

CECIL COUNTY SOLID WASTE MANAGEMENT PLAN 2008 - 2017



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TABLE OF CONTENTS

	Page
INTRODUCTION	
Chapter I Goals and Objectives, County Structure, Laws, and Regulations	
1. Statement of County Goals	I-1
1.1 Solid Waste Management Division Mission Statement.....	I-1
1.2 Objectives	I-1
1.3 Policies.....	I-2
1.4 Conformance with Land Use Plans.....	I-2
2. County Government Structure	I-3
3. Federal, State and Local Laws and Regulations	I-3
3.1 Federal.....	I-3
3.1.1 Federal Statutes Affecting Solid Waste Management	I-3
3.1.2 Federal Regulations Affecting Solid Waste Management.....	I-4
3.2 State.....	I-5
3.2.1 Maryland Laws Affecting Solid Waste Management	I-5
3.2.2 Maryland Regulations Affecting Solid Waste Management.....	I-8
3.3 Local.....	I-10
3.3.1 Cecil County Laws Affecting Solid Waste Management	I-10
3.3.2 Cecil County Regulations Affecting Solid Waste Management....	I-10
Chapter II Population, Zoning, and Land Use	
1. Map of County	II-1
1.1 Municipalities	II-1
1.2 Federal Facilities.....	II-1
2. Population Characteristics	II-1
3. Discussion of Zoning Requirements	II-1
4. Comprehensive Planning and Land Use	II-1
Chapter III Solid Waste Generation Projections, Management, and Facilities	
1. Existing and Projected Solid Waste Stream.....	III-1
1.1 Waste Stream Components Defined	III-1
1.2 Waste Quantities	III-2
2. Basis for Data.....	III-3
3. Types and Quantities of Waste Imported.....	III-3
4. Types and Quantities of Waste Exported.....	III-3
5. Description of Collection Systems.....	III-4
5.1 Solid Waste	III-4
5.2 Recyclables	III-4
6. Existing Solid Waste Facilities	III-6

TABLE OF CONTENTS (Cont'd.)

6.1	Stemmer's Run Transfer Station.....	III-6
6.2	Woodlawn Transfer Station	III-7
6.3	Central Landfill	III-8
Chapter IV Assessment of Waste Disposal System 2008 Through 2017		
1.	Assessment of Existing Solid Waste Disposal System.....	IV-1
1.1	Central Landfill.....	IV-1
1.2	Stemmer's Run Transfer Station.....	IV-1
1.3	Woodlawn Transfer Station	IV-1
2.	Source Separation and Source Reduction Programs	IV-1
2.1	Source Separation	IV-1
2.2	Source Reduction	IV-2
3.	Resource Recovery Options Evaluated.....	IV-2
4.	Public Education Programs.....	IV-2
5.	Asbestos Disposal Capacity	IV-3
6.	Emergency Response Programs and Procedures Defined.....	IV-4
7.	Adequacy of Local Zoning and Master Plan.....	IV-4
8.	Physical Constraints	IV-4
8.1	General Topography.....	IV-5
8.2	Soil Types and Engineering Characteristics	IV-6
8.3	Geologic Conditions & Location	IV-10
8.4	Aquifer Use & Conditions	IV-11
8.5	Existing Wetlands	IV-12
8.6	Surface Water Sources, Flood Plains and Watersheds	IV-12
8.7	Existing Water Quality.....	IV-12
8.8	Land Use	IV-13
8.9	Planned Long Term Growth	IV-13
8.10	Defined Critical Areas	IV-13
Chapter V Plan of Action		
1.	Waste Disposal Capacity	V-1
1.1	Increase Available Waste Disposal Capacity.....	V-1
1.1.1	Vertically Expand Existing Disposal Areas.....	V-1
1.1.2	Develop Additional Waste Disposal Area(s).....	V-2
1.1.3	Re-Development of Past Waste Disposal Area(s)	V-2
1.1.3.1	Existing Cell 1	V-2
1.1.3.2	Existing Cell 4	V-3
1.2	Reduce Annual Consumption of Waste Disposal Capacity.....	V-3
1.2.1	Continued Resource Recovery Activities	V-3
1.2.2	Continued Use of Alternate Daily Cover Materials at the Central Landfill.....	V-3

TABLE OF CONTENTS (Cont'd.)

	1.2.3	Out-of-County Waste Disposal.....	V-3
2.		Waste Handling.....	V-4
	2.1	Stemmer's Run Transfer Station.....	V-4
		2.1.1 Replace Stemmer's Run Transfer Station.....	V-4
		2.1.2 Establish an Additional Transfer Station	V-5
	2.2	Woodlawn Transfer Station	V-5
3.		Resource Recovery.....	V-5
	3.1	Source Reduction, Reuse, and Recycling	V-5
	3.2	Waste-to-Energy	V-6
		3.2.1 Association with Harford County	V-6
		3.2.2 Landfill Gas-to-Energy	V-6
4.		Funding	V-6
5.		Changes in Programs and Related Items.....	V-7

List of Figures

Figure I-1	Cecil County Government Organizational Structure
Figure I-2	Cecil County Solid Waste Management Division Organizational Structure
Figure II-1	Cecil County Map
Figure II-2	Cecil County Zoning Map
Figure III-1	Waste Projections 2008-2017

List of Tables

Table II-1	Cecil County Population Projections – WILMAPCO
Table III-1	Cecil County Historical Waste Stream
Table III-2	Cecil County Waste Stream Projections- Calvert Planning District
Table III-3	Cecil County Waste Stream Projections- Cecilton Planning District
Table III-4	Cecil County Waste Stream Projections- Chesapeake City Planning District
Table III-5	Cecil County Waste Stream Projections- Elkton Planning District
Table III-6	Cecil County Waste Stream Projections- Fair Hill Planning District
Table III-7	Cecil County Waste Stream Projections- North East Planning District
Table III-8	Cecil County Water Stream Projections- Oakwood Planning District
Table III-9	Cecil County Water Stream Projections- Port Deposit Planning District
Table III-10	Cecil County Water Stream Projections- Rising Sun Planning District
Table III-11	Cecil County Water Stream Projections- Central Municipal Landfill
Table III-12	Cecil County Solid Waste Management Program- Existing Solid Waste Facilities
Table III-13	Estimated Distribution of Household Waste and Recyclables by Facility

TABLE OF CONTENTS (Cont'd.)

List of Tables (cont'd.)

Table III-14	Cecil County Historical Waste Stream – Stemmer’s Run and Woodlawn Transfer Stations
Table III-15	Cecil County Water Stream Projections- Stemmer’s Run Transfer Station
Table III-16	Cecil County Water Stream Projections- Woodlawn Transfer Station
Table III-17	Central Landfill – Annual Waste Disposal Capacity Consumption

List of Appendices

Appendix A	Resolution of the Cecil County Commissioners to Adopt the 2008 Solid Waste Management Plan
Appendix B	Maryland Department of the Environment Approval of the Cecil County 2008 Solid Waste Management Plan

INTRODUCTION

The Cecil County (County) Solid Waste Management Plan 2008 – 2017 (Plan) has been prepared in accordance with regulations contained in Title 26 Department of the Environment, Subtitle 03 Water Supply, Solid Waste, And Pollution Control Planning and Funding, Chapter 03 Development of County Comprehensive Solid Waste Management Plans. The Plan addresses a minimum 10-year planning period, and is required to be reviewed by the County, and updated if necessary, every three years. The County has confirmed the municipalities within the County do not have specific, written solid waste management plans.

Appendix A contains a copy of the Cecil County Board of Commissioners Resolution adopting the Plan. Appendix B contains a copy of the written approval of the Plan by the Maryland Department of the Environment.

CHAPTER I

**GOALS AND OBJECTIVES,
COUNTY STRUCTURE,
LAWS, AND REGULATIONS**

1. STATEMENT OF COUNTY GOALS

In developing its Solid Waste Management Plan, Cecil County's overall goal is to provide for a system of solid waste management and resource recovery which will handle the County's current and anticipated future volume of solid waste as economically as possible, while protecting environmental quality, the public health and safety, and preserving the quality of life in the County.

1.1 Cecil County Department of Public Works, Solid Waste Management Division Mission Statement

The primary services provided by the Solid Waste Management Division include daily processing of Cecil County's solid waste stream, implementing Cecil County's Waste Recycling Program, and vigilant monitoring of the environmental site characteristics at the Cecil County Municipal Landfill (referred hereinafter as the "Central Landfill"), as identified by its Refuse Disposal Permit No. 2007-WME-0532.

It is the goal of this division to provide quality service to Cecil County residents, to provide a safe, clean and sanitary site while maintaining a very high standard of service.

It is the goal of this division to be good stewards of the environment, to protect the environment and provide a safe way to dispose of Municipal Solid Waste.

It is the goal of this division to provide a recycling program that is second to none in the state, a program which helps Cecil County learn about, understand, and want to be a part of the recycling future. Through this program give this county a sense of pride about its efforts to protect and preserve the environment.

It is the goal of this division through proper management and vigilant programs to protect and preserve the assets of this county and use them in a manner that is in good standing with the desires of the people of Cecil County.

1.2 Objectives

The objectives of the Cecil County Solid Waste Management Plan are to:

- a) Ensure that all solid waste will be processed to effectively protect the quality of the ambient air, groundwater, and surface water resources, including the Chesapeake Bay, and to minimize the possibility of pollution from the management and disposal of solid waste;

- b) Effectively and efficiently serve existing and future land uses and development within the County including residential, agricultural, industrial, commercial, and marine;
- c) Address issues related to the handling of special and hazardous wastes including but not limited to household hazardous waste (HHW), commercial and industrial waste, medical waste and agricultural waste;
- d) Develop and promote specific waste reduction, reuse (waste diversion), and recycling programs;
- e) Extend the useful life of the Central Landfill;
- f) Promote the use of recycled material by continuing to promote programs that raise the percent to be recycled. Divert a minimum of 15% from the solid waste stream through recycling. The Maryland Recycling Act (MRA) mandated recycling goal of 15% for Cecil County is based on the County's population of less than 150,000);
- g) Communicate to citizens and users of solid waste facilities the goals of the Solid Waste Management Plan;
- h) Develop and maintain community outreach and education programs;
- i) Consider alternate waste management techniques and technologies that may be economically feasible, environmentally protective, and overall beneficial for the citizens of the County and the County's natural resources; and,
- j) Interface with neighboring jurisdictions to periodically review mutually beneficial solid waste management and recycling opportunities that are consistent with the goals and objectives of the County.

1.3 Policies

It is the policy of the Cecil County Government to promote public participation through continued communication with the public concerning solid waste issues, and through ongoing public outreach and education programs. Cecil County supports cooperation with surrounding and nearby solid waste management agencies, authorities, and organizations. Entities with which cooperative efforts in solid waste management may be sought include but are not limited to: Harford and Kent Counties (Maryland); Chester, Delaware and Lancaster Counties (Pennsylvania); the Delaware Solid Waste Authority; and the Northeast Maryland Waste Disposal Authority. The County does not accept refuse from outside the County's jurisdiction.

Cecil County will continue to aggressively promote voluntary programs to meet the state recycling mandates.

1.4 Conformance with Land Use Plans

The stated goals and objectives are consistent with the land uses stated in the County's Comprehensive Plan. The current solid waste facilities are in conformance with all applicable land uses. Future solid waste management facilities will be developed in accordance with the County's zoning and land use regulations, and will

be consistent with the goals and objectives of the State, regional, and local comprehensive land use plans.

2. COUNTY GOVERNMENT STRUCTURE

The Board of County Commissioners of Cecil County is the governing body for Cecil County Government. Figure I-1 provides a chart that depicts the overall county government organizational structure. The Solid Waste Management Division is part of the Department of Public Works, and has been designated to oversee solid waste management and recycling programs. Figure I-2 provides an organizational structure chart for the Solid Waste Management Division.

3. FEDERAL, STATE AND LOCAL LAWS AND REGULATIONS

3.1 Federal

3.1.1 Federal Statutes Affecting Solid Waste Management

There are various federal laws on hazardous materials, resource and energy recovery, water quality, air quality, noise, historic site preservation, land conservation, and biological preservation that apply in varying degrees to the management of solid waste. Some of these include the following:

Clean Air Act: Regulates emissions from landfill gas management systems and resource recovery facilities. Landfill operators must comply with requirements of the state implementation plan established under Section 110.

Clean Water Act: Establishes the National Pollutant Discharge Elimination System (NPDES) in Section 402, a program that regulates effluent limitations for the discharge of wastewater and runoff from solid waste management facilities into waters of the United States. The construction of facilities that may impact rivers, lakes, marshes, swamps or wetlands is regulated by Section 404, which is administered by the Army Corps of Engineers. Section 405 addresses the disposal of wastewater treatment sludges.

Comprehensive Environmental Response, Compensation and Liability Act (Superfund) (CERCLA): Establishes programs for the identification and remediation of current and past waste disposal sites containing hazardous substances; establishes standards for clean-up efforts and disposal of wastes; and provides a mechanism for assigning liability for contaminated sites. Municipal landfills posing environmental threats may be subject to cleanup under CERCLA.

Endangered Species Act: Prohibits construction or operation of facilities that would result in the "taking" of an endangered or threatened wildlife species, or in the destruction of their

critical habitat.

Federal Emergency Management Act: Prohibits siting of facilities within the 100-year floodplain.

Public Utilities Regulatory Policies Act (PURPA): Encourages co-generators and small power producers, such as municipal solid waste combustors, to supplement their existing electrical utility capacity. The Federal Energy Regulatory Commission is responsible for implementing regulations and setting limits on the power output of these facilities.

Resource Conservation and Recovery Act (RCRA): Promotes recycling and reuse of recoverable materials. The Act also provides guidelines for environmentally sound handling and disposal of both hazardous and non-hazardous solid waste. Subtitle D of the Act specifies criteria for municipal solid waste landfills.

Safe Drinking Water Act: Establishes maximum contaminant levels in ground water monitoring programs for landfill activities.

3.1.2 Federal Regulations Affecting Solid Waste Management

The Code of Federal Regulations (CFR) Title 40 Subchapter 1 deals with the management of solid waste, solid waste acceptance facilities, operations and construction, and recycling. Relevant regulations include the following (regulations marked with an asterisk [*] are mandatory for federal agencies and recommended for state and local governments):

- Part 240: Guidelines for the Thermal Processing of Solid Wastes
- Part 241: Guidelines for the Land Disposal of Solid Wastes
- Part 243: Guidelines for the Storage and Collection of Residential, Commercial and Institutional Solid Waste*
- Part 244: Solid Waste Management Guidelines for Beverage Containers*
- Part 245: Promulgation of Resource Recovery Facilities Guidelines*
- Part 246: Source Separation for Materials Recovery Guidelines*
- Part 247: Guidelines for the Procurement of Products that Contain Recycled Materials
- Part 255: Identification of Regions and Agencies for Solid Waste Management
- Part 256: Guidelines for Development and Implementation of State Solid Waste Management Plans
- Part 257: Criteria for the Classification of Solid Waste Disposal Facilities and Practices
- Part 258: Criteria for Municipal Solid Waste Landfills (Subtitle D Regulations)
- Part 261: Identification and Listing of Hazardous Waste
- Part 262: Standards Applicable to Generators of Hazardous Waste
- Part 263: Standards Applicable to Transporters of Hazardous Waste
- Part 264: Standards for Owners and Operators of Hazardous Waste Treatment, Storage and Disposal Facilities

- Part 265: Interim Status Standards for Owners and Operators of Hazardous Waste Treatment and Disposal Facilities
- Part 266: Standards for the Management of Specific Hazardous Wastes and Specific Types of Hazardous Waste Disposal Sites
- Part 267: Interim Standards for Owners and Operators of New Hazardous Waste Land Disposal Facilities
- Part 268: Land Disposal Restrictions
- Part 270: EPA Administered Permit Programs
- Part 271: Requirements for Authorization of State Hazardous Waste Programs
- Part 272: Approved State Hazardous Waste Programs
- Part 503: Standards for the Use or Disposal of Sewage Sludge

3.2 State

3.2.1 Maryland Laws Affecting Solid Waste Management

The primary State agency overseeing solid waste management is the Maryland Department of Environment (MDE). MDE's Waste Management Administration is responsible for regulating solid waste management and recycling efforts. Some of the state laws affecting solid waste management include the following:

Asbestos Control- Asbestos Hazard Emergency Response Act (1990): Requires control with asbestos materials and requires completion of a training program by those who do asbestos-related work with schools.

Chesapeake Bay Critical Area Protection Program (1984): Controls human intervention in the Bay area.

Composting Act (1992): Includes composting in the definition of recycling. Requires that county recycling plans address composting issues, and bans loads of yard materials collected separately from trash from being landfilled effective in 1994.

Electronics Recycling Program (2007): Mandates that manufacturers of certain electronic devices (computers, televisions, etc.) contribute payments toward a fund for local government electronics recycling programs or that such manufacturers establish their own electronics recycling collection programs. Authorizes counties to address the subject of electronics recycling in their recycling plans.

Land-Clearing Debris Landfills – Amount of Security (1990): Addresses the amount of bonds required as security for each acre of land-clearing debris landfills.

Maryland Air Quality Control Act (1989): Allows adoption of rules for air pollution control, sets emission standards and air quality control areas, and requires training for municipal solid

waste incinerator operators.

Maryland Environmental Service Act (1970): Creates the Maryland Environmental Service to manage service regions that were created to deal with issues affecting the state's water supply, wastewater purification, and solid waste management.

Maryland Landfill Financial Assurance Law (1997): Sets forth financial assurance requirements for landfills in conformance with the requirements of federal regulations.

Maryland Landfill Siting Law (1994): Describes the requirements for public hearings regarding landfill siting, and addresses permitting requirements and security requirements. Explains the requirements for submissions of plans and documents necessary to conduct a technical review and to approve proposed facilities.

Maryland Recycling Act (1988): Requires that by 1994 each jurisdiction with a population greater than 150,000 reduce its solid waste stream by at least 20% through recycling (15% for jurisdictions with lesser populations). The recycling rate calculation includes both residential and commercial waste and recycling tonnages.

Maryland Senate Joint Resolution 6 (2000): Sets a voluntary statewide goal of 40% waste diversion by 2005, with a credit of up to 5% for jurisdictions engaged in specified waste prevention activities. "Waste diversion" is defined as recycling rate plus waste prevention credit. Mandatory recycling rates established by the Maryland Recycling Act of 1988 remain in effect.

Maryland State Implementation Plan (SIP) (Ongoing): Limits emissions from specific pollutant sources to prevent air quality from falling below National Ambient Air Quality Standards (NAAQS).

Maryland Nonpoint Source Pollution Control Laws (1990-1994): Allows for the adoption of criteria and procedures by counties and soil conservation districts to implement soil erosion control programs and for counties and municipalities to implement stormwater management programs.

Maryland Used Oil Recycling Act (1997): Requires MDE to develop programs to educate the public on oil recycling and to designate used oil collection facilities. It also prohibits disposal of used oil into sewers, drainage systems, or natural waters.

Maryland Wastewater Treatment Law (1987): Requires permits prior to installing, altering, or extending a water supply system or refuse disposal system (including a landfill, waste transfer station, incinerator, or other waste processing facility).

Medical Waste Legislation (1988): Regulates identification, record keeping, treatment,

transport and disposal of special medical wastes; infectious wastes are prohibited in solid waste; infectious wastes are prohibited in solid waste landfills in the state.

Mercury Oxide Battery Act (1992): Makes mercury oxide battery manufacturers responsible for collection, transportation and recycling or disposal of batteries sold or offered for promotional purposes in the state.

Natural Wood Waste Recycling Act (1991): Establishes the requirements for wood waste recycling in Maryland, authorizes the Department of the Environment to adopt additional regulations governing recycling facilities, and requires a permit for operation of these wood waste facilities created after July 1, 1992.

Newsprint Recycled Content Act (1991): Regulates newsprint recycling by imposing specified recycling content percentage requirements on the Maryland newspaper industry. Amended in 2006 to measure compliance based on a rolling three-year average.

Nickel Cadmium (NICD) Battery Act (1995): Regulates the storage, transportation, and destination of nickel-cadmium batteries.

Nontidal Wetland Regulations (1990): Prevents net loss of nontidal wetlands by establishing a stringent permitting process.

Northeast Maryland Waste Disposal Authority (1980): Creates and establishes the powers of the Northeast Maryland Waste Disposal Authority.

Plastic Material Code (1991): Regulates that rigid plastic containers or bottles may not be distributed for sale in the state unless appropriately labeled indicating the plastic resin used to produce them.

Scrap Tire Law (1992): Prohibits the disposal of scrap tires in landfills after January 1, 1994, and creates a licensing system for the management of scrap tires. Establishes requirements for implementing a scrap tire recycling system, licensing haulers and collection facilities. Establishes Tire Clean-Up and Recycling Fund.

Sludge Application (1993): Regulates land application procedures for sludges to maintain the public health.

Telephone Directory Recycling Act (1991): Requires telephone directory publishers to meet specified recycling content percentage requirements for telephone directories.

Water and Sewage Plan Act (1983): Requires the preparation and submission of solid waste management plans by counties and establishes the minimum requirements of such plans.

Article 9- Environment Article, Annotated Code of Maryland: This statute contains MDE's

authority for the regulation of solid waste.

Title 4: Water Management

Title 6: Toxic, Carcinogenic and Flammable Substances

Title 7: Hazardous Materials and Substances

Title 9: Water, Ice, and Sanitary Facilities

 Subtitle 5: County Water and Sewerage Plans

 Subtitle 17: Office of Recycling (created MDE's Recycling Program and defined and mandated county recycling goals)

 Section 204: Installing, Altering or Extending Water Supply Systems, Sewerage Systems or Refuse Disposal Systems

 204.1: Installing, Altering or Extending Incinerators

 204.2: Installing, Altering or Extending Landfill Systems

 Section 209: Landfill System Hearings

 Section 210: Prerequisites for Issuance of Permit

 Section 211: Landfills, Incinerators and Transfer Stations; Requirements for Security

 Section 212: Landfill Systems – Options to Purchase

 212.1: Denial of Permit to Nongovernment Person

 Section 213: Term of Permit (5 Years)

 Section 214: Revoking or Refusal to Renew a Permit

 Section 215: Closure and Cover when Operation Ends

 Section 225: Landfills Near Hospitals Prohibited (1/2-Mile Radius)

 Section 226: Certification of Public Necessity Required for Hazardous Waste Landfill System

 Section 227: Infectious Waste in Landfill System Prohibited

 Section 228: Scrap Tires – Storage, Recycling and Disposal

3.2.2 Maryland Regulations Affecting Solid Waste Management

The principal State of Maryland regulations pertaining to solid waste management are found in the Code of Maryland Regulations (COMAR). Pertinent regulations include Title 26 Department of the Environment; Subtitle 04 Regulation of Water Supply, Sewage Disposal, and Solid Waste (COMAR 26.04.07), as well as some of the following regulations:

Title 26

 Subtitle 1: General Provisions

 Subtitle 2: Occupational, Industrial, and Residential Hazards

 Chapter 3: Control of Noise Pollution

 Subtitle 3: Water Supply, Sewerage, Solid Waste and Pollution Control Planning and Funding

 Chapter 3: Development of County Comprehensive Solid Waste

- Management Plans
- Chapter 8: Water Pollution Control Fund Construction Financial
- Chapter 10: Financial Assistance for the Constructing of Solid Waste Processing and Disposal Facilities
- Chapter 11: Environmental Review Procedures for Facilities Receiving Financial Assistance from the Maryland Water Quality Financing Administration
- Subtitle 4: Water Supply, Sewage Disposal, and Solid Waste
 - Chapter 4: Well Construction
 - Chapter 6: Sewage Sludge Management
 - Chapter 7: Solid Waste Management
 - Chapter 8: Storage, Collection, Transferring, Hauling, Recycling, and Processing of Scrap Tires
 - Chapter 9: Natural Wood Waste Recycling Facilities
- Subtitle 8: Water Pollution
- Subtitle 10: Oil Pollution and Tank Management
 - Chapter 13: Oil-Contaminated Soil
 - Chapter 15: Management of Used Oil
- Subtitle 11: Air Quality
 - Chapter 3: Permits, Approvals, and Registration- Title V Permits
 - Chapter 7: Open Fires
 - Chapter 8: Control of Incinerators
 - Chapter 9: Control of Fuel Burning Equipment, Stationary, Internal Combustion Engines, and Certain Fuel-Burning Installations
 - Chapter 15: Toxic Air Pollutants
 - Chapter 17: Requirements for Major New Sources and Modifications
- Subtitle 13: Disposal of Controlled Hazardous Substances
 - Chapter 1: Hazardous Waste Management System: General
 - Chapter 2: Identification and Listing of Hazardous Waste
 - Chapter 3: Standards Applicable to Generators of Hazardous Waste
 - Chapter 4: Standards Applicable To Transporters of Hazardous Waste
 - Chapter 5: Standards For Owners and Operators of Hazardous Waste Treatment, Storage, and Disposal Facilities
 - Chapter 6: Interim Status Standards for Owners and Operators of Hazardous Waste Treatment, Storage, and Disposal Facilities
 - Chapter 7: Permits for CHS Facilities
 - Chapter 8: Rights of Condemnation
 - Chapter 10: Standards for the Management of Specific Hazardous Waste and Specific Types of Hazardous Waste Management Facilities
 - Chapter 11: Special Medical Wastes
 - Chapter 12: Standards Applicable to Generators of Special Medical Waste
 - Chapter 13: Standards Applicable to Transporters of Special Medical Waste

- Subtitle 14: Hazardous Substances Response Plan
 - Chapter 1: Procedures for Hazardous Substance Response
 - Chapter 2: Investigating, Evaluating, and Responding to Hazardous Substance Releases
- Subtitle 15: Disposal of Controlled Hazardous Substances-Radio Hazardous Substances
- Subtitle 17: Water Management
 - Chapter 1: Erosion and Sediment Control
 - Chapter 2: Stormwater Management
 - Chapter 4: Construction of Nontidal Waters and Floodplains
- Subtitle 20: Surface Coal Mining and Reclamation Under Federally Approved Program
 - Chapter 26: Excess Soil Disposal
 - Chapter 27: Waste Handling
- Subtitle 23: Nontidal Wetlands
- Subtitle 24: Tidal Wetlands

3.3 Local

3.3.1 Cecil County Laws Affecting Solid Waste Management

Portions of the Code of Cecil County, Maryland, that affect solid waste management activities include, but are not limited to:

- Chapter 228: Solid Waste Disposal
- Chapter 248: Soil Erosion and Sediment Control
- Chapter 251: Stormwater Management
- Chapter A279: Recycling Plan

3.3.2 Cecil County Regulations Affecting Solid Waste Management

Cecil County regulations that affect solid waste management activities include, but are not limited to:

- Solid Waste Management Division Rules and Regulations
- Cecil County Stormwater Guidance Manual
- Cecil County Forest Conservation Regulations

CHAPTER II
POPULATION, ZONING,
AND LAND USE

1. MAP OF COUNTY

1.1 Municipalities

The municipalities located in Cecil County are Rising Sun, Port Deposit, Perryville, Charlestown, North East, Elkton, Chesapeake City, Cecilton. The municipalities are indicated on Figure II-1.

1.2 Federal Facilities

The Federal facilities located in Cecil County are Bainbridge (closed) Rubble Landfill, and Perry Point V.A. Hospital. These facilities are indicated on Figure II-1.

2. POPULATION CHARACTERISTICS

Population values and projections were obtained from the Wilmington Area Planning Council (WILMAPCO) for years 2000 through Year 2020 at 5-year increments. The data obtained was for total County population as well as for each of the nine planning districts. Population values for years between the 5-year values were estimated using a simple growth rate formula. Figure II-1 depicts an overall map of the County with the general boundaries of the planning districts. The population data is presented in Table II-1.

3. DISCUSSION OF ZONING REQUIREMENTS

Solid waste activities are regulated by the requirements in Sections 150 through 155 of the Cecil County Zoning Ordinances and Subdivision Regulations. These regulations address the kinds of materials managed, storage requirements, property buffer requirements, general siting requirements, bonding, facility design and operational requirements, and permitting requirements. Solid waste activities can occur in various zones, as follows:

- a. Northern Agricultural-Residential (NAR): by Special Exception with Conditions;
- b. Southern Agricultural-Residential (SAR): by Special Exception with Conditions;
- c. Heavy Industrial (M2): by Permit or Special Exception with Conditions, depending on activity;
- d. Mineral Extraction A (MEA): by Special Exception with Conditions; and,
- e. Open Space (OS): by Special Exception or by Special Exception with Conditions, depending on activity.

Figure II-2 provides a general zoning map of the County.

4. COMPREHENSIVE PLANNING & LAND USE

The Comprehensive Plan for Cecil County, prepared by Rogers Golden & Halpern, Inc., (adopted in December 1990, and updated in 2004), provides the basic policy guidance that

will shape future decisions relating to county growth and development. The first part of the Plan, a set of goals and objectives, is an official statement of the County's desires for its future. The second part is a set of specific actions and policies that outline the steps to be taken to ensure that the goals and objectives are met. The Office of Planning and Zoning periodically reviews and makes recommendations for updating the Comprehensive Plan.

A specific element of the Comprehensive Plan addresses "Community Facilities" to include provisions for providing public facilities which meet the needs of the County's residents, businesses, and industries. The Comprehensive Plan recommends:

- Expanding existing facilities where possible to meet County needs;
- Planning capital improvements based on a realistic rate of growth;
- Limiting the provision of facilities and services in rural areas of the County; and,
- Assuring public facilities are maintained in an efficient manner.

The Comprehensive Plan acknowledges the existing solid waste management facilities and their general use. Specific recommendations regarding recycling all possible solid waste in order to reduce the solid waste stream are included.

CHAPTER III

**SOLID WASTE GENERATION,
PROJECTIONS, MANAGEMENT,
AND FACILITIES**

1. EXISTING AND PROJECTED SOLID WASTE STREAM

The County tracks the various components of the solid waste stream in general accordance with the Code of Maryland regulations (COMAR) 26.03.03.03D(1)(a)-(1) and the list of definitions provided in the previous section. However, some waste types are further subdivided based on how the waste is handled and managed in the County.

1.1 Waste Stream Components Defined

- (a) Residential - Household trash and small furniture items that are collected by commercial haulers or brought to the County solid waste facilities directly by County residents.
- (b) Commercial - Non-hazardous solid waste that is generated by businesses operating within the County and collected by haulers that are privately owned and operated or by the business, itself, and transported to the County solid waste facilities.
- (c) Industrial - Non-hazardous solid (no liquids or sewage sludges) waste that is received primarily from commercial haulers.
- (d) Institutional Wastes
 - 1. Schools - The County facilities accept waste from the Board of Education and Cecil Community College.
 - 2. Hospitals - The Veterans Hospital at Perry Point and Elkton's Union Hospital operate incinerators to dispose of their contaminated and hazardous hospital waste. The remainder of the solid waste is hauled to the Central Landfill by Perry Point personnel or commercial haulers.
 - 3. Government - Refuse that is generated by County and State governments located within Cecil County.
- (e) Land Clearing, Demolition, and Construction Debris - Land clearing debris includes brush, tree limbs, soils, tree stumps, root mats, logs, and rocks that are generated from the clearing of land. Building demolition includes shingles, wallboard, non-refractory bricks, insulation materials, and used lumber that is generated from the remodeling or demolition of buildings. Construction debris includes new lumber and scrap material that is generated from construction. Concrete, stone and dirt that are generated from remodeling, replacement, or excavation are included. Brush and yard waste includes branches under 3 inches in diameter, grass clippings, and leaves.

- (f) Controlled Hazardous Substances - Hazardous waste as defined in the COMAR Regulations.
- (g) Dead Animals and Litter
 - 1. Dead Animals - Generally includes animals that have been killed on the road and collected by the State Highway Administration and Cecil County Public Roads
 - 2. Litter - The indiscriminate scattering of paper, bottles and cans upon roadways, waterways and abutting lands is usually referred to as litter. In actuality, litter includes all solid waste. Litter has been observed in residential properties, parking lots, wooded areas, ravines, and waterways throughout the County.
- (h) Bulky Objects – Automobiles, white goods (i.e., appliances), and other large, bulky items such as furniture, mattresses, carpeting, boats, campers, etc.
- (i) Vehicle Tires - used tires from cars and trucks are stored on-site in preparation for recycling by on-site or off-site activities.
- (j) Wastewater Treatment Plant Sewage Sludge - Sewage sludge from wastewater treatment plants in the County.
- (k) Septage – Raw sewage from septic tanks and portable toilets.
- (l) Other Wastes – These waste items may include, but not be limited to, agricultural wastes and crop residues, water treatment plant sewage sludges, mining wastes, dusts (bag house, etc), grease and oil contaminated soils, and street sweepings.
- (n) E-cycling – These wastes are electronics which are recycled.

1.2 Waste Quantities

Table III-I, summarizes the waste generation in the County for Years 2000 through 2007 on the basis of COMAR Regulations 26.03.03.03D(1)(a)-(1) list of waste categories . The data is also presented on the basis of tons per capita (per person) on an annual basis.

The waste generation per capita trends from Table III-1 were used to calculate waste generation projections for Years 2008 through 2020. These rates were applied to the populations of individual planning districts, and were subdivided based on COMAR

regulations 26.03.03.03D(1)(a)-(1) list of waste categories previously described. Tables III-2 through III-10 summarize the waste generation projections for Years 2008 through 2020, as follows:

Planning District	Table
Calvert	III-2
Cecilton	III-3
Chesapeake City	III-4
Elkton	III-5
Fair Hill	III-6
North East	III-7
Oakwood	III-8
Port Deposit	III-9
Rising Sun	III-10

Table III-11 provides a summary of the waste generation projections for the entire County. Based on Table III-11, the total annual waste generation for Cecil County is estimated to range from 356,074 tons in 2008 to 665,043 tons in 2017. On a per capita basis, this ranges from 3.41 tons per year to 5.25 tons per year.

2. BASIS FOR DATA

The data presented in Table III-1 are based on County waste records. These records are developed on a monthly basis, based on waste materials received at each transfer station and at the Central Landfill. The day-to-day records consist of a combination of weigh tickets from waste collection and haulage vehicles, general vehicle and truck counts, and weigh tickets from exported recyclables.

3. TYPES & QUANTITIES OF WASTE IMPORTED

Cecil County solid waste facilities currently do not accept waste or recyclables generated from outside the County.

4. TYPES AND QUANTITIES OF WASTE EXPORTED

The County does not currently export waste for disposal. However, undefined quantities of waste stream components (i.e., rubble) may be exported by waste generators for disposal outside Cecil County in lieu of paying for disposal at the Central Landfill. In the future, the County may, for various reasons, choose to export waste for disposal.

Cecil County maintains no public facilities for the disposal of hazardous wastes. All generators of hazardous waste are required by the RCRA to manifest their hazardous wastes and to arrange for their legal disposal at a permitted treatment, storage and disposal facility.

There are currently no industries or businesses within the County that directly use recycled materials. Therefore, the recycled materials, with the exception of the mulch-type materials, listed in the previous waste generation tables are transported outside of the County for further processing and/or delivery to an end user of recycled materials.

5. DESCRIPTION OF COLLECTION SYSTEMS

5.1 Solid Waste

The County does not provide door-to-door collection of solid waste generated in the County. The County operates three facilities for the collection of solid waste generated in County. These include the Woodlawn Transfer Station (serving northern County residents), Stemmer's Run Transfer Station (serving southern County residents), and the Central Landfill (serving the entire County). Section 6 provides greater detail and expanded discussions of these facilities.

County residents can take household waste to any of these facilities. County businesses may haul their waste directly to the Central Landfill. Waste collection companies that service County residents and/or County businesses haul collected waste to the Central Landfill.

The County does not currently perform solid waste composting, but is exploring the possibility of performing some composting of organic wastes. Once the County evaluates the practicality of this scenario, a proposal to MDE will be developed.

5.2 Recyclables

Cecil County currently recycles a number of materials received at its facilities and is working to continue to increase its recycling rate. Cecil County is open to participating in regional recycling should the opportunity present itself, and provided County staff and funding are available to support such participation.

The County does not provide door-to-door or curbside collection of recyclables. County residents can take household recyclables to any of the transfer stations or to the Central Landfill facilities. The County also provides containers for single stream recycling at the following locations:

- a. Cecil County Administration Building;
- b. Cecil County EMS/ Sheriff's Office;
- c. Cecil County Health Department;
- d. Cecil County Detention Center;
- e. Cecil County Courthouse; and,
- f. North Bay Environmental Education Center

Single stream recyclables (or “commingled” materials) consist of:

- Clear and colored glass;
- Narrow neck plastic bottles (codes 1 through 7);
- Aluminum, steel, and bi-metal cans;
- Mixed paper;
- Newspaper;
- Office paper; and,
- Cardboard.

Cecil County collects electronics for recycling as required by MDE’s “Eycling Program”. Electronics under this program are accepted at the Central Landfill at no cost to residents. Electronics recycled under this program include computers, monitors, printers, scanners, printer cartridges, rechargeable batteries, cell phones, mp3 and mp4 players, VCRs, DVD players, CD players, televisions, radios, cameras, analog telephones, vacuum cleaners, microwaves, and all other electronic devices (containing an electrical cord for connection to an outlet).

The County holds two household hazardous waste day events per year at the Central Landfill. Waste materials collected at these events are transported out of County for proper disposal.

Seven waste collection companies operating in the County offer the collection of yard wastes and single-stream recyclables. These materials are hauled directly to the Central Landfill. Some waste collection companies also offer the collection of separated recyclables to residents and businesses that separate paper, newspaper, corrugated cardboard, phone books, tires, batteries, waste oil, antifreeze, yard waste, and scrap metal.

Some municipalities offer the collection of yard wastes and recyclables. These municipalities and the materials they collect include:

- Elkton: curb-side yard waste and single-stream recyclables;
- Rising Sun: curb-side yard waste and single-stream recyclables;
- Perryville: curb-side yard waste and single-stream recyclables;
- Charlestown: curb-side yard waste and single-stream recyclables; and,
- North East: curb-side yard waste and metal items.

Additionally, the Elkton Department of Public Works collects oil, antifreeze, and tires.

There are five buy-back centers in Cecil County. These facilities are owned and operated by private companies, and offer the purchase of various recyclable materials. They accept aluminum cans, scrap metal, white goods, and batteries.

The State office building and the State highway maintenance facility in Elkton provide containers for the collection of recyclables. These agencies are serviced by private collection companies.

6. EXISTING SOLID WASTE FACILITIES

The Central Landfill, Stemmer's Run Transfer Station, and Woodlawn Transfer Station are considered the major solid waste facilities in the County. Brief facility information and data is also provided in Table III-12.

These facilities serve various parts of the County for various parts of the waste stream. Table III-13 provides an approximate distribution of the household (homeowners) waste and recyclables to each facility for each planning district. The following paragraphs provide a detailed description of each of these facilities.

6.1 *Stemmer's Run Transfer Station* ***Permit 2005-WTS-0072*** ***MD Grid Coordinates N 1097, E 580***

Stemmer's Run Transfer Station is owned and operated by the County. It is located at 45 Stemmer's Run Road, near Earleville, in the Cecilton Planning District. Located on an approximate 10-acre site, this facility serves the residents of the Cecilton and Chesapeake planning districts as described in Table III-13. The facility is permitted to receive 3,214 tons of solid waste per year. This value does not include recyclables. County staff believe the current facility is as large as can be provided on the site, and there is little land area available for expansion. The facility is currently open from 8:00 a.m. to 4:30 p.m., Monday through Saturday. The operating hours are subject to change based on need.

The facility accepts bagged, household waste, single stream recyclables, scrap metal, yard waste and brush, antifreeze, motor oil, batteries, tires, and fluorescent lamps. The County hauls the collected household waste to the Central Landfill for disposal. The County contracts with a local recycling company for the removal of the recyclable materials from the facility. Table III-14 provides a summary of materials collected at Stemmer's Run for years 2005 through 2007. This data indicates the facility receives between 1,600 to 2,100 tons of waste (non-recycled) per year. This is approximately 50 to 65 percent of the permitted capacity. This data indicates the homeowner waste generation rate ("trash") has recently exhibited a declining trend from 0.243 tons per person per year in 2005 to 0.182 tons per person per year in 2007. The recycling tons have increased over this same time period.

Table III-15 provides a projection of the waste tonnages for Stemmer's Run Transfer Station. This projection is based on the recycling generation rate projections from Table III-2, the Stemmer's Run homeowner waste generation rate of 0.182 tons per

person per year (2007) from Table III-14, and the approximate distribution percentages described in Table III-13.

The projections presented in Table III-15 suggest the facility will be operating at less than the permitted capacity for the entire planning period. However, County staff have observed the frequent backing up of user vehicles onto Stemmer's Run Road during peak use times (i.e., weekends, spring, summer and fall seasons). Overall, Stemmer's Run Transfer Station seems to be currently serving the needs of its service area adequately. In considering the user vehicle congestion, the remaining service life of the existing Stemmer's Run Transfer Station may be dictated more by the need to relieve vehicle congestion than by the waste volume exceeding capacity. This could result in modifications to the facility to be needed within the next 3 to 4 years.

6.2 Woodlawn Transfer Station
Permit 2005-WTS-0074
MD Grid Coordinates N 1057, E 660

Woodlawn Transfer Station is owned and operated by the County. It is located at the intersection of Firetower and Waibel Roads in the Rising Sun Planning District. Located on an approximate 30-acre site (closed landfill), this facility serves the residents of the Calvert, Fair Hill, North East, Oakwood, Port Deposit, and Rising Sun planning districts as described in Table III-13. The facility is permitted to receive 10,351 tons of solid waste per year. This value does not include recyclables. There is limited land area available for expansion. The facility is currently open from 8:00 a.m. to 4:30 p.m., Monday through Saturday. The operating hours are subject to change based on need.

The facility accepts bagged, household waste, single stream recyclables, antifreeze, motor oil, batteries, tires, and fluorescent lamps. The County hauls the collected household waste to the Central Landfill for disposal. The County contracts with a local recycling company for the removal of the recyclable materials from the facility. Table III-14 provides a summary of materials collected at Woodlawn for years 2005 through 2007. This data indicates the facility receives between 2,800 to 4,000 tons of waste (non-recycled) per year. This is approximately 27 to 39 percent of the permitted capacity. This data indicates the homeowner waste generation rate ("trash") has recently exhibited a declining trend from 0.145 tons per person per year in 2005 to 0.097 tons per person per year in 2007. The recycling tons have increased over this same time period.

Table III-16 provides a projection of the waste tonnages for Woodlawn Transfer Station. This projection is based on the recycling generation rate projections from Table III-2, the Woodlawn homeowner waste generation rate of 0.097 tons per person per year (2007) from Table III-14, and the approximate distribution percentages described in Table III-13.

The projections presented in Table III-16 suggest the facility will be operating at less than the permitted capacity for the entire planning period. However, County staff have observed the backing up of user vehicles onto adjacent roadways during peak use times (i.e., weekends, spring, summer and fall seasons). Overall, Woodlawn Transfer Station seems to be currently serving the needs of its service area adequately. Woodlawn has a limited amount of land area available for expansion. As with Stemmer's Run, the need for modification and/or expansion of the Woodlawn may be driven more by the need to reduce vehicle congestion than the waste volume exceeding capacity. The County currently has no plans to expand the facility during the time period covered by this Plan.

6.3 Central Landfill
Permit 2007-WMF-0532
MD Grid Coordinates N 1105, E 645

The Central Landfill is owned and operated by the County. It is located at 758 E. Old Philadelphia Road, west of Elkton, in the Northeast Planning District. Located on an approximate 418-acre site, approximately 40 acres has been developed for waste disposal. Three disposal areas have been used for waste disposal (Cells 1, 4, and 5). Cell 5 is the currently active permitted disposal area.

Cells 1 is currently inactive because the County no longer places waste in the cell but has future plans to redevelop the cell and put it back into active use when the horizontal expansion of the landfill is performed.

Likewise, Cell 4 is currently inactive. Waste disposal in Cell 4 has ceased because of concerns with the adequacy of the liner and leachate collection systems to support additional loading from placed waste. The County has plans to redevelop Cell 4 and retrofit the cell with new liner and leachate collection systems, so that the disposal capacity of the cell can be maximized to permitted elevations. The redevelopment of Cell 4 is planned to be performed in 2009/2010.

In addition to the disposal areas, a 13-acre Homeowner's Convenience Center (HCC) is located on the Central Landfill site. The HCC serves the residents of the Chesapeake City, Elkton, Fair Hill, North East, and Port Deposit planning districts as described in Table III-13. The HCC accepts bagged, household waste, single stream recyclables, scrap metal, antifreeze and motor oil, batteries, tires, electronics (e-waste), printer cartridges, fluorescent lamps, and yard waste and brush. Scrap metal is diverted to a white goods area. Yard waste and brush is diverted to a mulching area. The County hauls the collected household waste to the disposal area. The County contracts with local recycling companies for the removal of the recyclable materials from the facility. Being located on the Central Landfill site, the HCC can be serviced numerous times during the workday. The County believes The HCC has

adequate capacity to meet the needs of the users for the next 10 years or more.

The Central Landfill accepts waste materials for disposal from the transfer stations, commercial and private haulers, and from the HCC located at the Central Landfill facility. The Central Landfill is open from 7:30 a.m. to 3:30 p.m., Monday through Saturday, and accepts waste materials that are not recycled for disposal.

Recent waste tonnage records indicate the Central Landfill receives approximately 500 to 550 tons of waste per day. Table III-11 provides the projected waste generation (in tons) for the entire county from 2008 through 2017, for landfilled and recycled wastes. Table III-17 provides a summary of consumption of remaining permitted landfill disposal volume (in cubic yards) based on the projected waste generation provided in Table III-11.

A recent volume analysis indicates the current permitted disposal area (Cells 4 and 5) has approximately 2.5 million cubic yards (cy) of disposal volume remaining as of mid-2008. Based on Table III-17, the current permitted disposal area is expected to have a remaining service life (from the end of 2007) of approximately 9 to 10 years indicating that the Central Landfill will run out of permitted capacity in 2017. However, the Central Landfill site contains at least 75 to 100 acres of currently unpermitted land area which could be developed for waste disposal. Both vertical and horizontal expansions to the existing disposal area are being considered by the County to obtain additional disposal volume, as described in more detail in Chapter V.

CHAPTER IV

**ASSESSMENT OF WASTE
DISPOSAL SYSTEM
2008 THROUGH 2017**

1. ASSESSMENT OF EXISTING SOLID WASTE DISPOSAL SYSTEM

The assessment of the County's solid waste disposal system includes consideration of the Central Landfill, as well as the Stemmer's Run and Woodlawn transfer stations.

1.1 Central Landfill

The most basic need for solid waste management in Cecil County is to assure the County has adequate disposal capacity for the waste generated in the County. Based on the landfill volume analysis described in Chapter III the current permitted disposal area at the Central Landfill will not provide adequate disposal capacity for the minimum planning period of Years 2008 through 2017. The projection also suggests the County will need approximately 2,725,000 cy of waste disposal capacity through Year 2017. The current permitted disposal areas, as of the end of Year 2007, are estimated to provide a disposal capacity of approximately 2,500,000 cy. This volume is projected to be consumed, based on the annual landfill volume consumption trend and projection described in Chapter III, in Year 2017. Therefore, the County will need to increase the available disposal capacity by Year 2017.

1.2 Stemmer's Run Transfer Station

As indicated in Chapter III, the Stemmer's Run Transfer Station is operating at less than its permitted capacity of 3,214 tons per year. The waste generation projections presented in Chapter III suggest Stemmer's Run will still be operating at less than permitted capacity for the next 10 years. However, vehicle congestion at peak use times creates a potential safety hazard. Therefore, the County should consider modification to the Stemmer's Run Transfer Station to provide increased capacity for traffic queuing.

1.3 Woodlawn Transfer Station

As indicated in Chapter III, the Woodlawn Transfer Station is operating at less than its permitted capacity of 10,351 tons per year. The waste generation projections presented in Chapter III suggest Woodlawn will still be operating at less than permitted capacity for the next 10 years. Although vehicle congestion is a lesser problem than that experienced at Stemmer's Run, the need for modification may be dictated in part by the need to provide increased capacity for traffic queuing.

2. SOURCE SEPARATION & SOURCE REDUCTION PROGRAMS

2.1 Source Separation

Source separation is a method of collecting materials for recycling by separating the materials at the place where they are discarded (the "source"), rather than mixing

them together. Since the County adopted its Recycling Plan in 1990, source separation has been met with limited success. Public participation has been higher since the County implemented single stream recycling. Therefore, source separation will not be considered unless public sentiment changes, or a specific recycling opportunity causes source separation to be viewed more favorably.

2.2 Source Reduction

Source reduction generally refers to any change in the design, manufacture, packaging, purchase, and/or use or re-use of a material or product in such a way that the amount of waste that results is reduced. Individuals can reduce the amount of waste they generate by considering the types of products they purchase, and choosing those that result in less waste.

Reuse refers to separating a given solid waste material and using it, without processing or changing its form, for the same use to an alternate use. Examples of reuse activities include, but are certainly not limited to, swap shops, flea markets, thrift stores, pallet reuse, and refillable drink containers.

Source reduction can help reduce waste disposal and handling costs, conserve natural resources, and reduce pollution. Source reduction is difficult to quantify, and no attempt has been made to do so in the Plan. Cecil County promotes and encourages waste reduction and reuse as alternatives to recycling or disposal.

3. RESOURCE RECOVERY OPTIONS EVALUATED

Resource recovery refers to the process by which component materials of solid waste are recovered for use as raw materials or energy sources. Recycling is the resource recovery method currently in use in Cecil County. The County updated its Recycling Plan in 2007.

Since Cecil County began its recycling program in 1990, it has exceeded the minimum 15% recycling amount mandated by the Maryland Recycling Act of 1988. Calculated recycling rates have ranged from 17 to 50 percent. Therefore, the County recycling program is considered to be successful, and should be continued in the future.

4. PUBLIC EDUCATION PROGRAMS

Even with a successful recycling program established, public education is considered a vital component of the recycling program. The County is very active in promoting recycling and awareness of the benefits that can be gained. The current public outreach/education programs include, but are not necessarily limited to:

1. North East Middle School Earth Day Presentation;

2. Assistance to municipalities in arranging recycling and solid waste management-related contracts;
3. Public presentations at town meetings, community group meetings, etc.;
4. Quarterly status meetings with waste haulers and municipalities;
5. Implementation of new recycling and source reduction programs as able;
6. Support of North Bay's environmental program;
7. Tracking recycling totals and reporting to programs throughout the County as requested;
8. Tours of the Central Landfill and the transfer stations to interested public and private parties;
9. Radio and newspaper advertisements, and flyers that promote recycling and source reduction;
10. Spring and Fall Household Hazardous Waste Days with provision for acceptance of out-dated prescription medications;
11. Tire Drop-off Days for County residents;
12. Slogan and logo contests for school children related to recycling and source reduction;
13. Recycling and source reduction-related promotional items;
14. Participation in the Cecil County Fair to promote and increase public awareness of solid waste management issues, recycling, and source reduction; and,
15. Participation in "Family Fun on the Farm Day" at Rumbleway Farm.

General information is disseminated to the public through flyers and informational brochures at the Central Landfill, each transfer station, and on the County's website. General information includes:

- a. Facility hours of operation;
- b. Maps showing disposal areas and recycling centers;
- c. Separation of refuse if required;
- d. Assessment of penalties for illegal activities;
- e. Telephone number and hours of business office operation; and,
- f. Regulations governing solid waste, including storage at points of generation, collection, transportation, and final disposition.

The County Roads Department promotes an Adopt-a-Highway Program for residents. Participating residents serve the community by taking action to help manage litter.

5. ASBESTOS DISPOSAL CAPACITY

Asbestos wastes generated in Cecil County are accepted at the Central Landfill under regulations established by The Board of County Commissioners and the Maryland Department of the Environment. Although asbestos waste has significantly decreased over

the years, some asbestos waste is planned for disposal. Asbestos waste amounts are anticipated to be insignificant related to other waste disposal needs.

6. EMERGENCY RESPONSE PROGRAMS AND PROCEDURES DEFINED

All emergency responses in the county are coordinated by the Cecil County Department of Emergency Services (CCDES). This agency has developed written plans addressing the response to various types of emergencies in the County. Practice drills (mock events) are conducted regularly throughout the year in conjunction with state and federal emergency response agencies.

Cecil County has an active Superfund Amendments and Reauthorization Act (SARA) Title III Local Emergency Planning Committee (LEPC). The LEPC annually reviews the SARA III Hazardous Chemical Inventory Reports (Tier II) submitted annually by the various facilities in the county, and has prepared assessments and response plans for each facility should there be a release of hazardous chemicals.

All County fire departments have been trained to at least Level 1 Hazardous Material Awareness. Response to a hazardous release is coordinated between the Director of the Cecil County Department of Emergency Services, the Cecil Health Department, and the Maryland Department of the Environment (MDE) HazMat team.

As indicated in Chapter III, the County does not maintain disposal capacity for hazardous waste. However, emergency provisions may be arranged with MDE should the need arise. The Central Landfill can receive petroleum-contaminated soils, subject to physical and contaminant concentration level restrictions.

7. ADEQUACY OF LOCAL ZONING AND MASTER PLAN

The Cecil County Zoning Ordinances and Subdivision Regulations adequately address the authorization and siting of solid waste facilities referencing COMAR 26.04.07.06B as the primary guideline. Current zoning allows for the siting of solid waste management facilities in at least five zoning districts distributed throughout the County.

8. PHYSICAL CONSTRAINTS

Potential physical constraints related to the siting, design, and operation of new solid waste facilities are briefly discussed in the following sections. Potential constraints could arise related to:

- a. General topography;
- b. Soil types and associated engineering characteristics;
- c. Geologic conditions and location;
- d. Aquifer use and conditions;

- e. Existing wetlands;
- f. Surface water resources, flood plains, and watersheds;
- g. Existing water quality;
- h. Land uses;
- i. Planned long-term growth; and,
- j. Defined critical areas.

These constraints, and their potential impact on siting, designing, permitting and operating solid waste facilities, will be addressed in detail based on specific, future projects.

8.1 General Topography

The Piedmont Province, which occurs north and northwest of the Fall Zone (Fall Line), is characterized by gently rolling terrain deeply incised by the major drainage ways. The highest elevation is 535 feet that occurs at Rock Springs in the northwest corner of the County.

The valleys formed by the major drainage ways in the Piedmont are characteristically steep sided and 100 to 200 feet in depth. The stream courses are straight and have steep gradients. Hard crystalline bedrock outcrops in the stream channels and commonly along the sides of the steeper valleys.

The Piedmont section of the county drains either directly into the Chesapeake Bay via such drainage ways as Mill Creek, Principio Creek, Northeast Creek, Little Northeast Creek, Big Elk Creek, and Little Elk Creek or indirectly into the Bay via the Susquehanna River. Conowingo Creek and Octoraro Creek are the major drainage ways that empty into the Susquehanna River.

The topographic setting of the Fall Zone, which is similar to that of the Piedmont Province, is characterized by gently rolling terrain deeply incised by the drainage ways. Elevations range from a low of approximately 20 feet along the Susquehanna River to maximum of approximately 390 feet on Foy's Hill, located northwest of Charlestown. Within this region the streams flowing down from the Piedmont abruptly change gradient, forming falls, as the hard crystalline bedrock of the Piedmont dips easterly beneath the non-indurated sediments of the Coastal Plain.

The Coastal Plain Province occurs south and southeast of the Fall Zone and contains two distinct types of topography - western shore type and eastern shore type, referring to the shores of the Chesapeake Bay. The western shore type of topography occurs on Elk Neck and is similar to Piedmont topography; that is, gently rolling uplands dissected by narrow steep sided valleys containing streams with moderately steep gradients. The streams, however, dissect non-indurated sediments, such as sand and gravel; whereas, on the Piedmont the streams cut into bedrock. Elevations range from near sea level along Northeast River and Elk River to maximum of 310 feet on Hog Hill, located east of the town of North East.

The remaining portion of the County, that area lying south and southeast of the Elk River and the city of Elkton, exhibits eastern shore type topography. The terrain is composed of broad plains, ranging in elevation from approximately sea level to 80 feet, which are either flat and

featureless or broadly rolling, except for along the Chesapeake Bay and the large tidal estuaries where they are deeply incised by the drainage ways. In some areas, most notably along the eastern edge of the county, numerous basin-like depressions occur which in places contain ponds and swamps.

In the Coastal Plain the streams, which are of short length and have fairly steep gradients, empty into three broad tidal estuaries formed by the Northeast River, Elk River and Chester River.

The non-indurated sediments (sand, clay, silt and gravel) of the Coastal Plain offer little resistance to the effects of stream and shore erosion as evidenced by the deeply incised drainage ways and the steep bluffs formed along the shorelines. Grove Point, which has receded over 320 feet in a period of 100 years, is evidence of the very severe shore erosion which occurs along the shoreline of Chesapeake Bay.

8.2 Soil Types and Engineering Characteristics

The dominant soils in the Cecil County include the following soil columns:

- Aura Series;
- Elkton Series;
- Gravel and Borrow Pits;
- Keyport Series;
- Loamy and Clayey Land;
- Rumford Series; and,
- Sassafras Series.

A brief description of each of these soils series is provided in the following paragraphs.

AURA SERIES

The Aura series consists of gently sloping to moderately steep, well-drained, deep, reddish soils on higher parts of uplands of the Coastal Plain. These soils are gravelly and characteristically have a very hard, compact subsoil at depths of 15 to 25 inches. The subsoil is fairly high in clay content but low in silt content. The native vegetation is mainly scrubby hardwoods, though pines grow in places.

In a representative profile the surface layer is about 4 inches of very dark grayish-brown gravelly sandy loam. The subsurface layer is about 8 inches of brown or dark-brown gravelly sandy loam. The subsurface layer is about 8 inches of brown or dark-brown gravelly sandy loam. The subsoil is about 45 inches thick. It is mostly brown gravelly sandy loam in the upper part and yellowish-red gravelly sandy clay loam in the lower party. The underlying material, to a depth of more than 6 feet, is yellowish-red gravelly sandy loam.

Aura soils are easy to work, except where erosion has removed much of the profile. The gravel in the soil is abrasive to farm implements, and the hard subsoil is difficult to work in places. Aura soils have low to moderate available moisture capacity.

These soils are suited to many uses, but use is limited by slope, restricted available moisture capacity, the high content of gravel, hardness of the subsoil that limits root penetration, and the hazard of further erosion. Aura soils are excellent sources of gravel and of clayey gravel for road fill and other construction purposes. Their firmness and good drainage make them desirable for building sites. Limited depth to the hard horizon limits usefulness of these soils as a filter field for septic tanks, especially the more strongly sloping soils.

ELKTON SERIES

The Elkton series consists of poorly drained, nearly level and gently sloping soil on upland flats in the southern, or Coastal Plain, part of the county. These soils have a loamy surface layer and a clayey subsoil. Water moves slowly through the subsoil. Elkton soils formed in fine-textured old marine sediment. The native vegetation is chiefly such wetland hardwoods as oak, swamp maple, and gum, but pond pines grow in a few places. Many areas have been cleared for crops or pasture.

In a representative profile the surface layer is about 3 inches of grayish-brown silt loam and the subsurface layer is about 4 inches of gray silt loam. The subsoil is about 41 inches thick. It is olive-gray silty clay loam in the upper part and dark-gray silty clay in the lower part. The underlying material, to a depth of about 5 feet, is firm, gray silty clay loam.

The Elkton soils are difficult to work except at the right moisture content, and they should not be worked when the water table is near the surface. Artificial drainage is needed for most uses, particularly to lower the water table in spring so that farming operations can start, and to drain off excess water during wet periods. Drainage is difficult because water moves very slowly through the clay or silty clay subsoil. Ditches generally are more satisfactory than tile drains, and the ditches must be closely spaced. The Elkton soils have high available moisture capacity.

Elkton soils are limited in use by poor natural drainage, a high water table, and the difficulty of providing artificial drainage. They are too wet for building sites and they are too wet and too slowly permeable for sewage disposal by septic tanks.

GRAVEL AND BORROW PITS

Gravel and borrow pits (Gv) consist of areas where the soils have been removed to obtain gravel, sand, or fill material for road construction and other uses. Most large gravel pits are associated with the gently sloping to moderately steep Aura and Sassafras soils in the northern part of the Coastal Plain in the county. Borrow pits are more generally distributed in the County.

These pits have no farming uses at present, and intensive reclamation is needed before they could be used satisfactorily for farming.

KEYPORT SERIES

The Keyport series consists of deep, nearly level to moderately sloping, moderately well drained soils on uplands of the Coastal Plain part of the county. These soils formed in old deposits of clay or silty clay. Water moves slowly through the subsoil, and poor aeration in this layer for at least part of the year is indicated by some grayish

mottling. The native vegetation is mixed hardwoods. More than half of the acreage has been cleared for use as cropland.

In a representative profile the surface layer is about 8 inches of olive-brown loam. The subsoil is about 32 inches thick. It is yellowish-brown silty clay loam in the upper 10 inches; yellowish-red, firm silty clay in the next 8 inches and reddish-brown, firm silty clay in the lower 14 inches. The underlying material is about 20 inches of very firm, red silty clay.

In most places Keyport soils are easy to work at the right moisture content, but in severely eroded areas the plow layer is sticky and plastic when wet and hard and cloddy when dry. Artificial drainage is needed for some crops, particularly in nearly level areas. Tile drains do no function well in some areas because of the slowly permeable subsoil. These soils have high available moisture capacity.

Keyport soils are limited for use by impeded drainage, slow movement of water through the soils, slope, and the hazard of erosion. Sites for permanent buildings are affected by seasonal wetness and by plasticity of the subsoil. Use of the soils for disposal of sewage by septic tanks is severely limited.

LOAMY AND CLAYEY LAND

These miscellaneous land types consist chiefly of old clay deposits in the upper parts of the Coastal Plan that have a mantle chiefly of sandy loam, loam, or silt loam. Both the mantle and the underlying clay vary widely within short distances.

The loamy surface mantle ranges in color from gray through yellow and brown to almost red and in thickness from very thin to several feet. It is underlain by clay. In a few places the underlying material contains a small amount of sand. The clay is almost any color or mixture of colors and includes red, purplish red, gray, yellow, brown, pink, and white. The clay is very plastic and sticky and is very unstable. Cuts into the material are difficult to stabilize, and the clay frequently slides, slumps, or flows down the surface of the cut and onto roads or other areas below (fig.4). Stability is even poorer if the clay has been disturbed by land leveling or filling.

This land type has variable, but generally low, available moisture capacity, and it is very low in plant nutrients. Other limitations are slope and the hazard of erosion. Most areas are idle, or in residential developments.

This unstable land type has properties that make it unsuitable and in a few places dangerous for some uses, especially if it has been disturbed. The clay flows, slumps, or slides when wet, particularly under pressure or load. It squeezes out from below building foundations, and this causes footings or basements to crack and settle. In places buildings have been severely damaged. Banks and fills of this material are likely to collapse and cause severe and expensive property damage and injury and death to people.

RUMFORD SERIES

The Rumford series consists of deep, gently sloping to moderately sloping, somewhat excessively drained soils on uplands in the southern or Coastal Plan part of the

county. These soils formed in sandy sediment that contains small amounts of clay, a little silt, and some, fine, smooth gravel. The native vegetation is chiefly scrub hardwoods and Virginia pine, but shortleaf pine grows in some places.

In a representative profile the surface layer is about 3 inches of very dark gray to dark grayish-brown loamy sand. Below this is a yellowish-brown loamy and subsurface layer, about 8 inches thick, underlain by a friable, yellowish-brown sandy loam subsoil to a depth of 34 inches. The underlying material is strong-brown loamy sand to a depth of 37 inches; mainly reddish-brown clay, silt, and sand to a depth of 44 inches; and brownish-yellow loose sand to a depth of 50 inches.

Rumford soils are easy to work and early to warm in spring. Some of the earliest crops, such as home garden and truck crops, can be planted on them. These soils have a low available moisture capacity and need supplemental irrigation in some areas, particularly in the warmer, drier months. They are also low in natural plant nutrients.

Rumford soils are well drained and are suitable for building sites. They are suitable for septic tank use, but are limited by slope in some areas. Large amounts of fertilizer are needed for most crops.

SASSAFRAS SERIES

The Sassafras series consists of deeply, nearly level to moderately steep, well-drained, loamy soils on uplands in the southern or Coastal Plain, part of the county. These soils formed in sandy sediment that contains a moderate amount of silt and clay and gravel in places. The native vegetation is mostly mixed hardwoods, and some second-growth pines. Most of the acreage has been cleared for use as cropland.

In a representative profile the surface layer is about 8 inches of dark yellowish-brown sandy loam. Below this is a brown sandy loam subsurface layer 3 inches thick. The subsoil is about 21 inches of brown, or dark-brown sandy clay loam. The underlying material, to a depth of about 50 inches, is mostly brown loamy sand.

Sassafras soils are easy to work and warm quickly in spring. They have moderate available moisture capacity. These soils are suited to most uses, but in places they are limited by slope and erosion. Sassafras soils are well suited to use as building sites. Slope generally is the only limitation to use for septic tanks.

Generally, soils from these areas suitable for use at the landfill include soils which are:

- Cohesive fine grained soils - these soils tend to slow the movement of water and leachate in the immediate vicinity of the landfill.
- Deep soil overburden – this soil tends to be easier to excavate and tends to be suitable as cover soil.
- Gentle foliated rock with few fractures – rock tends to slow the migration of groundwater.
- Low groundwater table with low permeability soils – these soils slow the movement of groundwater.

The location of specific soils types vary based upon site location. The soils types at a site proposed for development in support of this Solid Waste Management Plan will be evaluated on a site-by-site basis.

8.3 Geologic Conditions & Location

- (a) Piedmont Province - The Piedmont Province is underlain by hard, crystalline metamorphic and igneous rocks of Precambrian and Paleozoic age. The more common rock types are granodiorite, gabbro, metadacite, serpentine, gneiss and chlorite and mica schist. Various combinations of these rock types form five recognizable rock units and groups, which are the Wissahickon Formation, Port Deposit Gneiss, Baltimore Gabbro Complex, Volcanic Complex and Ultramafic Rocks. These differentiated rock units and groups are complexly folded along axes that trend northeast-southwest parallel to the Fall Zone.

Except for some non-indurated sedimentary deposits found capping high hills in the portion of the Piedmont located south of a straight line drawn through the areas of Woodlawn and Pleasant Hill, the soils (including completely decomposed bedrock) of the Piedmont are residual in origin, indicating they were developed in place by mechanical and chemical weathering of the parent rock. In general, the soils formed on the gently rolling uplands range in depth (depth to which the soil can be excavated without blasting) from several feet to over 100 feet, becoming especially deep in areas where the parent rock is gabbro. Along the sides, and in the bottoms of valleys the soil depth is commonly very shallow.

In general, the residual soils are medium to heavy textured (clays and silts) and contain appreciable quantities of mica. The residual soils are generally poorly to moderately permeable near the surface. The permeability of the soils generally increases with depth, usually becoming quite high in the zone where the soil grades into bedrock.

The non-indurated sediments that cap the higher hills near the Fall Zone are erosional remnants of Coastal Plain sediments which once lapped further up onto the crystalline rocks of the Piedmont. These sediments, which are Pliocene and Lower Cretaceous in age, extend to over 100 feet in thickness in places and are composed of various combinations of sand, gravel, silt and clay. Thick and fairly extensive deposits of this material are found south of the areas of Woodlawn and Theodore. In these areas Pliocene sand and gravel deposits cap the higher hilltops. These deposits are underlain by sandy and clayey Lower Cretaceous deposits.

- (b) Fall Zone - Within this zone, the non-indurated (non-consolidated) sedimentary deposits of the Coastal Plain Province feather out against the seaward dipping crystalline rocks of the Piedmont Province. The crystalline rock surface dips southward beneath the Coastal Plain in a southeasterly direction at a rate of about 125 feet per mile, reaching a depth of approximately 1700 feet below the ground surface in the southeast corner of the county.

Except for the crystalline rock that outcrops in portions of the drainage ways, the Fall Zone is entirely underlain by non-indurated deposits of sand, gravel, clay and silt.

In general, Pliocene sand and gravel is found on hilltops. The material is underlain by lenses and discontinuous beds of clay, clayey sand, sand and gravel, which are Lower Cretaceous in age.

- (c) Coastal Plain Province - The Coastal Plain Province is underlain by a wedge shape deposit of non-indurated sediments which feather out on the seaward dipping crystalline basement rock in the Fall Zone and thicken southeastward, reaching a maximum thickness of approximately 1700 feet at the southeast corner of the county. This wedge shaped mass of non-indurated sediments is composed of a vertical series of wedge shaped units which dip southeastward at approximately 30 to 40 feet per mile in a down dip direction.

The lower wedge shaped units, which belong to the Potomac Group of Lower Cretaceous age, outcrop on the county as a series of bands oriented parallel to the Fall Zone. However, on the Coastal Plain, with the exception of a large area on the Elk Neck, these outcrops are mostly obscured by a surface deposit of Pliocene to Recent sediments.

The Elk Neck, the hilltops, generally above elevation 200 feet, are composed of Pliocene sand and gravel deposits, which are underlain by Lower Cretaceous deposits, consisting mainly of lenses and discontinuous beds of quartzose sand, clayey sand and clay. These Lower Cretaceous deposits outcrop over most of the surface of Elk Neck, especially between elevations 100 and 200 feet. Below elevation 100 feet, erosional remnants of terrace deposits, composed of sand, silt, clay and gravel, largely obscure the Lower Cretaceous sediments.

The remainder of the Coastal Plain section of the county, the area lying southeast of the Elk River, is blanketed to a very large extent with 0 to 50 feet of Pleistocene deposits that consist of beds and lenses of mostly sand and clay. Sand beds generally comprise approximately 90 percent of the profile. The Pleistocene deposits are underlain by sand and clay, principally clayey sand, units of Lower Cretaceous age. These units outcrop in limited areas along some of the drainage ways.

8.4 *Aquifer Use & Conditions*

In the Piedmont region of the county, the dense, impermeable nature of the crystalline rock greatly limits the availability of ground water. As a result, the water that is exploited from the crystalline bedrock is generally obtained from fractures and joints. However, not all wells in the Piedmont section of the county have been developed in the crystalline rocks. In the vicinity of the areas of Woodlawn, and Theodore, some shallow (approximately 20 to 100 feet in depth) wells have been developed in the Lower Cretaceous deposits.

Over half of the wells in the Piedmont are dug and are relatively shallow. Of the wells that are drilled, many are less than 100 feet in depth. The average yield of all types of wells in the crystalline rock is reported to be approximately 11 gallons per minute.

In the area of the Fall Zone and on the Elk Neck section of the Coastal Plain, most wells tap aquifers at depths of approximately 30 to 200 feet in the Lower Cretaceous deposits, although some shallow wells have also been developed on the Pleistocene terrace deposits along the shorelines. Due to the presence of clayey beds (aquicludes) above some of the aquifers and the high relief between the wells and the recharge area, artesian conditions are sometimes encountered.

On the Coastal Plain, the presence of numerous highly permeable sand and gravel units interbedded with poorly permeable clay units, and the overall low relief, greatly favor the infiltration, storage and recovery of ground water at shallow depths. Most of the wells in this section of the Coastal Plain, located southeast of the Elk River, are less than 100 feet in depth and tap aquifers in the Pleistocene deposit.

8.5 *Existing Wetlands*

Cecil County has both tidal and non-tidal wetlands. A map indicating the wetlands can be found in the Comprehensive Plan after page 69. A map located in the County Planning Office is also available for viewing. The County strives to avoid construction or disturbance in high and medium quality wetlands.

8.6 *Surface Water Sources, Flood Plains and Watersheds*

The Zoning Ordinance and Subdivision Regulations address the Flood Plain District in Sections 224 -244. Surface Water Sources and Watersheds are addressed in the County Comprehensive Plan under Surface Water Sources on pages 54 - 55 and on the Watersheds Map following page 69. The County strives to avoid construction or disturbance in natural surface waters and floodplains.

8.7 *Existing Water Quality*

The Piedmont zone consists of metavolcanic and felsic or mafic plutonic rocks and their corresponding soils. Wells in this zone are often low producers. Exceptions arise if a boring strikes a channel or pocket of recent sediments. Water quality is generally good, depending upon the makeup of the bedrock. (Iron and magnesium are generally low, but can be very high.) The pH is generally 6.0 to 6.5. Ground water contaminants can be transported rapidly under certain circumstances (well-jointed bedrock).

The Potomac Group consists of highly variegated layers of clay and fine sand of varying thicknesses and is of continental origin. Lignite as well as water-deposited hematite (sometimes siderite) is common. The total thickness of the group is estimated to be 400-450 feet. The movement of ground water also varies considerably, due to the ubiquity of the clay, with many perched sources. The water quality is generally acidic (pH 5.3-6.0) with moderate to excessive iron content.

The Pensauken Formation is also a continental sediment but of recent development (Quaternary). Total thickness is about 75 feet. The water quality is much like that of the

Potomac Group. There is a higher incidence of nitrates, however, and the pH is often higher, revealing perhaps the influence of farming.

8.8 *Land Use*

Cecil County's Central Landfill, as mentioned previously, is surrounded on three sides by a state forest. In fact, only one short section of the site's circumference borders land owned by individuals. In addition, the land other than the state park bordering the site is zoned RR (rural residential), and is not likely to be developed in the foreseeable future.

The landfill site is also sufficient for both long-term growth of the County and long-term expansion of its own operations. It is in conformance with applicable federal, state, and local laws and regulations.

Siting of other solid waste facilities (e.g., transfer station, recyclables collection depot, etc.) shall take into account residential and agricultural development as well as the location of the population of facility is slated to serve.

8.9 *Planned Long Term Growth*

Because Cecil County possesses such a large and well-sited sanitary landfill, provisions for solid waste disposal have been secured for the foreseeable future. In addition, in 1994 the County constructed Cell 5, Phase I (Cells 1 and 4 having been constructed in 1978 and 1990, respectively), together with a leachate collection system that meets minimum state requirements. Cell 5, Phase II was completed in July 2001. For environmental, conservational, and economic reasons, the County continues to investigate alternatives to landfilling as the primary means of disposal. These alternatives include composting, waste reduction, reuse, recycling, incineration, and waste-to-energy programs.

The County has and will continue to consider the following prior to making any commitments for the construction of alternative municipal solid waste facilities:

- ❖ Competition with recycling programs for resources;
- ❖ Energy conservation; and,
- ❖ Public health and environmental concerns.

8.10 *Defined Critical Areas*

Cecil County is affected by the State's Critical Areas Law. The County Zoning Ordinance and Subdivision Regulations Sections 191 - 213 address the Critical Area District. The Comprehensive Plan addresses the Chesapeake Bay Critical Area Program. Cecil County strives to avoid construction or disturbance within defined critical areas.

CHAPTER V
PLAN OF ACTION

1. WASTE DISPOSAL CAPACITY

The following paragraphs discuss options available to the County to assure adequate waste disposal capacity is provided for the County residents and businesses during the Plan period of Years 2008 through 2017. Potential schedules discussed assume regulatory review times will be consistent with those listed in state regulations, regulatory comments will be minimal, and public participation and response to proposed facility modifications and facility siting will be favorable.

1.1 *Increase Available Waste Disposal Capacity*

Three options are considered most available for increasing the available waste disposal capacity at the Central Landfill site. The following paragraphs describe these options.

1.1.1 Vertically Expand Existing Disposal Areas

A significant vertical expansion of an existing waste disposal area can be accomplished by increasing the height of the earthen berm along the northern and western perimeter of the existing landfill. The increased berm height would allow and increase in the waste thickness in the landfill.

The County has already started to pursue permitting a vertical expansion by increasing the perimeter berm height around the north and west sides of Cell 5. An increase in the design height of the berm would increase the waste disposal capacity, extending the service life of the landfill by approximately 3 to 10 years, depending upon the actual design height. The following is a tentative schedule of activities for this option:

- a. Phase I (Preliminary Information) Report: January 2008 – August 2008;
- b. Phase II (Geological and Hydrogeological) Report: May 2008 – January 2009;
- c. Phase III (Engineering) Report: February 2009 – August 2009;
- d. Phase IV (MDE Internal Review) and V (Public Comment): August 2009 – August 2012; and,
- e. Initial Construction: Following MDE permit approval.

This schedule will be modified, as needed, based on actual timeframes experienced, coordination with regulatory review, and integration with other related options. The MDE is allowed up to 36 months review of a complete application plus time to respond to public hearing comments. It has been assumed that both activities will occur in 36 months.

1.1.2 Develop Additional Waste Disposal Area(s)

As indicated in Chapter III, the Central Landfill site has 75 to 100 acres of land area that can be developed and permitted for waste disposal. This land area is generally situated east and south of the existing Cells 1 and 4. It is anticipated a significant horizontal expansion of the waste disposal area(s) will add decades of service life to the Central Landfill. Developing new horizontal expansions to the landfill as described will provide additional disposal area (footprint) as well as the potential for vertical expansion above existing Cells 1, 4, and 5.

The County has already started to pursue permitting as much of the undeveloped land area as possible. The following is a tentative schedule of activities for this option:

- a. Phase I (Preliminary Information) Report: January 2008 – August 2008;
- b. Phase II (Geological and Hydrogeological) Report: December 2008 – November 2009;
- c. Phase III (Engineering) Report: June 2009 – February 2010;
- d. Phase IV (MDE Internal Review) and V (Public Comment): March 2010 – March 2013; and,
- e. Initial Construction: Following MDE permit approval.

This schedule will be modified, as needed, based on actual timeframes experienced, coordination with regulatory review, and integration with other related options. The MDE is allowed up to 36 months review of a complete application plus time to respond to public hearing comments. It has been assumed that both activities will occur in 36 months.

1.1.3 Re-Development of Past Waste Disposal Area(s)

In addition to vertical and horizontal expansion of the landfill disposal area(s), the County is also considering re-development of past disposal areas. The re-development of past disposal areas would apply to existing Cells 1 and 4.

1.1.3.1 Existing Cell 1

Currently, Cell 1 is inactive with future plans of re-development. Cell 1 is an unlined disposal cell with no leachate collection system. Re-development could be accomplished by excavating the existing waste from Cell 1 and relocating it to an active disposal area, so that a new liner and leachate collection system meeting current design and performance standards could be installed.

Excavation in the Cell 1 area could be extended below the existing waste materials to allow the construction of a new liner and leachate collection system in conjunction with developing adjacent waste disposal areas as described in Section 1.1.2.

This alternative has been included in the Phase I Report for the proposed horizontal expansion of the landfill. Therefore, implementation of this alternative is expected to follow the same schedule as that listed for the development of additional waste disposal areas described in Section 1.1.2.

1.1.3.2 Existing Cell 4

The County plans to excavate the existing waste in this cell, and re-locate the material to Cell 5. Redevelopment of Cell 4 is proposed because the current liner and leachate collection system will not support the loads of filling to the approved permitted grades. In order to be able to maximize the disposal volume to the permitted grades, a new liner and leachate collection system will be installed.

1.2 Reduce Annual Consumption of Available Waste Disposal Capacity

Three alternatives will be pursued by the County to reduce the annual consumption of waste disposal capacity. The following paragraphs describe these alternatives.

1.2.1 Continued Resource Recovery Activities

The County will continue to participate in, evaluate and increase, as able, various resource recovery activities. These are described in greater detail in Section 2.

1.2.2 Continued Use of Alternate Daily Cover Materials at the Central Landfill

The County currently uses an alternative daily cover (ADC) material at the Central Landfill. Use of an ADC allows the landfill operation to use less soil for daily cover, thereby consuming less waste disposal capacity. The County will continue the use of ADC materials.

1.2.3 Out-of-County Waste Disposal

Out-of-County waste disposal will be evaluated by the County for the purpose of establishing a contingency in the event increasing the waste disposal capacity as described in Section 1.1 is significantly delayed. This will obviously require a contractual arrangement with another disposal facility. Additionally, the waste handling activities and facilities will need to be modified. Such modifications could include, but not be limited to, re-routing private waste haulers, re-routing County

haulage vehicles that serve the County transfer stations, and the construction of a transfer station at the Central Landfill, or other location, for the acceptance and preparation of waste for transport to an out-of-County facility.

The County will review and evaluate these alternatives in greater detail in 2009. This review and evaluation will include establishing various parameters to be used in the design-making process prior to actual implementation of out-of-County disposal, as well as a schedule related to design, permitting, and construction. In a worse-case-scenario, the ability to transport waste to an out-of-County facility, in the event other waste capacity increasing activities are significantly delayed, would need to be available prior to the estimated existing capacity of the Central Landfill being consumed, potentially in Year 2017.

2. WASTE HANDLING

2.1 *Stemmer's Run Transfer Station*

As indicated in Chapter III, modifications to the Stemmer's Run Transfer Station (Stemmer's Run) could be needed in the very near future to relieve vehicle congestion during peak use times. With little land area being available at the existing Stemmer's Run site, two modification options are available: replace the transfer station, or establish an additional transfer station. The following paragraphs describe these options.

2.1.1 Replace Stemmer's Run Transfer Station

This option will require the siting, design, permitting, and construction of a new transfer station at a new site. Prior to these activities, the County must establish parameters for the site selection, which will include minimum useable land area, and location relative to existing road system. Pertinent physical constraints as listed in Chapter IV Section 8 will also need to be addressed.

The following is a tentative schedule for these activities:

- a. Evaluate Siting, Design, and Operational Criteria: March 2008 – May 2008;
- b. Siting Study: June 2008 – December 2008;
- c. Land Acquisition: January 2009 – June 2009;
- d. Phase I (Preliminary Information) Report: May 2009 – August 2009;
- e. Phase II (Geological and Hydrogeological) Report: not required;
- f. Phase III (Engineering) Report: July 2009 – November 2009;
- g. Phase IV (MDE Internal Review): December 2009 – Feb 2010; and,
- h. Construction: March 2010 – May 2010.

Once a new transfer station is ready for use, the existing transfer station will be closed. This will include removal of equipment, waste, and waste residuals, and stabilizing the site for permanent erosion and sediment control. After closure, the County could maintain the site as dormant land, or use it for storage of County equipment and/or materials. The end use will be required to be consistent with land use and zoning standards.

2.1.2 Establish An Additional Transfer Station

Under this option, an additional transfer station would be established in the southern part of the County to relieve the use on the existing Stemmer's Run Transfer Station. This option will require the evaluation, siting, design, permitting, and construction activities as described in Section 2.1.1. Therefore, the tentative schedule for this activity would essentially be the same.

2.2 Woodlawn Transfer Station

As indicated in Chapter III, the Woodlawn Transfer Station (Woodlawn) is currently operating at a capacity lower than permitted. During peak use times, some vehicle congestion is experienced. The County will evaluate ways to increase the capacity of the facility to accommodate a greater number of vehicles on the site to relieve congestion.

The evaluation described in Chapter IV indicates Woodlawn will be operating at less than the permitted capacity during the entire 10-year planning period. Therefore, the County will monitor the use of Woodlawn, and implement facility modifications, as needed. In the event a significant modification to the transfer station is required, the County will also evaluate the option of establishing an additional transfer station in the northern part of the County to relieve the use on the existing facility.

3. RESOURCE RECOVERY

3.1 Source Reduction, Reuse, and Recycling

The County will implement various programs to expand and enhance the already successful resource recovery programs currently in use. New programs may include, but not be limited to:

- a. Consider mandating waste collection companies offer curbside recycling to residents;
- b. Promote recycling of beverage containers with local pubs and taverns;
- c. Meet with the towns of Port Deposit, Cecilton, and Chesapeake City to encourage implementation of recycling programs;
- d. Negotiate with waste collection companies to encourage single stream recycling, especially with local schools, to enhance overall public participation;
- e. Implement a "sharps" (medical syringe) disposal program;

- f. Expand the yard waste and composting area at the Central Landfill;
- g. Promote and possibly provide, in conjunction with local businesses, biodegradable bags for yard waste;
- h. Expand the metals recycling area at the Central Landfill;
- i. Establish a compost bin distribution program;
- j. Offer presentations and workshops to homeowners and community groups to educate and promote backyard composting (including food waste);
- k. Promote source reduction and recycling to local businesses;
- l. Promote source reduction, reuse, and recycling with local restaurants; and,
- m. Promote the use of reusable or biodegradable grocery bags as an alternative to plastic bags.

Other source reduction, reuse, and recycling programs and initiatives may be implemented as needs and opportunities are identified, and as funding is provided.

3.2 Waste-to-Energy

3.2.1 Association With Harford County

Although the County could consider the implementation of a waste-to-energy project, the most available opportunity for waste-to-energy is to consider an arrangement with neighboring Harford County as they implement an expansion of their waste-to-energy facility in Joppa. This facility produces steam for the Aberdeen Proving Ground Complex. An arrangement with Harford County would create a reduction in the annual consumption of waste disposal capacity at the Central Landfill. The County would likely need to construct a transfer station at the Central Landfill to facilitate transportation of waste to Harford County. The County will continue to explore this option in conjunction with the out-of-County disposal option described in Section 1.2.3.

3.2.2 Landfill Gas-to-Energy

The County will evaluate in 2008 options for beneficial uses of landfill gas at the Central Landfill. Currently, the Central Landfill facility includes a landfill gas flare used for gas management. Beneficial uses for landfill gas could include, but not be limited to, energy production for sale to the local power utility, energy production for use at the landfill, energy production to an offsite industrial or manufacturing facility, and fueling of the County vehicle fleet. As options are better identified and quantified, the County may implement a landfill gas beneficial use project.

4. FUNDING

The County solid waste management system operates as an enterprise fund. An enterprise fund establishes a separate accounting and financial reporting mechanism for municipal services for which a fee is charged in exchange for goods or services. Under enterprise

accounting, the revenues and expenditures of the service are segregated into a separate fund with its own financial statements, rather than commingled with the revenues and expenses of all other governmental activities. Financial transactions are reported using standards similar to private sector accounting. Revenues are recognized when earned, and expenses are recognized when incurred, under a full accrual basis of accounting. An enterprise fund provides management and taxpayers with information to:

- Measure performance
- Analyze the impact of financial decisions
- Determine the cost of providing a service; and,
- Identify any subsidy from the general fund in providing a service.

Enterprise accounting allows a community to demonstrate to the public the portion of total costs of a service that is recovered through user fees and the portion that is subsidized by other available funds, if any. User fees are established based on planning, land acquisition, design, permitting, operating, maintenance, monitoring, and closure requirements for the various facilities and equipment in use. Operating surplus is retained in the fund. As various modifications, enhancements, changes, or expansions, etc., of any portion of the solid waste management program are identified, funding is evaluated and made available as approved by the County Board of Commissioners.

5. CHANGES IN PROGRAMS AND RELATED ITEMS

As the County solid waste management system adapts to the needs of the residents and businesses of Cecil County, various programs, planning documents, regulations, and/or operational procedures may require modification. Such modifications will be implemented on an ongoing basis, as needed. The County anticipates the most-likely modifications in the near future will be related to resource recovery activities and master planning of solid waste management activities and facilities, as described in this Plan. In order to leverage resources, and to create opportunities for solid waste disposal, resource recovery, and other solid waste management activities, Cecil County may pursue membership in the Northeast Maryland Waste Disposal Authority, other similar multi-jurisdictional organization.

FIGURES

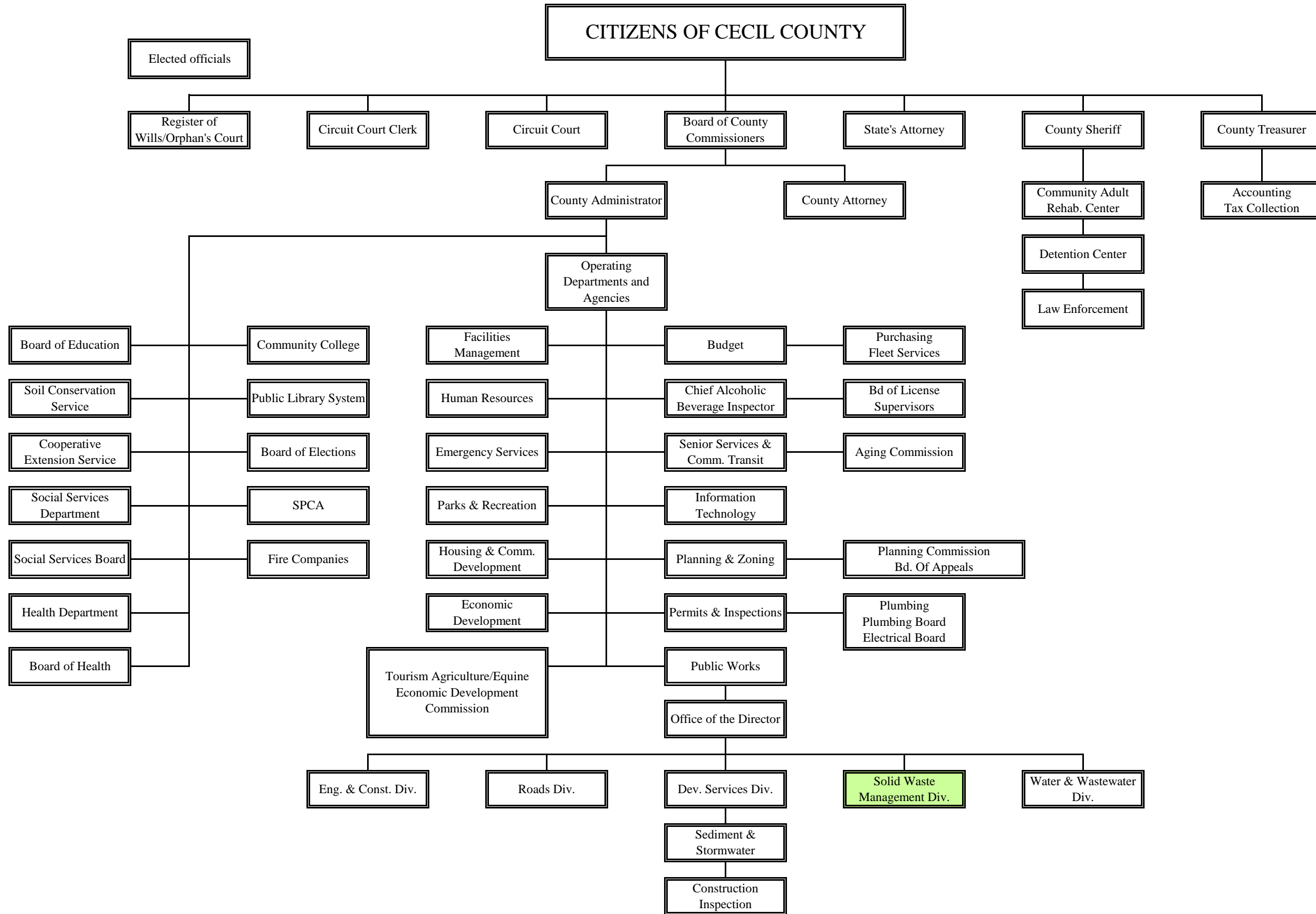


FIGURE I-1: CECIL COUNTY GOVERNMENT ORGANIZATIONAL STRUCTURE

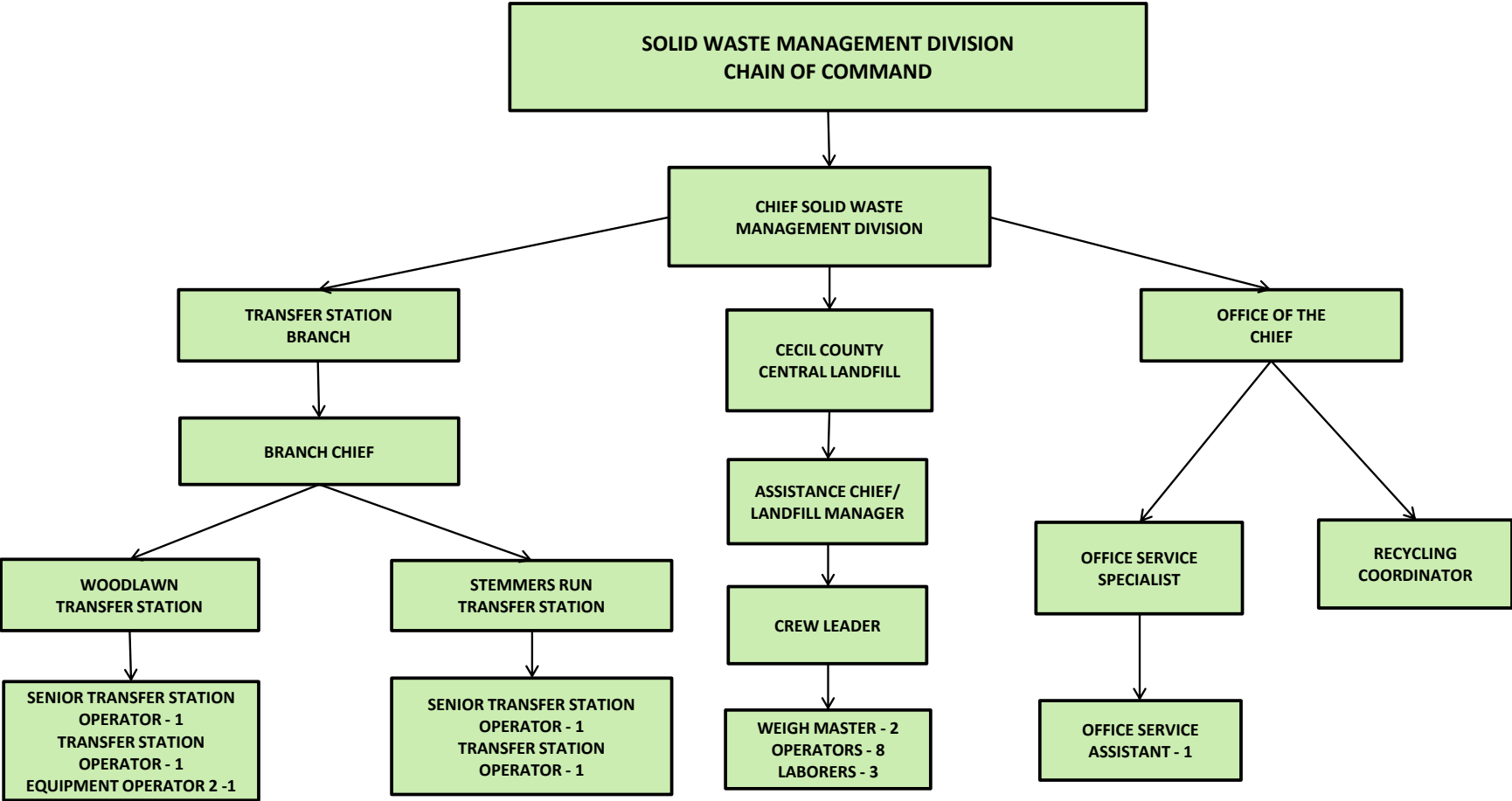


FIGURE I-2: CECIL COUNTY SOLID WASTE MANAGEMENT DIVISION ORGANIZATIONAL STRUCTURE

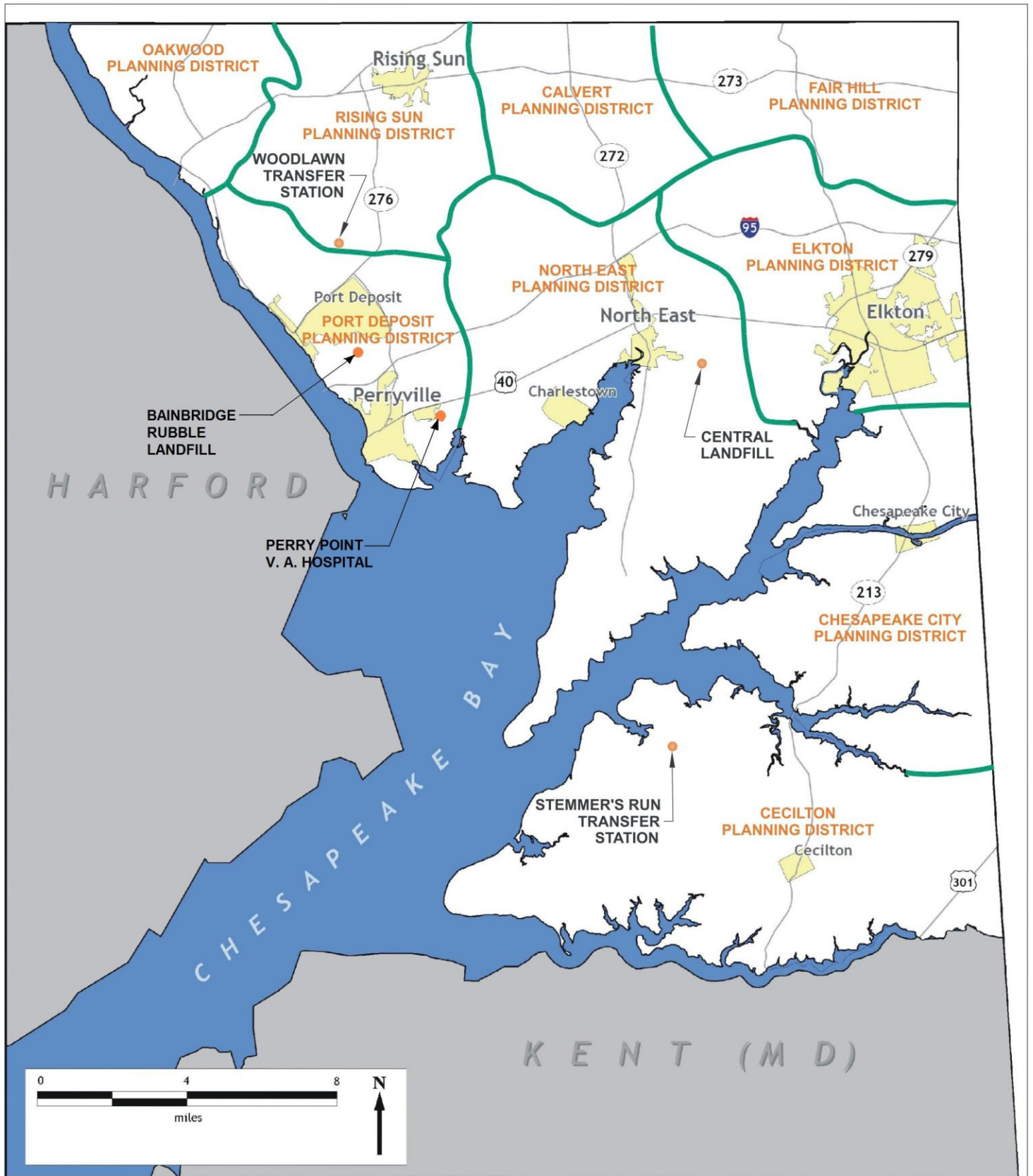
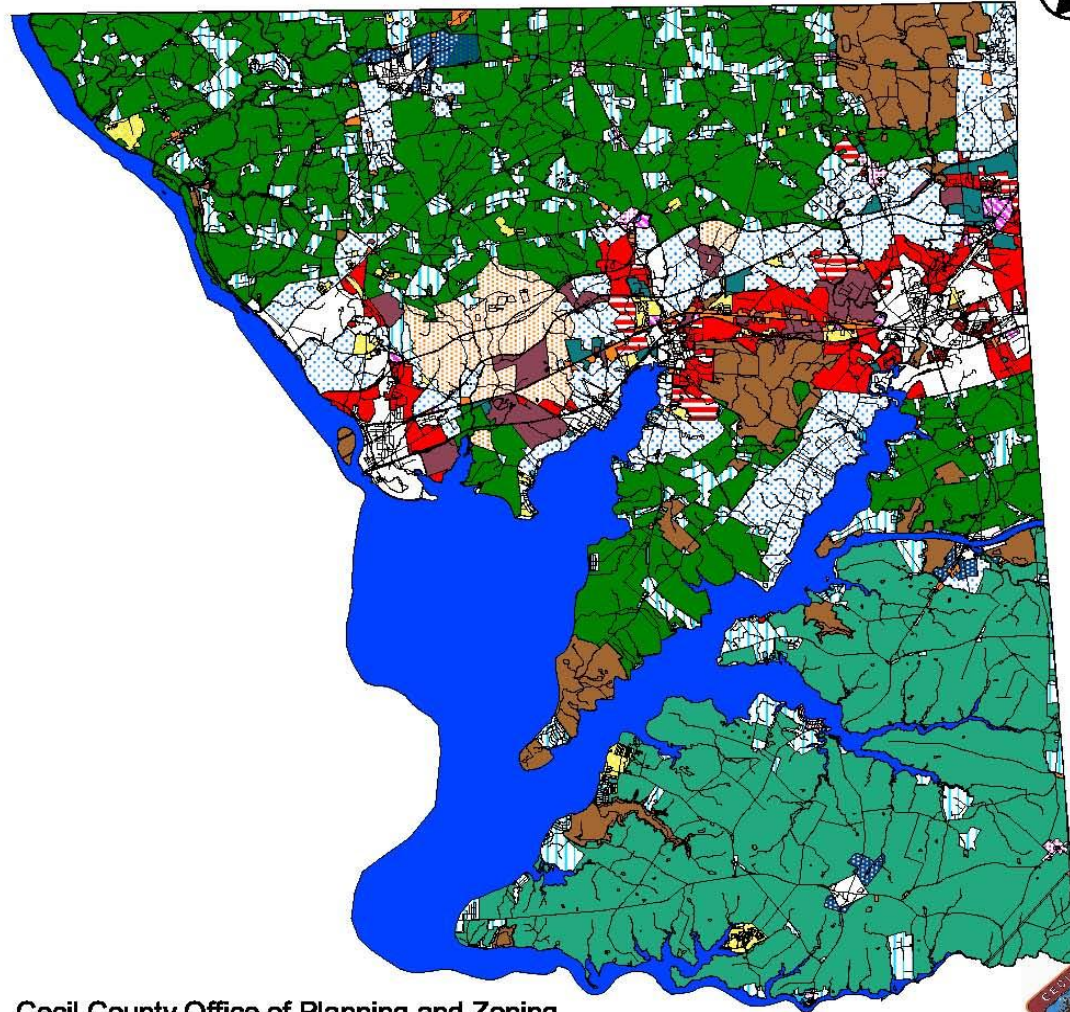
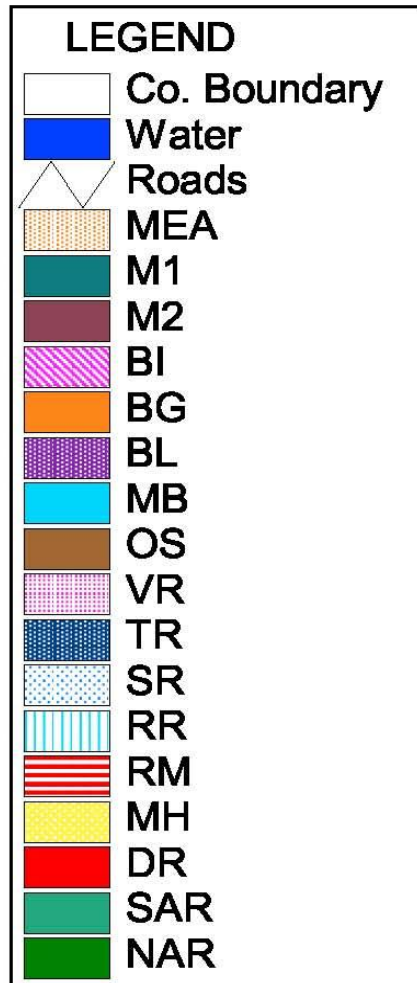


FIGURE II-1: CECIL COUNTY MAP

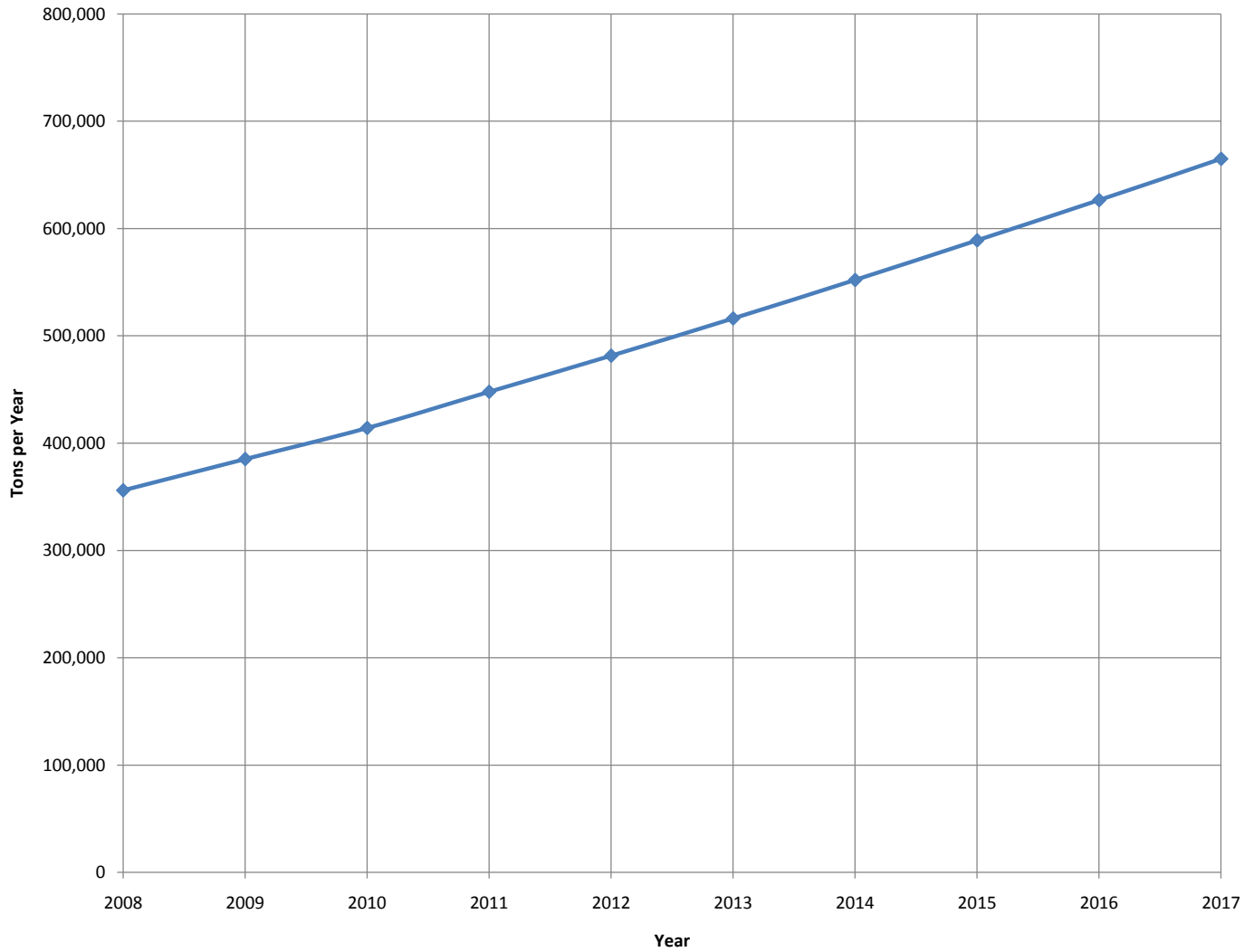
Cecil County Zoning Districts



Cecil County Office of Planning and Zoning
 November 1, 2001
 Updated January 9, 2008 through Rezoning file #07-07

FIGURE II-2: CECIL COUNTY ZONING MAP

Figure III-1: Waste Projections 2008 - 2017



TABLES

Table II-1
Cecil County Population Projections - WILMAPCO

District	2000	2001	2002	2003	2004	2005	2006	2007	2008	2009	2010	2011	2012	2013	2014	2015	2016	2017	2018	2019	2,020
Calvert	4,295	4,408	4,522	4,635	4,749	4,862	4,942	5,021	5,101	5,180	5,260	5,340	5,420	5,499	5,579	5,659	5,718	5,776	5,835	5,893	5,952
Cecilton	3,933	4,025	4,117	4,210	4,302	4,394	4,455	4,516	4,577	4,638	4,699	4,772	4,844	4,917	4,989	5,062	5,117	5,172	5,228	5,283	5,338
Chesapeake City	5,351	5,488	5,625	5,761	5,898	6,035	6,084	6,133	6,182	6,231	6,280	6,371	6,461	6,552	6,642	6,733	6,798	6,863	6,929	6,994	7,059
Elkton	22,523	23,269	24,016	24,762	25,509	26,255	26,707	27,159	27,611	28,063	28,515	29,153	29,790	30,428	31,065	31,703	32,309	32,916	33,522	34,129	34,735
Fair Hill	8,082	8,294	8,507	8,719	8,932	9,144	9,250	9,355	9,461	9,566	9,672	9,854	10,036	10,218	10,400	10,582	10,734	10,886	11,038	11,190	11,342
Northeast	18,673	19,057	19,441	19,824	20,208	20,592	21,321	22,050	22,778	23,507	24,236	25,024	25,811	26,599	27,386	28,174	28,965	29,756	30,547	31,338	32,129
Oakwood	3,667	3,815	3,963	4,111	4,259	4,407	4,478	4,550	4,621	4,693	4,764	4,848	4,933	5,017	5,102	5,186	5,253	5,319	5,386	5,452	5,519
Port Deposit	10,325	10,521	10,717	10,913	11,109	11,305	11,751	12,197	12,644	13,090	13,536	14,110	14,684	15,258	15,832	16,406	17,022	17,638	18,253	18,869	19,485
Rising Sun	9,102	9,343	9,584	9,825	10,066	10,307	10,469	10,630	10,792	10,953	11,115	11,314	11,514	11,713	11,913	12,112	12,272	12,431	12,591	12,750	12,910
TOTAL	85,951	88,105	90,316	92,584	94,912	97,300	99,556	101,868	104,238	106,668	108,077	111,540	113,983	116,489	119,061	121,618	124,151	126,660	129,226	131,852	134,467

(1) Source: Wilmington Area Planning Council (WILMAPCO) web site as of 11/13/08; years 2000, 2005, 2010, 2015, and 2020.

(2) Population values between 5-year values from WILMAPCO estimated by using a simple growth rate formula.

(3) Table years surrounded by bold border comprise the minimum 10-year planning period.

APPENDICES

APPENDIX A

**RESOLUTION OF THE
CECIL COUNTY BOARD OF COMMISSIONERS
TO ADOPT THE 2008 SOLID WASTE MANAGEMENT PLAN**

APPENDIX B
MARYLAND DEPARTMENT OF THE ENVIRONMENT
APPROVAL OF THE CECIL COUNTY
2008 SOLID WASTE MANAGEMENT PLAN