewater Management, "Watershed Treatment Model for Urban Watersheds", MDE and the Center for Watershed Protection. Medium density land use impervious surface multiplier (0.3) was used to calculate single family residential land use (190.44 acres) impervious surface acreage.

††**Source:** Cecil County Soil Conservation District

Table 8-7 illustrates estimated nitrogen and phosphorous loadings from stormwater runoff based on projected growth in the Town through 2025. The estimated NPS loadings in Table 8-7 are well below the maximum allocations for urban growth established by MDE. Charlestown's growth represents approximately 18% of the future allocation of nitrogen and 49% of the future allocation for phosphorous for the North East River watershed. This indicates that Charlestown's growth can be accommodated within the TMDLs for non-point sources.

This conclusion of course does not take into account the demands on the assimilative capacity of the North East River from other future urban growth within the watershed (e.g., Town of North East, Cecil County Development District), and underscores the importance of coordinated land use and growth management strategies based on sound watershed planning principles. It also underscores the importance of inter-jurisdictional coordination and cooperation between Cecil County, Charlestown, and the Town of North East.

Chapter 9 Heritage Preservation

One primary goal of the *Charlestown 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.

BACKGROUND

Heritage resources within Charlestown are an important legacy for Cecil County, the State of Maryland, and the nation. Heritage resources include sites and structures of significant historic value as well as cultural elements that define Charlestown's character, its genesis and development through the 18th, 19th, and early 20th centuries. Heritage resources include Charlestown's historic architecture, scenic setting, and the many natural resources that make this setting attractive, whether flora or fauna.

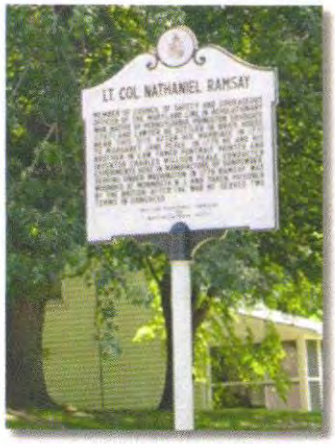
The preservation of heritage resources in Charlestown is vital, not only because these sites and structures provide Town character and cultural roots, but also because they provide a link to Maryland's colonial past. In heritage preservation terms, much of Maryland's colonial history has been lost over the years to demolition, decay, neglect, and new development. Therefore, what little resources remain, like those that exist in Charlestown, are extremely valuable, requiring sound stewardship for future generations. Most importantly, these historic resources are one of Charlestown's primary tourist attractions, providing significant and tangible economic value to the Town. Their loss or degradation potentially threatens to diminish future economic returns.

HISTORICAL SIGNIFICANCE

Founded in 1742, by an act of the colonial Maryland Assembly, Charlestown was initially established as a shipping conduit and port facility at the head of the Chesapeake Bay on the Northeast River. The name "Charles Town" was derived from Charles Calvert, Lord Baron of Baltimore and proprietor of the British province of Maryland. Charlestown evolved as a major port and taxation center for the British colony as well as a point along the "Old Post Road" that connected the Town with larger urban areas such as Baltimore and Philadelphia. Charlestown is the oldest Town in Cecil County and one of the oldest towns in the State of Maryland.

Charlestown's most prominent history occurred during the colonial period to just after the Revolutionary War (1742 – 1790). In the late 1790's, the Town experienced an economic decline attributed to port competition from Havre de Grace and Baltimore and the establishment of Elkton as the Cecil County seat in the late 1780's. However, Charlestown's early history is significant. Many distinguished personages from the nation's past frequented the Town such as Benjamin Franklin, George Washington, and the great American artist Charles Willson Peale. Washington recorded at least two occasions in which he dined and stayed in Charlestown. Other distinguished Charlestown residents included the brother of William Paca and George Read, the father of Charles Read. Both men were signers of the Declaration of Independence.

General George Washington as pictured by Charles Wilson Peale.



The Town's most prominent resident, Nathaniel Ramsey, was a lawyer and 1767 graduate of Princeton University. He was married to Margaret Jane Peale, sister of Charles Willson Peale. During the Revolutionary War, Charlestown became an active participant in the conflict with Great Britain. Ramsay headed a group called the Council of Safety. This group assisted in the production of arms, ammunition, and uniforms as early as 1775. In 1776, he was commissioned as a Captain of the 5th Company of the Maryland 1st Regiment.

During the 1778 Battle of Monmouth, Ramsay was promoted to Lieutenant Colonel and commanded the 3rd Battalion of the Maryland Line. The famous "Maryland Line" was known for its bravery and heroics during the war. Ramsay was personally charged by General George Washington to hold the British attack so Washington could save the Colonial Army through a necessary retreat. The entire 3rd Battalion were either killed or captured during the battle and Ramsay spent the rest of the war as a British prisoner. Following the war, Ramsay had a distinguished public service career including

The 1778 Battle of Monmouth was fought in New Jersey, creating the famous legend of "Molly Pitcher." Lieutenant Colonel Nathaniel Ramsay of Charlestown, commander of the Maryland 3rd Battalion, was wounded and taken prisoner by the British.

a term as Maryland Congressional representative (1786 – 1788), United States Marshal for Maryland, and Officer of the Port of Baltimore.

Two incidents in Charlestown are recorded from the Revolutionary War. The first included the burning of a British warship in the Charlestown Harbor by Captain Michael Rudolph. The second incident occurred in August of 1777, when the British commander General Sir William Howe bombarded the Charlestown warehouse as a diversionary tactic. Howe then landed troops at the Head of Elk, subsequently marching them north and culminating in the 1777 Battle of Brandywine. During the War of 1812, the British sailed into the Charlestown harbor, which contained a small deteriorated fort. Much of the Town's populace fled to remote areas, leaving the Town virtually abandoned. British troops searched Charlestown and then sailed to Havre de Grace, where a larger battle occurred. Charlestown experienced a gradual decline from 1780 through 1820, which was caused by decreased trade and shipping with the British Empire. A severe hurricane in 1786 opened up the Locust Point Channel and made Havre de Grace an accessible deep water port, diminishing Charlestown's location value. Coupled with the establishment of Elkton as the new Cecil County Seat in the 1780's and the realignment of the Old Post Road, Charlestown faded into gentle obscurity. This "deep sleep" allowed for the preservation of many of the Town's historic resources into the present time.

Some of Charlestown's colonial historic sites and structures were once inns, taverns, and shops. As a port and mercantile Town, Charlestown did not have great and grandiose mansions but rather smaller working buildings. These buildings were suited for a municipal life that revolved around colonial government and services. Of architectural note, rare gambrel roof structures still survive in Charlestown including the "Red Lyon Tavern." Early construction materials consisted of log, stone, and brick. In addition, the Town is surrounded by significant archeological resources that predate colonial settlements and an abundance of sensitive natural resources.

HERITAGE RESOURCE INVENTORY

The "Charlestown Historic District" was first proposed in October 1974 and received National Landmark status from the National Trust for Historic Preservation in coordination with the Maryland Historical Trust (MHT). The Town is listed as a significant part of the nation's colonial heritage. The Historic District is composed of a 68 acre portion that is bounded by Tasker Lane, Ogle Street, Louisa Lane, and the Northeast River. Much of the Town's historic buildings and original size, based on the Philadelphia street plan, survives providing a glimpse into Maryland's colonial past. The Historic District and Historic District Commission were created to preserve Charlestown's important identity.

There are approximately 150 buildings in the Charlestown Historic District. It contains all of the Town's important 18th century structures. Many later structures from the 19th and early 20th centuries also are located in the District and are listed as significant resources. Some of these buildings date from a much earlier time period (possibly the 18th Century) but have been altered over the years.

The Hamilton House was moved from Charlestown to Pennsylvania by a past owner.

Primary Resources

Hamilton House (CE-107; circa 1755): According to the records of the Maryland Historical Trust, the "Hamilton House" was relocated to Pennsylvania in the last quarter of the 20th Century. The house was one of the oldest in Charlestown, constructed by the Reverend John Hamilton Rector of the North East Parish and Commissioner of Charlestown. The original structure was frame with clapboard siding and 9/9 windows. It was located on Bladen Street and had a gambrel roof, being six bays long and two-bays deep. In the rear of the structure was a log kitchen and chimney.

Cecil Hotel (CE-108; circa 1810): Located at Caroline and Bladen Streets, the "Cecil Hotel" is a two-story frame Federal structure that was once a tavern. The building has a gable roof and five bays. It sits on a high stone foundation sheathed in brick (a traditional English cellar). At the time of the *1993 Charlestown Comprehensive Plan*, the building was covered with asbestos siding but still retained its original windows, front door, and semicircle arched fanlight. Interior woodwork remains intact but the current exterior condition is unknown.

Jackson McKeown House (CE-109; circa 1900): The "McKeown House" is one of the few ornate Victorian structures located in Charlestown. In the late 19th Century, the McKeown brothers left Charlestown, making their fortunes in the western part of the United States from gambling in Nevada. The house's construction is thought to be influenced by high Victorian architecture from San Francisco (1880 – 1910). The interior of the house maintains dark wood paneling, which extends up two 15' walls. There is a hexagonal clapboard icehouse in the rear yard.

The Jackson McKeown House is one Charlestown's most prominent Victorian structures.

George Washington dined and stayed at the Linton House several times on his journeys along the Old Post Road, making the historic structure one of the most prominent and important features of Charlestown.

Linton House (CE-110; circa 1787): Located at 316 Market Street, the "Linton House" was constructed by Charlestown Commissioner William Linton in 1787. George Washington recorded several visits to the structure on his travels along the Old Post Road from Philadelphia to Mount Vernon, in Virginia. The building is a handsome brick structure of Flemish bond with a gable roof and five bays. There is a brick belt course and molded water table on the front façade. A modern brick garage was added to the house on the west wing.

Paca House (CE-111; circa 1750): John Paca, the brother of Governor William Paca a signer of the Declaration of Independence, lived in Charlestown during the mid-1700's. The "Paca House" was sold in 1753 to Edward Mitchell, a Charlestown Commissioner. In 1770, the structure was described as a 20' X 30' frame dwelling. It is located at 315 Market Street. The west wing gambrel roof stone building was added in the late 1700's and connects the original building to the addition.

The Paca House was once owned by William Paca's brother, a Maryland signer of the Declaration of Independence and early Governor of the "Free State."

The Indian Queen Tavern (CE-127; 1740): One of the founders of Charlestown, Zebulon Hollingsworth, was an inn-keeper who constructed the "Indian Queen," the most significant historic resource in Charlestown. The building is a two-story frame structure with an interior floor plan consisting of four rooms. The dwelling contains a massive center chimney and four fireplaces, which are back to back (two on the first floor and two on the second floor). The house is of post and beam construction with clay and brick nogging for insulation. The Indian Queen has a gable roof and beaded shiplap siding. Interior woodwork is of the mid-18th Century period complete with some original hardware.

Red Lyon Tavern (CE-128; circa 1750): The "Red Lyon Tavern" is one of Charlestown's most important historic sites and structures. Several significant buildings exist on the site. Varied and wide shiplap siding with beaded edges covers the façades of the buildings. Stone walls underpin the log structure creating a cellar keeping room. A great fireplace is located in the cellar with an opening of 5' in width. There was a one room addition constructed in 1830. The Red Lyon is one of several structures in the Town that billeted the Royal American Regiment during the winter of 1756-1757, the beginning of the French and Indian War.

The Indian Queen (1740) and the Red Lyon Tavern (1755) are two of Charlestown's most significant heritage resources. Both structures are located on Market Street (MD Route 267) in the center of Town. This was part of the colonial Old Post Road.

Charlestown Methodist Episcopal Church (CE-379; Circa 1856): Located at Market and Bladen Streets, the "Charlestown Methodist Episcopal Church" was constructed in 1856. This church is distinguished by its geometric patterned stained glass windows.

The Charlestown Methodist Church features prominently in the center of Town, located across from the Charlestown Municipal Offices and the Post Office.

Northerman House (CE-380; 18th Century): The "Northerman House" is located at 225 Market Street. It is a two-story three-bay frame dwelling with a gable roofed main section built by Jacob Northerman for a Philadelphia cooper.

The structure was supposedly built in 1762 but has been altered. The original clapboard is located beneath a layer of asphalt shingles and an outermost layer of aluminum siding. Double parlors have two massive corner fireplaces, which are back to back. Maryland Historical Trust records do not list a construction date but indicate that the existing dwelling was built in the 18th Century.

Grace Smith House (CE-383; 18th Century): The "Grace Smith House" is a frame structure that is two stories high located at McNear and Baltimore Streets. It is three bays wide and covered with asphalt shingles and additions to the back of the building. According to Maryland Historical Trust records the date of construction is unknown but the dwelling could have been built in the 18th Century, which may be evidenced by the large fireplace and iron cooking crane in the basement.

Post House/Holloway House (CE-384; 18th Century): According to Maryland Historical Trust records, the "Post House" was a frame and log construction building, possibly from the 18th century. The house is two stories high with a main section that is three bays by two bays. The structure is listed as one of the old inns of Charlestown along the Old Post Road, now MD Route 267.

107 House (CE-386; circa 1750): The "107 House," now the Charlestown Museum, is located at 343 Market Street. Deed research notes that a dwelling was built on lot 107 of the Town's original 1742 plat. The site exhibits a "Dutch Fashion" and it is believed that this building was partially destroyed and rebuilt around 1800 as a two-story gable roof; three-bays wide with a double parlor plan. The entire building has been restored by Colonial Charlestown Incorporated and an original tavern kitchen has been restored in the cellar.

The 107 House (Charlestown Museum) is located on Market Street; MD Route 267. The house was meticulously restored by Colonial Charlestown Incorporated.

The Perry-Barnes House forms an attractive terminus on MD Route 267 entering Charlestown.

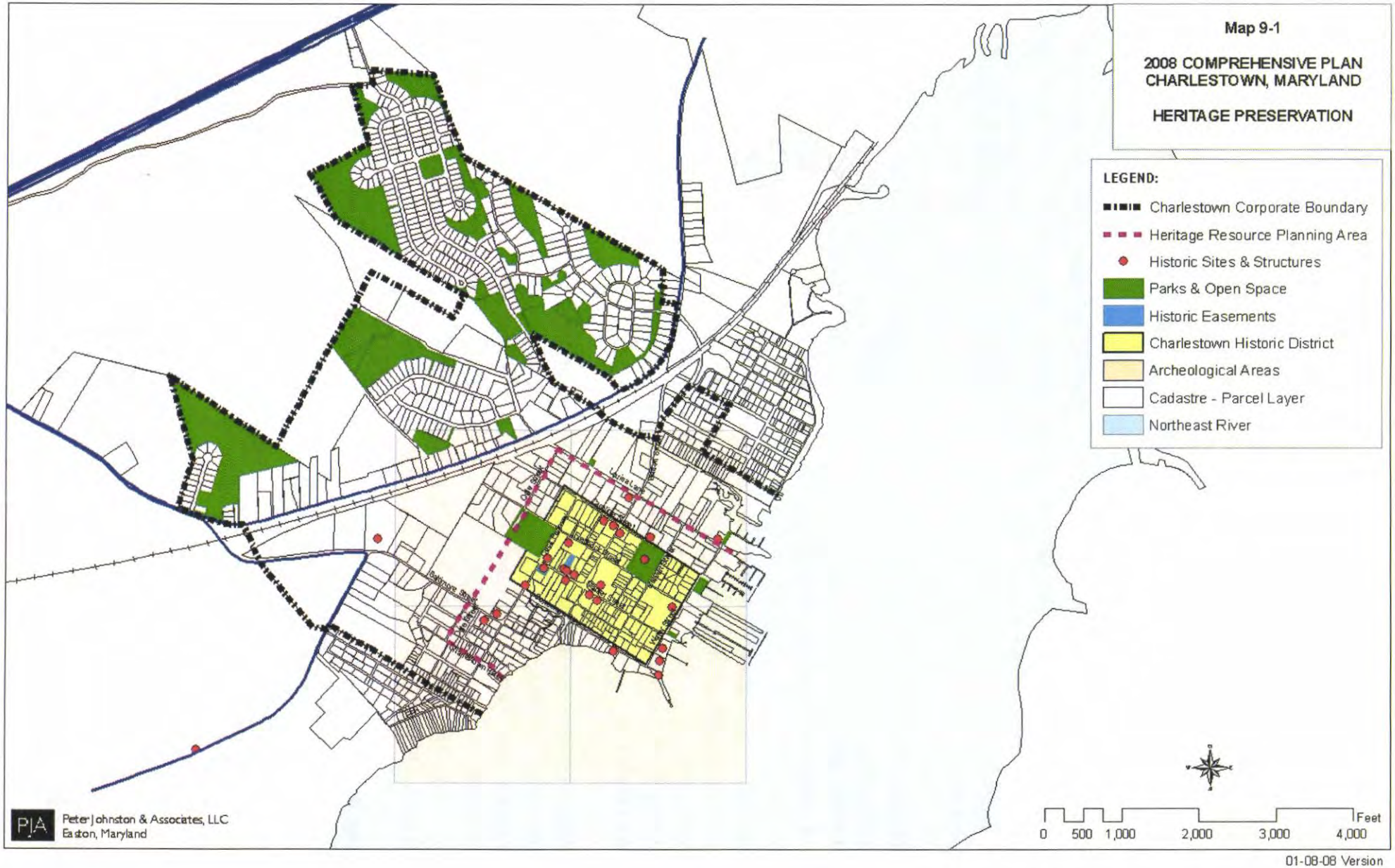
Perry Barnes House (CE-387; 19th Century): The "Perry Barnes House" is a 19th Century Victorian frame structure situated on top of a small hill on Market Street. The building is two stories high and three-bays wide with a steeply pitched roof. The dwelling exhibits ornamental Victorian architecture and forms a significant component of the Town's gateway viewshed, a terminating vista along MD Route 267.

Charlestown Town Hall and Post Office (CE-388): The "Charlestown Town Hall and Post Office" is located on Market Street. Constructed in 1878, the building served as an elementary school site until June 14, 1961. A children's park is located on the site.

Eagle Point Gun Club/Mulveny House (CE-389): Maryland Historical Trust records date the current structure to the early 1800's. This property is shown in the 1813 sketch of Charlestown by Benjamin Latrobe. The house is located on a low bluff that overlooks the Northeast River. It was used for seasonal duck hunters on the Susquehanna Flats in the 19th and early 20th Centuries. Recently, additions have been made to the original house.

Warehouse Site (CE-390); Customs House Site (CE-391); Charlestown Wharf Site (CE-392); and Charlestown Wharf (CE-1297): In 1742, when the colonial Maryland Assembly enacted a law to build Charlestown at Long Point on the Northeast River, it also enacted a law to build a wharf for shipping and commerce. The "Charlestown Wharf" was located at Water and Conestoga Streets and projected 300' into the river. Construction materials include log cribbing that was filled with ballast stone. The Wharf is a significant site related to Maryland's colonial history and early commerce. In addition, the "Charlestown Warehouse" also existed on this site. It was a stone and frame structure, approximately 80 feet long and three stories high. Maryland Historical Trust records indicate that the warehouse was used for the storage of goods shipped from the Charlestown Harbor. A frame "Charlestown Customs House" stood in the center of site. It was used for tax collection but was removed in the early 1800's. During the Revolutionary War, Charlestown served as a supply depot for the Continental Army. A fort of earth works was erected on this site at the beginning of the War of 1812. Portions of the area form the present-day Charlestown fishing pier and heritage.

The Wharf, Warehouse, and Customs House served as the commercial nucleus for colonial Charlestown's shipping trade.


Map 9-1
2008 COMPREHENSIVE PLAN
CHARLESTOWN, MARYLAND
HERITAGE PRESERVATION
LEGEND:
Charlestown Corporate Boundary
Heritage Resource Planning Area
Historic Sites & Structures
Parks & Open Space
Historic Easements
Charlestown Historic District
Archeological Areas
Cadastre - Parcel Layer
Northeast River
Peter Johnston & Associates, LLC
Easton, Maryland
0 500 1,000 2,000 3,000 4,000
Feet
01-08-08 Version

Still House (CE-393; circa 1760): The "Still House" is located on lot 1 of the original Charlestown plat. It is a rambling frame structure built in 1760 as a one of Maryland's early rum distilleries. Ships carrying grain and seafood would leave Charlestown for the West Indies and return with raw sugar for rum. Charlestown's inns and taverns became known for their variety of rum drinks. This property is shown in the 1813 sketch of Charlestown by Benjamin Latrobe.

Wellwood Club (CE-394): The "Wellwood Club" is located on Water Street and was built in the mid-19th Century to house seasonal wildfowl hunters. The Susquehanna Flats, at the head of the Chesapeake Bay, was an ideal location for duck hunting. The Wellwood Club is a frame structure with formal rooms in the columned front section and rows of dormitory-style bedrooms in the rear wing.

Cecil Cooper House (CE-395; 19th Century): The "Cecil Cooper House" structure dates from the 19th Century and is located at the northwest corner of Louisa Lane and Water Street. It is a three story house with a slate mansard roof in the Empire style. Maryland Historical Trust records indicate that the building was used as housing for Seamark Marina.

County Jail Site/Proposed Courthouse Site (CE-396; circa 1750): The Charlestown Marina now exists on the site that was proposed for the first "Cecil County Jail and Courthouse" located at the corner of Frederick and Calvert Streets. The property is owned by the Town of Charlestown, Maryland. The only building constructed on the site in the 17th Century was a small jail.

Cecil House Inn – Gamble House (CE-397; 19th Century): Located at Caroline and Bladen Streets, the "Cecil House Inn" is believed to be the site of an older structure once located along the Old Post Road. Maryland Historical Trust records indicate an unknown construction date for the building. However, the brick house is listed as a four bay/two wing Victorian structure two stories high. The building has a pitched gable roof, 2/2 windows, and narrow chimneys.

Mary Palmer Tavern (CE-398; circa 1790): The "Mary Palmer Tavern" house was constructed during the late 18th Century and was one of the Town's many taverns. It was owned and operated by Mary Palmer, a widow of the Revolutionary War. It was located adjacent to the Old Post Road. It is a three story, three-bay structure side hall plan with a four bay wing off the south side. The original clapboarding is covered by aluminum siding.

Thorn House (CE-1298; 1930): Located on Conestoga Street, the Thorn House faces the Northeast River and was originally designed as a retreat for Christopher Columbus Thorn of the Pennsylvania Railroad. The structure is a rambling one and half story structure with an interesting façade. The house has a slate roof with well fitted bevel siding and millwork, stone chimneys, and a concrete foundation. As stated in the *1993 Charlestown Comprehensive Plan*, "the many windows, French doors, and angled bedroom wings give the house a friendly and welcoming demeanor." No documentation exists with the Maryland Historical Trust for the structure.

The Thorn House is an interesting and inviting structure facing the Northeast River in downtown Charlestown.

Contributing Resources

Frame Ice House (CE-1299): The "Frame Ice House" was built in 1890 by P.K. Barnes. It is located at Water Street near the Charlestown public park. It is entirely constructed of eastern white pine planks and shiplap siding.

The Frame Ice House is located by the public beach area and landing in Charlestown. This site is a key amenity in the Town and provides a scenic vista looking out to the Northeast River.

Nathaniel Ramsay or Key-Ramsey House Site (CE-1300): Originally, the home of Francis Key, birthplace of John Ross Key and Father of Francis Scott Key composer of the "Star Spangled Banner." The "Key-Ramsey House" was indicated in Benjamin Latrobe's 1813 sketch of Charlestown, located where the Charlestown Parsonage for St. John's Methodist Church stands today. It was a brick house constructed during the colonial period of Charlestown. Nathaniel Ramsay was a Colonel in the Continental Army and commanded the 3rd Battalion of Maryland. Ramsey was married to the sister of Charles Willson Peale, a distinguished colonial painter and patriot. The structure burned in 1834 and is now registered as a future archeological site.

Lackey-Murphy House (CE-1301): Located on Baltimore Street, the "Lackey-Murphy House" was originally constructed in 1750. In 1865, a second floor addition was constructed. Modern additions were made in 2000.

Shelton House (CE-1303): The "Shelton House" was constructed in 1872. It is located on Water Street and was built by George Shelton. The house is shown in the 1877 Cecil County atlas, inset for the Town of Charlestown.

Ice House (CE-1304): The "Icehouse" is a small stone structure near the colonial wharf, located on Conestoga Street. Little information exists from the Maryland Historical Trust regarding the structure. Its current state is unknown.

Scott Jackson House (CE-1305): The "Scott Jackson House" is located on the corner of Bladen and Caroline Streets. It was constructed in 1901 by Scott Jackson, a skilled local craftsman.

Water Tower (CE-1306): The historic "Charlestown Water Tower" is located behind the 107 House, the Charlestown Museum located on Market Street (MD Route 267). It was originally constructed as a water tower for the McKeown House and was moved to the Charlestown Museum between 1978 and 1979. The framing is pegged with shiplap siding.

Maryland Bridge Number 7030 (CE-1468; circa 1915): "Maryland Bridge Number 7030" spans the "Cherry Rum Run," a tributary of the Northeast River. It is located near the "Perry Barnes House" in the Charlestown Historic District, along MD Route 267. The concrete bridge was constructed in 1915.

Charlestown resources also include several other bridges in the Charlestown region, including CE-1466 and CE-1468. The Town also maintains several historic cemeteries and "commons." Many key colonel structures, listed in "Latrobe's View of Charlestown" from 1813, have been demolished and lost over the last few centuries including the Market House, the Alison-Key House, Morrow House, Tully House, and the Bladen House.

Chapter 10 Transportation

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 of the area can sometimes be difficult to achieve. It requires that transportation planning be closely coordinated with other elements of the Comprehensive Plan to assure that transportation plans and policies complement and promote those of other sections. As the control of transportation systems is divided among the State, the County, and Charlestown, managing transportation facilities to ensure adequate capacity will require coordination and cooperation among the levels of government.

EXISTING TRANSPORTATION FACILITIES

Highways

Primary highway access to Charlestown is via MD Route 7 which connects to Route 40 to the east and west of the Town. I-95 is located close by to the north. Of the some 6.25 miles of streets located within the Town's boundaries, most are municipal.

Freight service is available via Conrail, Amtrak and Chessie rail lines in nearby Elkton, approximately 10 miles east of Charlestown. Amtrak passenger service is available in Perryville, about 6 miles to the west of Charlestown, and in Wilmington, Delaware, some 34 miles to the east. The Maryland Transit Authority (MTA) operates commuter rail service between Perryville and Penn Station in Baltimore City. The MARC rail service runs from Perryville to the MARC and VRE systems via Union Station in Washington, D.C., utilizing existing Amtrak rail lines.

Major trucking routes that pass through the County include I-95, Route 40, US 1, US 301, US 222, MD 213 and MD 273. I-95 and Route 40 are the two major truck routes in the North East area. Trucks account for approximately 25 percent of the average daily traffic (ADT) volume on I-95 and about 8 percent of the ADT on Route 40. (Source: State Highway Administration).

Local Streets

Charlestown was developed around the grid pattern street network following the trend of other colonial towns like Philadelphia, New Castle and other municipalities to the north. The design of street systems in recent subdivisions, Trinity Woods and Scott Gardens are more curvilinear streets with cul-de-sacs. Cool Springs, another recent subdivision can be described as having a modified grid with long block lengths than are found in the "old town" portions of the Town.

There are approximately 5 miles of paved town streets in the "old town" section of Charlestown. Recent subdivisions, Trinity Woods, Scott Gardens, and Cool Springs have added or will add about 4.5 more miles of town streets when completed. State maintained routes, MD 7 and portions of Baltimore, Market and Bladen Streets make up an additional 2.25 miles within the corporate limits.

Pavement widths in the old town portion of the Town are generally narrow. Pavement widths in the new subdivisions are much wider, in excess of thirty feet.

Pedestrian Systems

Overall the Town has or will have approximately 4 miles of sidewalks. Of this total, only about 0.9 miles are located in the "old town" portion of Charlestown, predominately along the State route. 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 the new subdivisions.

Transit

Bus Service

Specialized transit service in Cecil County is provided by a number of small services. The Cecil County Department of Aging provides demand service to the general public, the elderly and the disability community. Hours of operation are Monday through Friday, from 8 am to 4 pm. Specialized transit service in Cecil County is provided by a number of small services. The agencies offering these services include:

- Cecil County Activity Center;
- Cecil County Health Department;
- Cecil County Community College;

- Chesapeake Resources;
- Department of Social Services;
- Maryland Rural Development Corporation;
- Nazarene Adult Day Care;
- SHARE Community Rehabilitation Program;
- Susquehanna Region Private Industry Council;
- Union Hospital Medical Adult Day Care Center; and
- VA Medical Center.

These agencies provide services to their client groups, with the exception of the Department of the Aging, which offers services to the general public for a fee.

Passenger Rail

Charlestown is located less than five miles from the MARC Train System in Perryville. The Maryland Commuter Rail (MARC) operated by the Maryland Mass Transit Administration (MTA), provides commuter rail service from Perryville to Union Station in Washington D.C. There are eleven stops along this route, one of which is Penn Station in Baltimore. In the fall of 1997, MTA opened a Light Rail Extension to Penn Station providing commuters the ability to connect with the existing Light Rail services in Baltimore.

TRANSPORTATION PLANNING & PROGRAMMING

Responsible Agencies

The primary agency responsible for implementing transportation improvements in the Charlestown area is the Maryland Department of Transportation (MDOT). MDOT meets with local officials each year to review capital project priorities in Cecil County. These projects are then programmed in the MDOT's six year Consolidated Transportation Program (CTP).

Transportation planning for the region also is the responsibility the Wilmington Area Planning Council (WILMAPCO). WILMAPC) is the bi-state Metropolitan Planning Organization (MPO) serving New Castle County, DE and Cecil County, MD. The WILMAPCO Council consists of state, county and municipal representatives.

The WILMAPCO Transportation Improvement Program (TIP) implements the statutory requirements of Title 23, U.S.C. 134, which requires that the urban transportation planning process include a transportation improvement program that is a multi-year program of projects drawn from the WILMAPCO Long Range Transportation Plan. In addition, WILMAPCO provides technical transportation planning assistance to Cecil County and its municipalities.

Air Quality and Transportation Planning

A significant objective of transportation planning is to improve air quality in the region. The WILMAPCO region is classified as a *severe* nonattainment area under the one hour ozone standard. The Clean Air Act requires severe nonattainment areas to develop a State Implementation Plan (SIP or *Attainment Plan)* to achieve the National Ambient Air Quality Standard for ozone by the year 2005. A *Rate of Progress Plan* showing overall emission reductions of 3% per year between 1996 and 2005 must also be prepared to ensure that proper steps are being employed to step down to the attainment levels of emissions as quickly as possible. As the Federally-designated Metropolitan Planning Organization (MPO) for New Castle County, Delaware and Cecil County, Maryland, WILMAPCO is required by law to show the Regional Transportation Plans and/or Transportation Improvement Programs (TIP) *conform* to these plans. These plans set specific emission targets called emission budgets for specific milestone years. If emissions generated from the transportation plan and/or TIP are equal or less than these emission budgets, *they conform* to the State Implementation Plan (SIP).

The harmful emissions targeted for the WILMAPCO region are the two major ozone precursors, Volatile Organic Compounds (VOC) and Nitrogen Oxides (NOx). While naturally produced ozone in the upper atmosphere protects life on earth by filtering out ultraviolet radiation from the sun, ozone at ground level is a noxious pollutant. Ground level ozone is the major component of smog and can damage lung tissue, aggravate respiratory disease, and make people more susceptible to respiratory infections. Automobile emissions are one of the major contributors to ozone formation.

Public Opinion

WILMAPCO conducted a telephone survey of a random sample of 408 residents of Cecil County in 2007 to gather information on the transportation choices made by residents and to gauge their perceptions and thoughts regarding transportation.

Those interviewed were asked how well they felt the current transportation system meets their travel needs. A similar question had been asked in 2006, and a positive change was observed; one in five respondents reported feeling that their transportation needs were "very well" met in 2006 while in 2007 over a third reported feeling their needs were "very well" met.

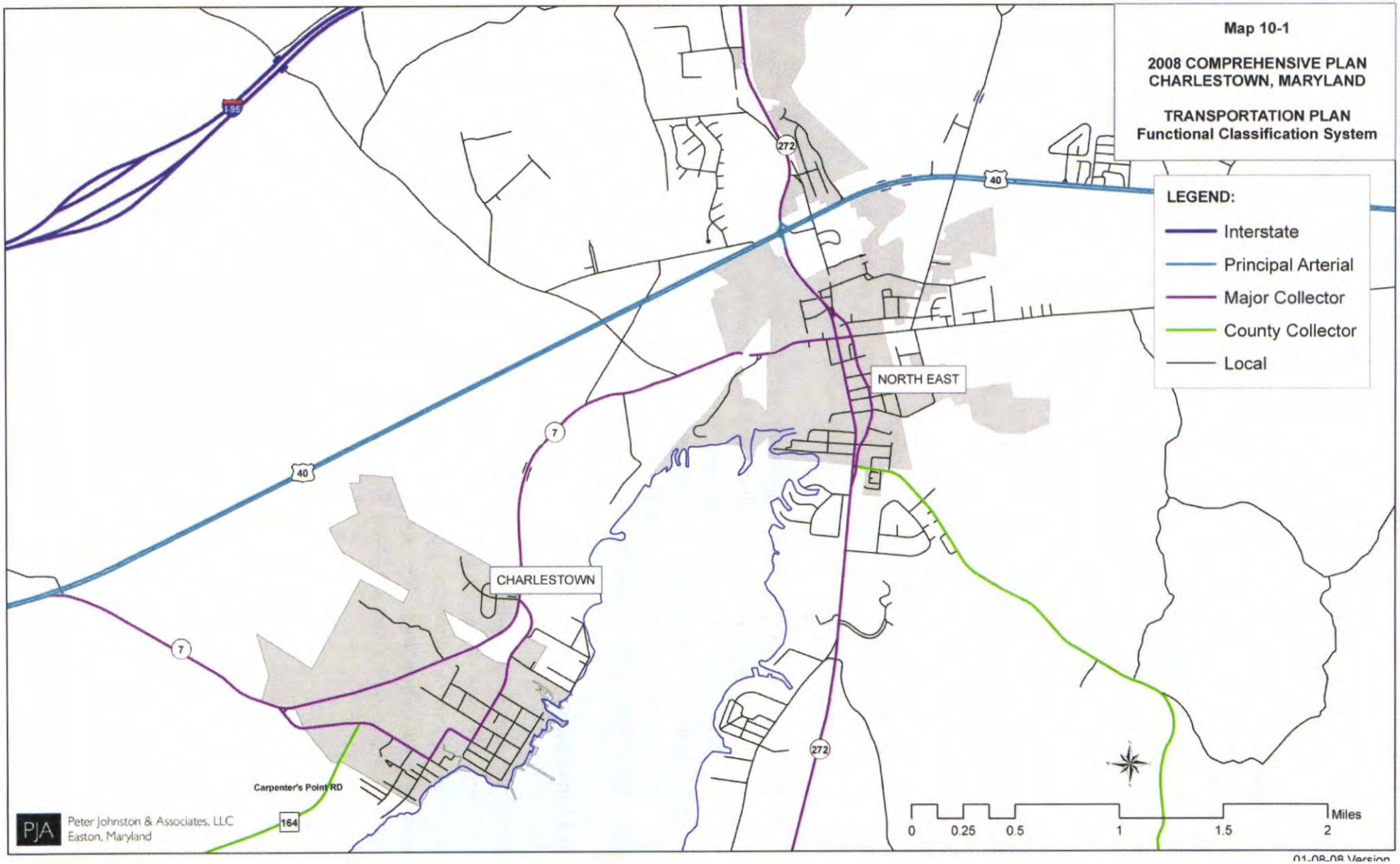
When asked to rate the condition of roads and highways in Cecil County, over half (55%) thought they were "excellent" or "good". Over half of respondents said they thought the condition of Cecil County's roads and highways had stayed about the same over the past few years, while similar proportions of respondents felt conditions had improved (23%) as thought conditions had deteriorated (22%). About a quarter of respondents said they had noticed improvements made by the State to the transportation system.

Employed respondents were asked how often they experienced traffic congestion during their work commute. About a third said they find themselves in traffic congestion on the way to work "most of the time". Commute times were roughly 30 minutes on average normally, but were estimated to be about 23 minutes on average without congestion.

In general, Cecil County residents feel like they do not have a lot of transportation options; in 2007, 87% reported they have "very few" choices, and even greater proportion than in 2006, when 69% reported they have "very few" choices. Respondents' assessment of the job the State is doing in improving accessibility to alternative modes of transportation was rather low; 40% felt the State was doing a "poor job" while another 42% felt the State was doing a "fair" job. Less than 20% felt the State was doing a "very good" or "excellent" job.

TRANSPORTATION PLAN

The Street Plan includes recommendations to increase route choices by providing for additional access to Route 40 (See Map 10-1). The Pedestrian Plan (see Map 10-2) includes recommendations to improve pedestrian connectivity to activity centers (e.g., waterfront, town hall, recreation areas, shopping). The same principles, i.e., route choice and pedestrian mobility, should apply in the Growth Area and to developments in County areas as well.


Map 10-1
2008 COMPREHENSIVE PLAN
CHARLESTOWN, MARYLAND
TRANSPORTATION PLAN
Functional Classification System
LEGEND:
Interstate
Principal Arterial
Major Collector
County Collector
Local
NORTH EAST
CHARLESTOWN
Carpenter's Point RD
I-95
272
40
7
164
Peter Johnston & Associates, LLC
Easton, Maryland
0
0.25
0.5
1
1.5
2
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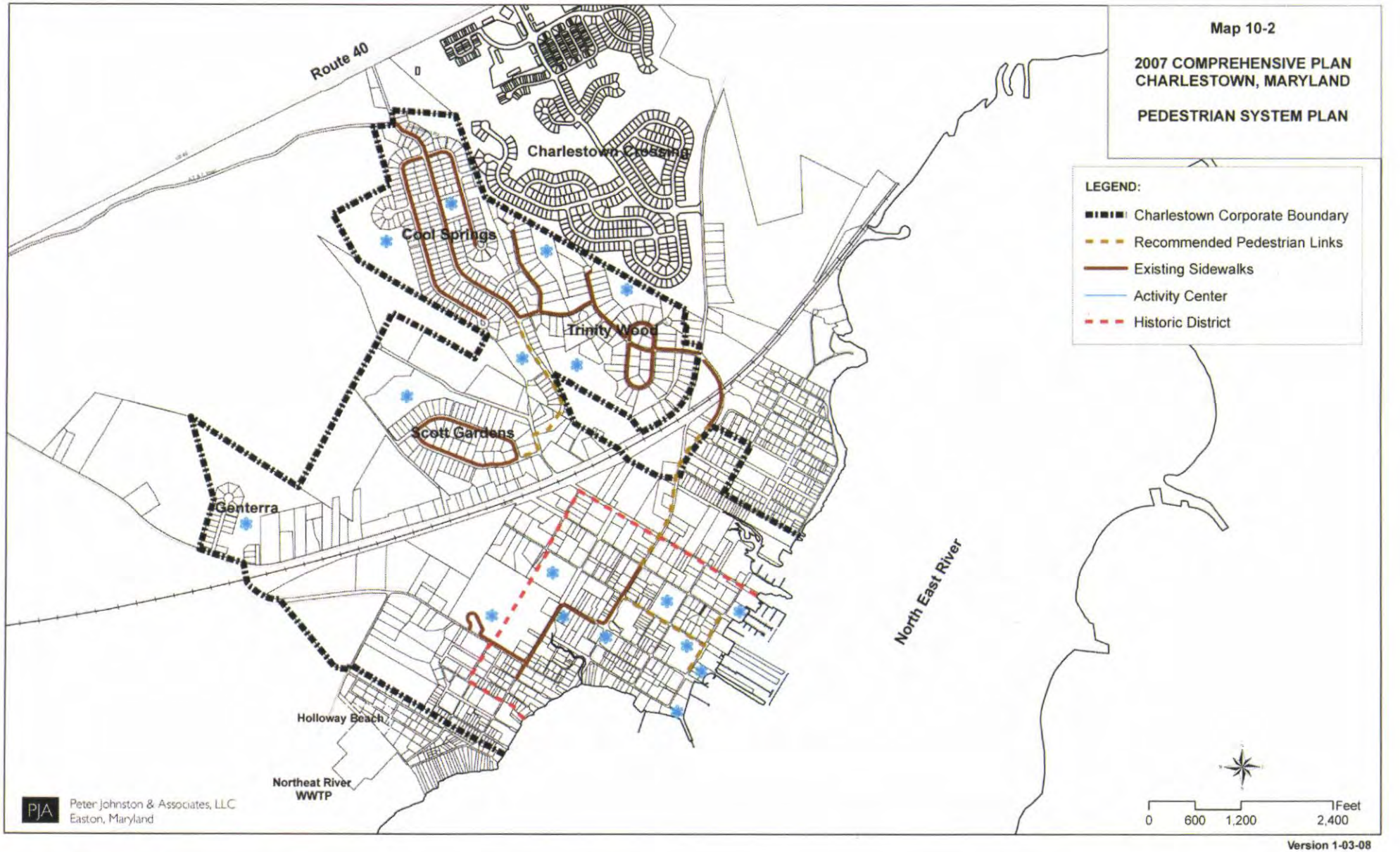

Map 10-2
2007 COMPREHENSIVE PLAN
CHARLESTOWN, MARYLAND
PEDESTRIAN SYSTEM PLAN
LEGEND:
Charlestown Corporate Boundary
Recommended Pedestrian Links
Existing Sidewalks
Activity Center
Historic District
Route 40
Charlestown Crossing
Cool Springs
Trinity Wood
Scott Gardens
Genterra
North East River
Holloway Beach
Northeat River
WWTP
PJA
Peter Johnston & Associates, LLC
Easton, Maryland
0
600
1,200
2,400
Feet
Version 1-03-08

Chapter 11 Plan Implementation

In an article entitled *Great Neighborhoods: Places that Stand-Out for their Character, Livability, and Positive Community Feeling*[1], a survey was conducted to determine the characteristics of "what makes a great neighborhood." 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;
5. Promotes community involvement and maintains a secure environment;
6. Promotes sustainability and responds to climactic demands; and
7. Has a memorable character.

The responses cited above largely focus on the concepts of "place-making." In this regard, design is an important component of creating neighborhoods and communities that facilitate social interaction, involvement, and a sense of pride. Charlestown has many of the qualities described above, which can be enhanced with planning and the effective implementation of this Comprehensive Plan.

BACKGROUND

The analysis of existing land use patterns contained in *2008 Charlestown Comprehensive Plan* (Comprehensive Plan) suggests several broad conclusions that have provided a basis for developing implementation recommendations. These include the following:

- Residential densities (as suggested by average lot size) in Charlestown's older neighborhoods come closest to achieving the "Smart Growth" density norm of 3.5 dwellings units per acre.
- Newer developments, north of MD Rt. 7, can be characterized as "suburban" in nature (as suggested by average lot size) and are not achieving "Smart Growth."
- The limited amount of commercial land use suggests that the Town may want to consider providing land for additional neighborhood commercial uses at appropriate locations in the Town. This may be accomplished by allowing a broader mix of uses in the Town Center and in new residential developments.

[1] American Planning Association *Planning* Magazine, January 2008

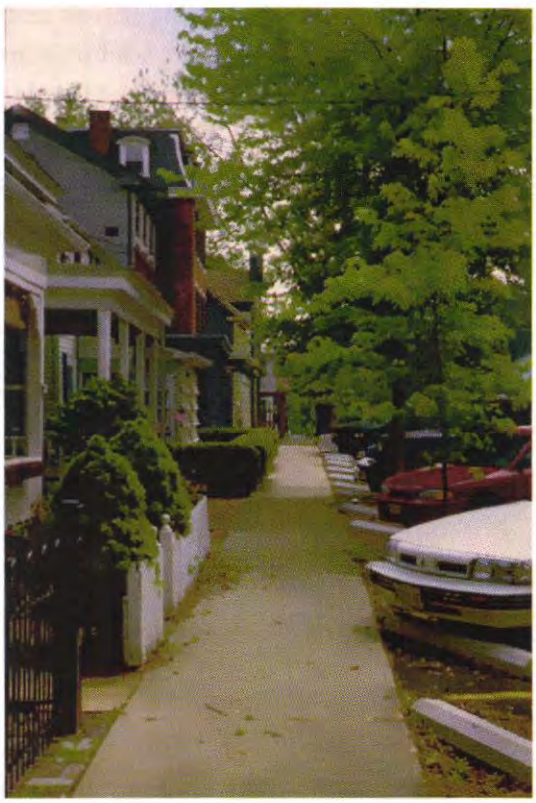
- The distribution and quantity of parkland and open space appears to be adequate to serve the existing population.
- The amount, distribution, and current use of Town-owned public land suggest opportunities for development of additional community uses.

Effective implementation of the Comprehensive Plan is particularly important, when considered in the context of the significant development and growth management issues facing the Town and Cecil County.

SECTION I: COMMUNITY GROWTH & DESIGN

The development and design of a community is important for maintaining what is special about a given place. Whether special characteristics are historic sites and structures, parks and open spaces, natural features, or shopping and recreation, maintaining and enhancing these characteristics is vital to sound public health.

Charlestown wants attractive projects with good site planning, including structures, circulation, and landscaping. This includes well thought-out plans in terms of how development relates to all surrounding properties. These are projects that follow sound place-making principles and result in neighborhoods instead of subdivisions.



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 and community interaction.

Part 1: Design Principles

The following general rules clarify the Town's intent as concerns development design and hopefully stimulate the submission of noteworthy projects:

- 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 narrow, discourage through

traffic, be well-landscaped with shade trees, and be 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 that may be proposed. 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 also separates and buffers incompatible land uses such as the rear of commercial buildings and loading areas from adjoining residential lots. 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. Many examples exist of highly successful shopping areas where paved parking spots were reduced in favor of shade trees, landscaped berms, shrubs and flowers. Whenever possible, it is better to give preference to green space over asphalt and paved parking. This also assists in achieving water quality objectives.
- Signage should be informative without being intrusive. Signs should not dominate the visual landscape. Signs should be compatible with their purpose, be clear, concise, and as small as reasonably possible. Small signs slow traffic, and low level pedestrian scale signage that is attached to its parent structure is preferred. Charlestown should spend additional effort creating sign guidelines appropriate for the MD Rt. 7 corridor as well as other guidelines appropriate for the rest of the Town.
- The architecture and styles proposed should be in keeping with the building types and styles that have evolved in the Charlestown 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 Charlestown, 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.

Large-scale development projects can best address issues that affect these guiding principles, by adhering to the following basic design parameters:

- 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.

Part 2: Access, Circulation and 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 and 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.

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 as well as for all those likely to need or desire access to the property in its intended use. 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, or 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 and as access to rear parking areas in commercial and office areas.

The street layout should present an attractive streetscape. A streetscape that is interesting to 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.

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.

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 should 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.

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.

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.

Part 3: Annexation

Charlestown'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 2025, 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 Charlestown Comprehensive Plan, i.e., compact development meeting smart growth density targets.

The long-term development policy for Charlestown 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 substantial 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. This development will be planned in a manner that makes efficient use of the land. Runoff and other negative impacts will be minimized.

Part 4: Planned Unit Development (PUD)

When large parcels of land are annexed in the Growth and Annexation Area, Charlestown will encourage communities that include a mix of uses that provide a full range of opportunities and services. To accomplish this end the Town will include provisions for planned, mixed-use communities in the revised zoning ordinance. The PUD provisions will apply to large vacant tracts and to annexed land. The PUD ordinance will permit "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.

SECTION II: ZONING REGULATIONS

In light of possible new development in the future, as well as infill and redevelopment, it is important to ensure that development codes and regulations guide development in a manner that is consistent with the recommendations of this 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 Charlestown. Currently, these regulations are an impediment to the effective implementation of the policies expressed in this Comprehensive Plan. At a minimum, the Zoning Ordinance should accomplish the following:

- Promote, in accordance with present and future needs, the safety, morals, order, convenience, prosperity, and general welfare of the citizens of Charlestown, Maryland and its environs;
- Provide for efficiency and economy in the process of development;

- Require appropriate and best use of land, for convenience of traffic and circulation of people and goods, for the use and occupancy of buildings, for healthful and convenient distribution of population;
- Foster good civic design and arrangement; and
- Ensure adequate public 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.

Part 1: Zoning Regulations

The current Charlestown zoning regulations reflect efforts for zoning designations to match conditions, when they were established in years past. 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 Charlestown. 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.

Part 2: Zoning Map

The Charlestown Official Zoning Map is inconsistent with the Zoning Ordinance. The Official Zoning Map should be updated to reflect Charlestown's current corporate boundaries, annexed areas that are now part of the Town, and the by-right zoning applied to these areas. The Zoning Map also should be updated to reflect the policy direction of this Comprehensive Plan, following review and updates to the Zoning Ordinance.

Part 3: Zoning for Commercial Uses

Charlestown should develop design standards and guidelines for all new commercial development. These should include the design of the building, landscaping, parking requirements, lighting, and signage. All such new buildings should be compatible with the scale and character of the Town. Great care should be exercised to ensure that the entrances into Charlestown 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.

Part 4: Building Character

The appearance and architectural character of new construction and renovation is a subject that warrants some discussion and guidance. While Charlestown 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 Charlestown.

New construction should take design inspiration from the simple forms and building masses that are prevalent in our area. Commercial buildings should retain as much of a residential "flavor" as is 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. We do not want large parking lots that present a "sea of asphalt" appearance. Shade trees and flowering shrubs should be combined with berms and evergreens to soften both building edges and parking areas.

Part 5: Landscape Standards

Charlestown will 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. The Town will expect landscaping to be more than just greenery which is used to dress up a place.

Landscaping will 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 will be required for all major developments.

Part 6: 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.

Part 7: 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. As a significant national landmark related to Maryland's colonial past, Charlestown has a Historic District and Historic District Commission, as described in the Zoning Ordinance. The preservation of Charlestown's historic sites and structures is important, both from a community identity and economic perspective. Recent Maryland laws also call for a reduction in energy consumption, supporting the concepts of "green" construction materials and practical energy-saving methods. These laws should be harmonious initiatives.

It is important to balance historic preservation with energy conservation. 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.

Charlestown 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.

Part 8: Land Use Planning Areas in the Regulatory Context

Land Use Planning Areas are described in the Land use Chapter of this Comprehensive Plan and include the following: 1) Town Center; 2) Marine; 3) Neighborhood Conservation; 4) Neighborhood Redevelopment; 5) Green Corridor (Conservation Corridor); 6) Parks & Open Space; and 7) Public/Semi-Public. It is the purpose and the intent of comprehensive planning to translate these planning areas into zoning districts. In this regard, details regarding each planning area are listed below:

Town Center

There is a strong need to manage the use of existing properties in Charlestown, including buildable lots. The architectural and landscape character of the Town is an important and valuable asset. Therefore, this Comprehensive Plan is designed to encourage the preservation of the older community and village scale.

The existing Town Center character for Charlestown, resulting from historic land use development patterns, reflects many of the characteristics of "Smart Neighborhoods." However, the current zoning for much of the "Town Center Planning Area" does not recognize the legitimacy of the historic land use mix.

The Town should create flexible zoning provisions for the Town Center that expressly recognize the existing mix of residential and non-residential uses. Zoning standards for this planning area should provide for the expansion of existing non-residential uses, and where appropriate, creation of new compatible commercial and business uses. There are several strategies that the Town may employ to regulate future development or redevelopment in this planning area.

Much of the development potential in this planning area can be classified as infill and/or redevelopment. Infill and redevelopment standards/guidelines should be established that permit the Charlestown Planning and Zoning Commission to approve new and expanded non-residential uses that are found to be compatible with surrounding land uses.

Marine

Marine land uses are currently categorized under the "Shoreline Recreational Residential District" (R-R) in the Zoning Ordinance. This district promotes residential development. In order to achieve consistency with the Comprehensive Plan, in regards to preserving, enhancing, and potentially expanding marine uses, the Zoning Ordinance will require review and updates. Land categorized under the Marine Planning Area classification may require eventual rezoning.

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:

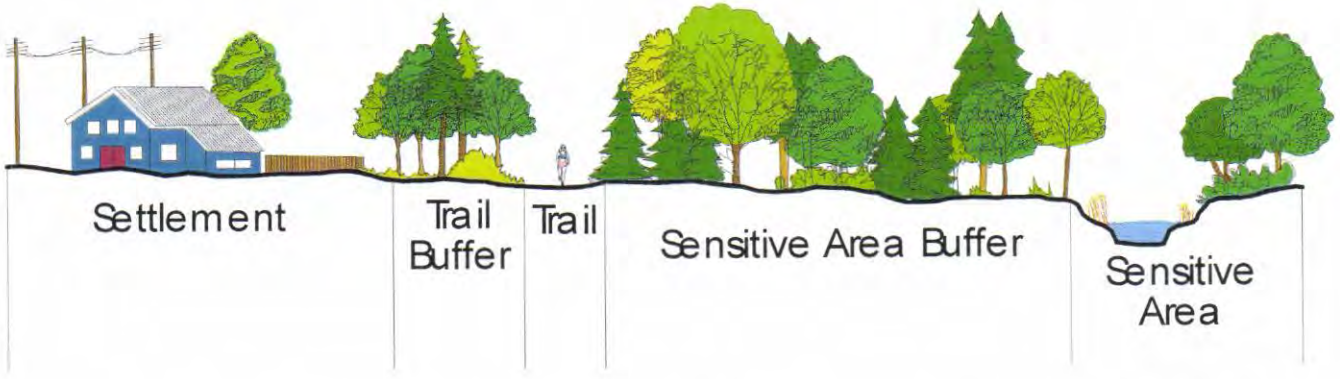
- Connectivity – appropriate vehicular and pedestrian connections between on-site and off-site transportation systems.
- Circulation – consistency with the area wide vehicular and pedestrian circulation concepts of the Comprehensive Plan.
- Parking – flexible parking requirements.
- Compatibility – essential elements of compatible project design, e.g., design, pattern, alignment, size, and shape.

Neighborhood Redevelopment

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 this planning area. This can be accomplished with a special "Infill & Redevelopment Overlay Zone" that allows the Charlestown 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.

Green Corridor

The "Green Corridor" is a conservation overlay based on existing drainage patterns and proximity to nearby sensitive areas. The purpose of the Green Corridor is to protect water quality and sensitive environmental areas in the Charlestown 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, Charlestown should encourage Cecil County to promote the preservation of green infrastructure, not only for environmental protection, but also to provide separations between urban/suburban and rural areas.

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 Green Corridor 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.

Parks & Open Space

A variety of parks and open space in Charlestown should be provided for enjoyment by people of all ages. 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 to serve the needs of the existing population. New developments will be required to provide a variety of park and open space facilities to address the needs of the new neighborhoods. 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.

Public & Semi-Public

Charlestown has many public and semi-public spaces, which contribute to civic and social life within the Town. The adequacy of public and semi-public spaces should be assessed by the Town. This includes the need for expanded municipal functions and public facilities as Charlestown grows, including a new Town Hall, Post Office, and the addition of a new cemetery. The Town may wish to consider forming a "Citizens Committee" to evaluate the need for a new cemetery and the merits of locating it on Town owned property. Public and semi-public spaces should be fully integrated with the infill and redevelopment strategies and standards proposed by the Plan.

SECTION III: WATER RESOURCES

Goals for water resources include the following:

- Maintain and protect an adequate water supply to serve the residents of Charlestown and collaborate with Cecil County to serve current and future populations through 2030.
- Protect water supply from pollution and encroachment.
- Take steps to restore and protect water quality and contribute toward meeting water quality regulatory requirements in rivers and streams in the Northeast River Watershed. This will require addressing current water quality impacts as well as future impacts from land development and population growth.
- Protect the habitat value of rivers and streams.

The water resources element goals provide direction to both county and town planning initiatives. Meeting the water resources element regulatory goals will entail requiring that new development be on the smallest lot sizes as are reasonable, implementing water conservation, staging growth to the availability of needed water resources, clustering development while protecting forested areas (e.g., the recommended Green Corridor), enhancing existing developed areas through infill and mixed use zoning and implementing best management practices.

Recommendations for water resources include the following:

- Work with Cecil County and the Town of North East to develop watershed planning and management guidelines and relate all development to its impact on the county's water resources.
- Encourage the County to connect septic systems in or near existing sewer service areas. In addition, establish a retrofit program funded by the Bay Restoration Fund to upgrade failing septic systems in order to advance bionutrient reduction systems in the Chesapeake Bay Critical Areas.
- Develop water conservation methods and policies and encourage innovative technologies for stormwater management such as bio-roofs.

SECTION IV: SUBDIVISION REGULATIONS

Charlestown will review the current subdivision regulations for their impact on the character of the existing community. The current subdivision regulations do not adequately prepare the Town for growth. In addition to infrastructure requirements, any new and large scale development should not follow a sprawling, suburban development pattern. Therefore, the *Charlestown Subdivision Regulations* should encourage developments that are extensions of the Town and not developments that do not match the scale and character of the Town.

Charlestown should review development standards. Specifically, this includes development standards for roads and streets to ensure that new impervious surfaces are minimized, consistent with the policy objectives of this Comprehensive Plan. In addition, traffic calming measures are important, particularly for residential neighborhoods. Traffic calming measures should be a basic design requirement.

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.

SECTION V: BUILDING CODES

If Charlestown 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.

SECTION VI: CAPITAL IMPROVEMENTS

Charlestown 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.

SECTION VII: ADEQUATE FACILITIES PROVISIONS

As a primary policy, Charlestown, in coordination with Cecil County, 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, infrastructure studies (including water and sewer plans) and impact fee structure are critical. These updates are particularly important prior to the annexation of any new land outside current corporate boundaries for annexation and development.

Part 1: Public Water & Sewer

Currently, Charlestown controls its own water system and sewerage is provided by Cecil County from the Northeast Wastewater Treatment Plant. 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 Cecil County in regards to sewerage. This includes a determination of existing capacity, future capacity, and allocation. Discussions between the County and Town, regarding sewer allocation

agreements, are critical to serve new development. In addition, the Town should prepare a Water Capacity Management Plan in conjunction with the Town's Capital Improvement Plan to determine water needs, review infrastructure, recommend necessary upgrades, and detail associated costs.

Part 2: Stormwater Management

Charlestown utilizes Cecil County's Stormwater Management Ordinance. Charlestown should encourage Cecil County to periodically review and update stormwater management to incorporate new techniques and requirements. In addition, Charlestown should encourage the County to vigorously enforce the Stormwater Management Ordinance.

SECTION VIII: HERITAGE PRESERVATION

Implementation recommendations for heritage resources are designed to assist Charlestown in preserving significant resources but also develop broad strategies to enhance resources and promote compatible economic initiatives that benefit the Town'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.

Part 1: Local Heritage Preservation Initiatives

Heritage preservation in Charlestown is important because historic sites and structures are valuable resources. At the municipal level, Charlestown should continue to build heritage tourism attractions thereby building the local economy and assisting in the enhancement of existing resources. The colonial architecture of Charlestown is a commodity and of particular importance. The Town should seek ways to ensure that the colonial architecture found along Charlestown's streets is maintained and preserved as a valuable economic asset.

The development of planning policies and regulatory mechanisms, including Design Objectives or 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" and "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 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.

Part 2: Regional Heritage Preservation Initiatives

Charlestown should work with neighboring municipalities, Cecil 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 create an "economies of scale" and allow for enhanced assistance such as a full-time Heritage Planner. This is particularly important for property owners that may require assistance accessing State grants, loans, and tax credits for historic restoration/rehabilitation. A Heritage Planner is the "go-to person" for technical and professional assistance regarding heritage resources, including assistance to property owners.
Charlestown should consider requesting inclusion in the Lower Susquehanna Heritage Greenway as a future "Target Investment Zone" (TIZ) or consider developing a separate "Heritage Area Management Plan" for Charlestown, North East, and Elkton. This includes partnering with local entities that can assist heritage preservation initiatives such as Colonial Charlestown Incorporated, the Cecil County Historical Society, Cecil County Government, and neighboring historic towns to promote and enhance heritage preservation and tourism initiatives in the region.

Regional heritage initiatives will assist Charlestown and region to maximize access to State funds for heritage related initiatives, including funding through the Maryland Heritage Areas Authority (MHAA). A Heritage Area Management Plan unites resources, linkages, and the potential for heritage tourism and economic development. Annual funding is available from the MHAA for "Certified Heritage Areas." This will require a lengthy process of recognition and certification, which is gained following the production of a Heritage Area Management Plan.
In addition, Charlestown should work with regional entities to establish potential routes for a "Scenic Byway." This byway can link to the existing byway for the Lower Susquehanna Heritage Greenway in Perryville and Port Deposit. Scenic byways are funded through the Maryland State Highway Administration and Maryland Tourism. As a stop along the historic "Old Post Road," Charlestown is in a unique position to achieve potential byway recognition. In addition, due to the prominence of the "Old Post Road," a Maryland Scenic Byway has the potential for Federal recognition as a National Historic Byway, which provides additional funding layers for the region.

Part 3: Heritage Preservation Planning

Charlestown should consider developing a municipal "Historic Preservation Plan" that provides specific goals, objectives, and recommendations for the preservation of historic sites and structures. The preparation of a Historic Preservation Plan will assist in the inventorying, mapping, and documenting of key resources such as landmark sites and structures and secondary contributing resources (those resources that do not require museum quality appearance). As part of this process the Maryland Historical Trust's *Inventory of Historic Sites and Structures for Charlestown* should be updated to include buildings that may have been demolished or altered since the survey was first prepared in 1969 (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 Cecil 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. The Town of Charlestown should consider partnering with Colonial Charlestown Incorporated to assist in accessing grant funding and preparing the Historic Preservation Plan. Efforts also can be assisted by the Town's Historic District Commission and Planning Commission. As a national landmark, Charlestown is in a unique position to take advantage of these grants and programs.

Part 4: Heritage Preservation – Regulatory Mechanisms

Updating regulatory mechanisms for heritage preservation is encouraged including the adoption of building maintenance codes, stronger enforcement, and an assessment of the role of the Historic District Commission, Planning Commission, and Historic District Ordinance in the Town's regulatory processes. Administrative enhancements also may be required.

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. The development of "Design Guidelines" for the Historic District can assist with appearance standards for new development, infill, and redevelopment. 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."

Part 5: Infrastructure Improvements that Promote Heritage Tourism

Charlestown should improve its infrastructure in the Historic District to promote a walkable and compact community. This includes sidewalks, period street lighting, greenways, and connecting open space/parks. Heritage area certification and scenic byway status provide 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 Charlestown.

SECTION IX: ADMINISTRATION AND ENFORCEMENT

Part 1: Streamlining the Development Review Process

Development review of infill and redevelopment projects within the old town portions of Charlestown will be streamlined by amending the Zoning Ordinance to give the Charlestown Planning and Zoning Commission greater authority to vary certain development standards for proposed projects that meet voluntary design guidelines.

Part 2: Innovative Development Techniques

Amendments to the Zoning Ordinance will add special provisions for planned developments. The standards and guidelines will establish a development and design framework for mixed-use projects, including commercial and business uses appropriate to a neighborhood context. The process will include a requirement that a "Developer Rights and Responsibilities Agreement" (DRRA) is executed as part of the zoning approval process.

Part 3: 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 charter and ordinances passed by the Town. This Comprehensive Plan provides a guide for the management of Charlestown and should be followed by the Town government.

The Charlestown 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 Cecil County's laws and regulations, and with the management of Charlestown, 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 Charlestown 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 Charlestown 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.

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Appendix 1 Water Resources: Technical Supplement

The following technical supplement to the Water Resources Element of the Town of Charlestown's Comprehensive Plan was prepared by Earth Data Incorporated (EDI) of Centreville, Maryland. EDI is a field-oriented hydrogeologic and environmental consulting firm with more than 30 years of experience evaluating, optimizing, and predicting impacts to the groundwater resources of the State of Maryland.

BACKGROUND

The current Groundwater Appropriation Permit (GAP) (CE1988G087/03) for the Town of Charlestown issued by the Maryland Department of the Environment (MDE) authorizes the annual average withdrawal of 207,000 gallons per day (gpd) and 300,000 gpd during the month of maximum use from two wells completed in the lower Potomac aquifer. A modest increase to the permit was approved by MDE in 2005. The current permit is set to expire on September 1, 2017. Construction details of the wells, obtained from well completion reports filed with MDE, are summarized in the following table:

TABLE 1: WELL CONSTRUCTION DETAILS

Classification	Athletic Field Well	Cecil Street Well
Well Permit No.	CE88-1910	CE88-2612
Year Drilled	1991	1992
Well Diameter	6-inch	6-inch
Total Depth	132 feet	144 feet
Screen Interval	100'-132'	118'-143'
Reported Capacity	100 gpm	100 gpm

Sources: Maryland Department of the Environment (MDE); Earth Data Inc.

In the five year period from 2003 to 2007, the Town of Charlestown's annual water use has been fairly steady and has averaged approximately 32.75 million gallons per year. Withdrawals in 2005 were the highest at 35.84 million gallons. For the same period, annual withdrawals averaged approximately 90,000 gallons per day (gpd), and withdrawals during the month of maximum use averaged approximately 108,600 gpd. Both values are well below the maximum withdrawals allowed under the Town's current GAP.

It is projected that within Charlestown's current corporate boundary the Town's population, number of dwellings, and water use could more than double by the year 2025, compared to 2000. If additional development occurs in the Town's designated Growth Area (306 developable acres) under Smart Growth density guidelines, the Town's total annual average water demands could increase to 891,000 gpd. This represents an increase of 684,000 gallons per day over the current allocation and 801,000 gpd over their current annual average usage.

HYDROGEOLOGIC SETTING

The Town of Charlestown, Maryland is located within the Atlantic Coastal Plain Physiographic Province. The Coastal Plain is underlain by a thick wedge of sedimentary deposits consisting of sands, silts, gravels, and clays that dip and thicken toward the Atlantic Ocean. Based on data from the deepest wells in the area and from selected reports approximately 150 feet of Coastal Plain sediments occur above the crystalline basement bedrock complex in the vicinity of Charlestown (Hansen, 1978).

Table 2 below shows the general hydrogeology in the vicinity of the Town of Charlestown. This geologic summary is based on a review of existing literature on the local geology along with the geophysical logs and driller's logs from recent test well drilling in the vicinity. The regional geologic structure and stratigraphy are illustrated in published cross-sections which are roughly along strike (Figure 1 modified from Otton et al., 1988) and along dip (Figure 2).

Where present, the youngest sediments in the vicinity of Charlestown are mapped by Higgins and Conant (1986) as the Pleistocene age "Coarse-grained facies" of the Talbot Formation and the Miocene age Upland Gravel deposits. Higgins and Conant (1990) describe the Talbot Formation as a terrace deposit located typically at lower elevations near the shorelines of the tributaries of the Chesapeake Bay. The "Coarse-grained facies" consists of loam, clay, silt, and sand with gravel near the base and are typically 7 to 15 feet thick.

The Upland Gravel deposits are described by Higgins and Conant (1990) as primarily course grained gravel with fine sand and clay near the base and are estimated to be 40 to 50 feet in total thickness. The Upland Gravel deposits are not continuous across the vicinity but exist as outliers typically at higher elevations than the surrounding area. Some publications (e.g. Otton et al., 1988) collectively refer to these sediments as the Columbia aquifer. Sand and gravel from these deposits are mined throughout Cecil County including in the general vicinity of Charlestown.

TABLE 2: GENERAL HYDROGEOLOGY - CHARLESTOWN						
Age	**Geologic Unit**	**General Hydrogeologic Units**	**Est. Depth**	**Est. Elevation**	**Est. Thickness**	**General Description**
Pleistocene - Micocene	Talbot Formation Upland Gravels Undifferentiated	Water – table aquifer	0 to 75	+76/+121	0-75	Quarzose sand, gravelly sand, silt, and clay, locally micaceous. Lenticular clay layers with lignite
Crestaceous	Potomac Group	Lower Potomac – Water table aquifer	0 to 18/39	+76/+121 +58/+82	18-39	Quarzose sand, gravelly sand, silt, and clay, locally micaceous. Lenticular clay layers with lignite
		Lower Potomac (confining unit)	From 18/39 to 100/125	From +58/+82 to -24/-4	82-86	Quarzose sand, gravelly sand, silt, and clay, locally micaceous. Lenticular clay layers with lignite
		Lower Potomac (aquifer)	From 100/125 to 132/152	From -24/-4 to -56/-31	27-32	Quarzose sand, gravelly sand, silt, and clay, locally micaceous. Lenticular clay layers with lignite
Paleozoic - Precambrian	Principio Furnace Mb. Of James Run Fm.	Basement	From 132 to Unknown	-56 to Unknown	Unknown	Crystalline rocks inter-bedded gray to grayish white granofels and gray diamictite

Modified from: Boring logs; Higgins & Conant, 1986; Higgins & Conant 1990; and Otton & Mandle, 1984; *Note: The estimated elevation of the land surface at the site is based on a low of +76 ft msl at Well 4 and a high of +121 ft msl at Well 6, based on USGS topographic map for North East, Maryland.

Abbreviations: Mb = Member; Fm = Formation; Gp = Group

FIGURE 1

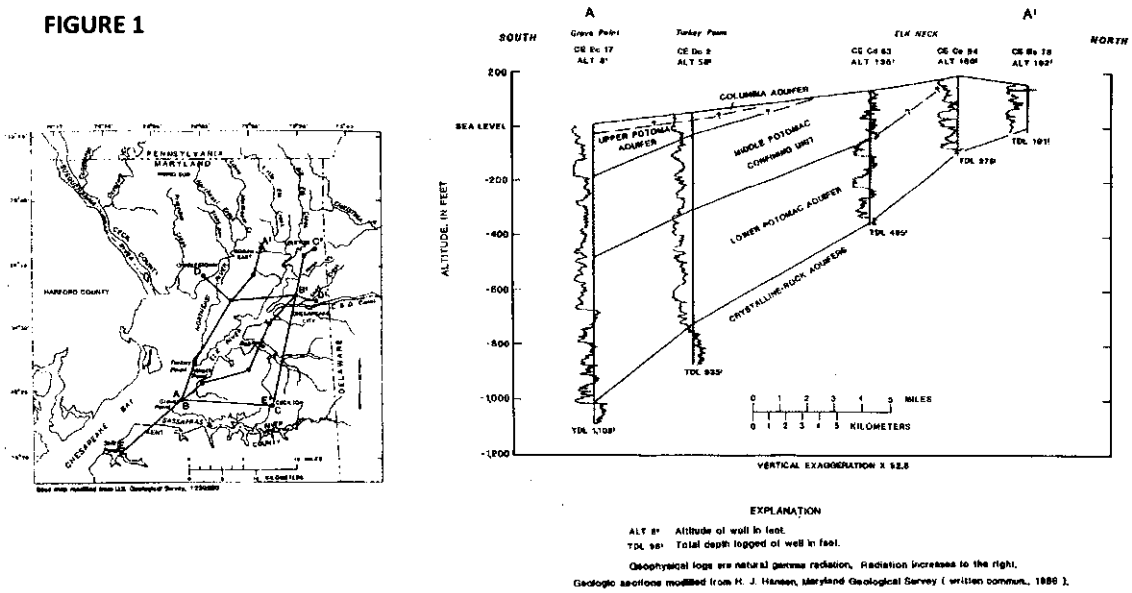

Figure 1- General geologic cross section along southern Cecil County (roughly in the direction of stratigraphic strike) (modified from Otton et. al., 1988)

FIGURE 2

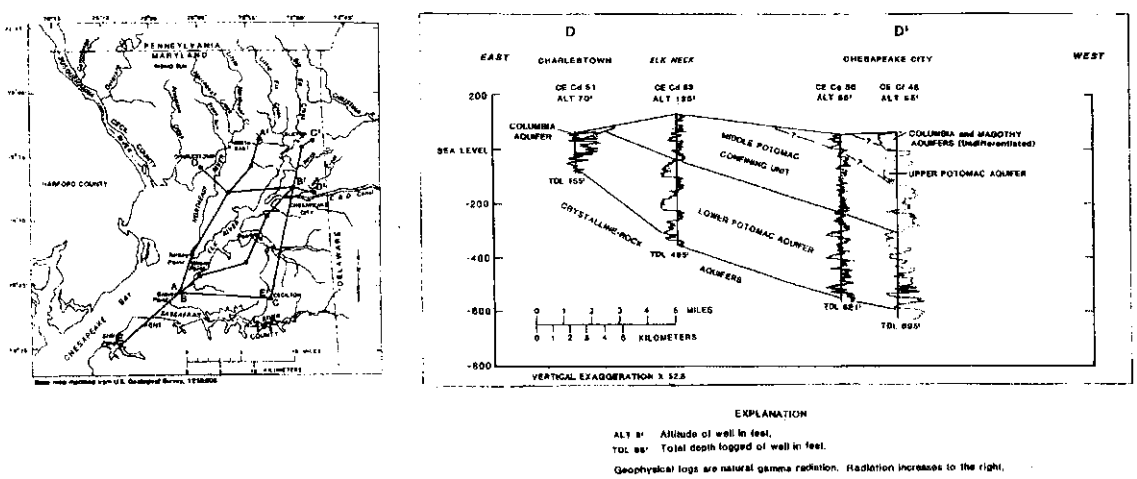

Figure 2- General geologic cross section along southern Cecil County (roughly in the direction of stratigraphic dip) (modified from Otton et. al., 1988)

Most of Charlestown and the immediate surrounding area lie within the outcrop area of the Cretaceous sediments of the non-marine Potomac Group (Higgins and Conant, 1990). The Potomac Group includes, in descending order, the Patapsco, Arundel and Patuxent Formations. In Cecil County the Potomac Group is typically undivided stratigraphically due to the lithologic similarity of sediments in the unit. Differentiation into formations is often only possible on the basis of palynology (Higgins and Co nant, 1990). The Potomac Group is characterized by inter-bedded gravelly sand, sand, silt and clay. Potomac clays commonly have strong colors (red, yellow, purple) which may be mottled with light gray or white streaks (Higgins and Conant, 1990). Otton et. al (1990) assign three regional hydrologic subdivisions to the Potomac Group sediments in Cecil County as follows:

- Upper Potomac aquifer;
- Middle Potomac confining unit; and
- Lower Potomac aquifer.

Based on published geologic cross-sections (Figures 1 and 2 above) it appears that the upper Potomac aquifer and the middle Potomac confining unit are mostly absent near Charlestown. Data obtained during the recent construction of test wells west of Charlestown indicates the possible presence of two distinct water-bearing units within the lower Potomac aquifer, separated by a confining unit.

The three distinct units vary slightly in thickness. The sands of the lower Potomac aquifer extend to the crystalline bedrock complex and are approximately 25 to 30 feet thick. Hansen (1978) estimates the depth to bedrock to be approximately 150 feet. The crystalline basement bedrock complex below Charlestown is mapped as the Principio Furnace Member of the James Run Formation (Higgins & Conant, 1986) and is described metavolcanic rocks consisting of "interbedded gray to grayish white granofels and gray diamictite." This complex has some limited water-bearing potential in the vicinity of Charlestown but not enough to support any appreciable withdrawals.

AQUIFER CHARACTERISTICS

The basic hydraulic characteristics of an aquifer can be defined in terms of transmissivity and storativity. Once these factors are known they can be used to predict the response of the water level in a well and in the surrounding aquifer in which it is completed, to various pumping conditions over time. Information regarding the general hydraulic characteristics of an aquifer can be derived by plotting pumping test data and using an appropriate equation (e.g., Theis non-equilibrium equation, 1935; Cooper-Jacob modification, 1946) to solve for aquifer coefficients.

The transmissivity of an aquifer is an indication of the capability of the entire thickness of the aquifer to transmit water. Transmissivity is defined as the rate of flow through a vertical section of the aquifer that is one foot in width and the saturated thickness in height under a hydraulic gradient of one. Generally, transmissivity is expressed in terms of gallons per day per foot (gpd/ft) or square feet per day (ft2/d). The transmissivity is also equal to the hydraulic conductivity (K) of an aquifer multiplied by the aquifer thickness.

If an aquifer generally conforms to assumptions used in the Theis non-equilibrium equation (1935) (e.g., uniform character and thickness, no recharge/leakage, infinite areal extent, distance of well to drawdown measurement is small, well fully penetrates the aquifer), most of the data points collected during an aquifer test (either pumping or recovery) should fall on a straight line on a semi-log plot of water depth as a function of time, and the transmissivity of the aquifer in the vicinity of the well can be calculated from the following equation:

$$T = \frac{264\,Q}{\Delta(s - s')}$$

Where Q = the constant pumping rate in gpm during the drawdown portion of a pumping test; and Δ(s-s') = the slope of the straight-line portion of the semi-log data plot of either drawdown or recovery data, expressed as the change in depth to water over one log cycle

An examination of the GAP file for the Town of Charlestown indicates that a transmissivity value of 5,000 gpd/ft and storage value of .00012 were obtained from a prior pumping test. These values were used by MDE in completing their impact analysis summary as part of the Town's recent (2005) increase in permitted withdrawals.

ABILITY TO MEET FUTURE WATER DEMANDS

Growth Within Current Corporate Boundary Limits

Related to the Town's 2005 GAP increase, MDE determined that annual average withdrawals of 207,000 gpd and 300,000 gpd during the month of maximum use were reasonable, and that no significant negative impacts would occur to the aquifer resource or neighboring water users. As previously discussed, the existing wells are completed in the lower Potomac aquifer. The aquifer is confined at this location and with maximum groundwater withdrawals at the permitted levels there is still approximately 60 feet of available drawdown in the aquifer as defined by the Code of Maryland Regulations (COMAR).

As shown in Table 3, it is projected that infill development and general growth within the Town of Charlestown's current corporate limits will increase as follows:

TABLE 3: CHARLESTOWN INFILL DEVELOPMENT					
Classification	**2000**	**2010**	**2015**	**2020**	**2025**
Population	1,019	1,196	1,664	1,869	2,075
Dwelling Units	379	453	640	730	820
Total Water Use (gpd)	94,750	113,250	160,000	182,500	205,000

Groundwater resources and the Town's current level of permitted withdrawals are adequate to meet the increased demands that will result from projected growth within the current corporate limits of Charlestown through the year 2025. However, additional production wells will need to be drilled in order to meet the increased water supply demands and provide adequate reserve capacity. Due to the relatively shallow nature of the lower Potomac aquifer and somewhat limited available drawdown, it is very important that the new wells be properly located (spaced apart), designed and constructed so as to minimize drawdown in the wells and interference impacts with other groundwater supplies.

Additional Growth Areas

As shown in Table 4, approximately 306 developable acres have been identified as potential a growth area for the Town of Charlestown. Year 2025 increases in population, number of dwellings, and water use have been constructed for two potential scenarios: Scenario 1 assumes 21,780 square feet per dwelling (1/2-acres lots); Scenario 2 (Smart Growth) assumes 8,000 square feet per dwelling, or approximately 5.4 dwellings per acre.

TABLE 4: CHARLESTOWN GROWTH AREA		
Year 2025 Projections	**Scenario 1**	**Scenario 2**
Population	3,062	7,846
Dwelling Units	1,160	2,972
Additional Water Use (gpd)	290,000	743,018
Total Water Use (gpd)	495,000	948,018

Scenario 1 represents a 122 percent increase in annual average groundwater use compared to the Town's current permitted withdrawals. The percentage increase under Scenario 2 is 331 percent. Based on the limited hydrogeologic data that exists for the lower Potomac aquifer in the vicinity of Charlestown, it appears there may be adequate groundwater resources to support Scenario 1 development in the additional growth areas through the year 2025.

The magnitude of the Scenario 2 increase is such that existing data will not support a reasonable conclusion regarding the suitability of the aquifer resource to meet the demand. In both instances additional study of the area's groundwater resources, including test drilling and pumping would be required before a final conclusion could be reached regarding future groundwater availability to meet possible demands.

The ability of the Town of Charlestown to obtain modifications to their groundwater appropriation permit (GAP) to potentially meet Scenario 1 water supply demands in their defined growth area is directly related to additional future competition for groundwater resources from other municipalities and private water companies. In addition, several new production wells will need to be drilled in order to meet the daily demand and reserve capacity requirements. The importance of future production well location and design cannot be overstated.