

CHAPTER 5

SOLID WASTE MANAGEMENT PLAN OF ACTION (2011 - 2021)

5.1 INTRODUCTION

Chapter 5 presents the recommended actions to be taken and an implementation schedule for the planning period to effectively meet the goals and objectives presented in Chapter 1. The recommended technologies and management programs are based on the evaluations presented in Chapter 4. This Plan presents an overall framework for managing solid wastes projected to be generated in Charles County in the next 10 years. The goals and objectives are to be achieved through an integrated solid waste management program based on the following hierarchy of management alternatives: source reduction, recycling, yard waste composting, and land disposal.

The Charles County's Comprehensive Solid Waste Management Plan must respond to the requirements of the state-mandated recycling goals and all other federal, state and county regulations and laws. The goals and objectives presented in Chapter 1 address these requirements. Additional objectives that exceed regulatory requirements, or address areas not specifically covered by regulations will also be addressed in this chapter.

An integrated solid waste management plan provides specific management tools to handle the various components of the waste stream. The program elements are interrelated; modification to one element invariably impacts all elements of the Plan. For instance, the waste reduction and recycling rates directly impact disposal capacity projections for the landfill. The numerous programs which comprise the Plan are used in combination to complement each other. This Solid Waste Management Plan identifies the programs and also addresses how and when these programs will be implemented.

The *Action Plan* is not intended to provide specific information such as manufacturers, models of equipment to be purchased, or specific sites to be used for required solid waste management facilities. Rather, it provides county decision-makers with a framework upon which to base these decisions during the planning period. The Plan is a dynamic document that must be continuously updated to reflect changing conditions and management decisions that will be made when sufficient additional data is available. Implementation of the Plan will be facilitated through a proactive public information and public participation program.

5.2 ACTION PLAN OVERVIEW

The recommended schedule and funding scenarios for the *Charles County Solid Waste Management Program* for the years 2011 through 2021 are summarized in Tables 5-1 and 5-2, respectively. Detailed descriptions of plan elements are presented in the following sections of this chapter. Table 5-1 presents a detailed summary of milestones and action items, and corresponding implementation dates, necessary to effectively attain the goals of the integrated program. As previously noted, the schedule will be periodically revised and updated throughout the planning period as elements are implemented.

*TABLE 5-1
RECOMMENDED SOLID WASTE MANAGEMENT
ACTION PLAN SCHEDULE
2011-2021*

Program or Facility	Description	Date
<i>Source Reduction Program</i>	<ol style="list-style-type: none"> 1. Continue to produce brochures, reference documents; public meetings for citizens and businesses on alternatives available for waste reduction 2. Continue technology transfer, public education program 	<p>2011-2021</p> <p>2011-2021</p>
<i>Solid Waste/Recyclable Collection</i>	<ol style="list-style-type: none"> 1. Continue the licensing/volume-based billing system feasibility study 2. Continue meeting with haulers 3. Implement recommended program 4. Examine feasibility of a franchising pilot solid waste collection program 5. Collection system evaluation 6. Continue to maintain a recycling rate of 35% or more in 2015 and beyond 	<p>2011-2021</p> <p>2011-2021</p> <p>2011-2021</p> <p>2011-2021</p> <p>Annually</p>
<i>Residential Recycling</i>	<ol style="list-style-type: none"> 1. Expand curbside collection program 2. Continue to evaluate additional drop-off centers 3. Expand materials accepted as markets become available 4. Promote recycling in multi-family, apartment building, and condominium complexes 	<p>2011-2021</p> <p>2011-2021</p>
<i>Commercial Recycling</i>	<ol style="list-style-type: none"> 1. Produce, distribute business recycling informational materials 2. Continue commercial recycling education program 3. Continue to evaluate reporting system; develop alternatives for improvement, as necessary 4. Coordination of joint business recycling programs 	<p>2011-2021</p> <p>2011-2021</p> <p>2011-2021</p> <p>2011-2021</p>
<i>Rubble Recycling</i>	<ol style="list-style-type: none"> 1. Meetings with contractors on benefits of rubble recycling 2. Meeting with contractors and haulers to initiate rubble MRF feasibility study 	<p>2011-2021</p> <p>2011-2021</p>
<i>Municipal Sanitary Landfill</i>	<ol style="list-style-type: none"> 1. Continue operation of Cell II and Cell III-A 2. Construction/operation of Cell II-B 3. Construction/operation of Cell III-B 4. Continue to explore the feasibility of the use and/or sale of methane gas. 	<p>2011</p> <p>2013</p> <p>2013</p> <p>2011-2021</p>
<i>Yard Waste</i>	<ol style="list-style-type: none"> 1. Waste prevention/backyard composting publicity program 2. Meet with farmers to evaluate agricultural reuse opportunities 3. Develop and promote home food composting program 	<p>2011-2021</p> <p>2011-2021</p>
<i>Sludge</i>	<ol style="list-style-type: none"> 1. Evaluate the expansion of sludge stabilization facility at Mattawoman WWTP 	Annually
<i>Household Hazardous Waste</i>	<ol style="list-style-type: none"> 1. Continue monthly household hazardous waste collection day using private contractors nine times a year. 	2011-2021
<i>Other Solid Wastes</i>	<ol style="list-style-type: none"> 1. Waste oil and antifreeze should continue to be collected at the drop-off centers and the NSWC recycling program. Institute semi-annual update listing for county oil and antifreeze acceptance facilities; publicize list through media 	2011-2021
<i>Legislative Initiatives</i>	<ol style="list-style-type: none"> 1. Amend county polices for solid waste management as needed 2. Modify zoning regulations for solid waste facilities 	<p>2011-2021</p> <p>2011-2021</p>
<i>Financing</i>	<ol style="list-style-type: none"> 1. Reevaluate the landfill tipping fee and Environmental Service Fee annually 	2011-2021

Cost estimates and projections presented in Table 5-2 are based upon Charles County Environmental Resources Division budgets and "rule-of-thumb" parameters for the various components of the Solid Waste Plan. The data is not intended to represent a highly accurate projection of the tipping fee over the planning period. This evaluation is used to compare the overall impact of alternative management strategies on program costs over the planning period. Many scenarios were considered during the formulation of this Action Plan.

Source reduction through decreasing the volume of materials produced, consumed and disposed, as well as through reuse of materials, will continue to be the highest priority solid waste management alternative for Charles County. Source reduction decreases the potential environmental impact of solid waste management, and can result in significant cost savings to the community. In addition, reducing the volume of waste results in the deferment of capital expenditures for recycling, processing, and disposal equipment and facilities.

Along with source reduction, Charles County has exceeded the state-mandated 35% waste diversion rate with a 35% to 50% per year rate since 2003. The County will continue to build upon existing recycling programs, and work to expand residential, commercial/industrial, and institutional recycling, and yard waste composting. The effective implementation of this Plan requires the cooperative effort of officials of the county and municipal governments, federal installations, waste industry personnel, and waste generators within the county.

The proposed management alternative includes county-financed expansion of the Charles County Landfill.

Table 5-2 provides a detailed summary of the projected facility capacity requirements, and expenditures from 2011 to 2021. The County currently charges a tipping fee of \$70 per ton at the landfill and an environmental service fee of \$70 for improved properties. The environmental service fee (ESF) funds the recycling, composting, and litter control programs as well as the household hazardous waste collections and the National Pollutant Discharge Elimination System (NPDES) program.

TABLE 5-2
RECOMMENDED SOLID WASTE MANAGEMENT PLAN
ACTION PLAN FINANCING
Fiscal Year 2011-2021

	FY 2011	FY 2012	FY 2013	FY 2014	FY 2015	FY 2016
	Actual	Actual	Actual	Adopted	Adopted	Estimate
Revenues:						
Permits/Miscellaneous	\$8,795	\$5,673	\$1,076	\$5,400	\$5,400	\$5,400
Tipping Fees	4,172,079	5,903,993	4,866,268	4,317,500	4,646,900	4,707,300
Tag-A-Bag	205,195	229,205	270,747	348,500	295,500	307,900
Fund Balance Appropriation- Pisgah	599,800	599,800	118,300	66,700	0	0
Total Revenues	\$6,057,092	\$6,858,191	\$5,384,866	\$5,309,200	\$5,520,800	\$6,194,100
Expenses:						
Salary & Fringe	\$1,781,465	\$1,969,886	\$1,918,817	1,935,700	\$2,141,300	\$2,248,400
Operating	706,200	767,017	913,473	848,800	909,100	936,400
Capital Reserve for Replacement	0	0	0	445,600	460,000	1,059,100
Transfers Out: Pisgah Closure	599,800	599,800	0	0	0	0
Total Operating Expenses	\$3,087,465	\$3,918,281	\$3,407,554	\$3,867,500	\$3,986,600	\$4,554,600
Reserve for Future Costs:						
Closure/Post Closure	584,939	555,951	562,680	327,400	343,800	354,700
Cell 3A Construction	1,641,561	1,465,949	1,270,020	1,098,300	1,178,100	1,215,300
Cell 3B Construction						
Total Reserve	\$2,226,500	\$2,021,900	\$1,832,700	\$1,425,700	\$1,521,900	\$1,570,000
Total Expenses	\$5,346,174	\$5,971,161	\$5,271,222	\$5,309,200	\$5,520,800	\$6,194,100
Surplus/Deficit:	\$710,918	\$5,346,174	\$113,644	(\$0)	(\$0)	(\$0)
ESTIMATED NET CASH	\$5,070,196	\$4,482,696	\$3,775,296	\$2,533,696	\$1,747,396	\$805,196
Expected Billable Tonnage:	82,619	87,276	73,075	64,576	68,988	69,885

TABLE 5-2 (Continued)
RECOMMENDED SOLID WASTE MANAGEMENT PLAN
ACTION PLAN FINANCING
Fiscal Year 2011-2021

	FY 2017	FY 2018	FY 2019	FY 2020	FY 2021
	Estimate	Estimate	Estimate	Estimate	Estimate
<u>Revenues:</u>					
Permits/Miscellaneous	\$5,400	\$5,400	\$5,400	\$5,400	\$5,400
Tipping Fees	4,767,700	4,828,100	4,889,200	4,951,100	5,013,800
Tag-A-Bag	315,700	319,800	323,900	328,100	0
Fund Balance Appropriation- Pisgah	0	0	0	0	0
Total Revenues	\$5,534,700	\$5,830,400	\$5,337,400	\$5,405,000	\$5,473,500
<u>Expenses:</u>					
Salary & Fringe	\$2,360,800	\$2,478,800	\$2,602,700	\$2,732,800	\$2,869,400
Operating	996,300	1,058,700	1,123,600	1,157,300	1,192,000
Capital Reserve for Replacement	0	0	0	0	0
Transfers Out: Pisgah Closure	0	0	0	0	0
Total Operating Expenses	\$3,687,100	\$4,097,200	\$3,726,300	\$3,890,100	\$4,061,400
<u>Reserve for Future Costs:</u>					
Closure/Post Closure	365,900	377,300	389,100	401,300	406,400
Cell 3A Construction	1,253,500	1,292,800	1,333,200	1,375,000	1,392,400
Cell 3B Construction					
Total Reserve	\$1,619,400	\$1,670,100	\$1,722,300	\$1,776,300	\$1,798,800
Total Expenses	\$5,824,200	\$6,416,600	\$6,177,200	\$6,660,800	\$6,931,200
Surplus/Deficit:	(\$289,500)	(\$586,200)	(\$839,800)	(\$1,255,800)	(\$1,457,700)
ESTIMATED NET CASH	\$5,070,196	\$4,482,696	\$3,775,296	\$2,533,696	\$1,747,396
Expected Billable Tonnage:	70,781	71,678	72,586	73,506	74,437

Table 5-3 provides a detailed summary of the projected program costs associated with the Environmental Service Fee (ESF). The ESF funds the recycling, composting, and litter control programs, as well as, the household hazardous waste collections and the National Pollutant Discharge Elimination System (NPDES) program. The fee is included on all property tax accounts that have an improved property status. Revenues and expenditures for the 5-year planning period is reflected. The revenue neutral fee required to fully finance the various programs is estimated to vary from the current fee of \$65 to \$128 per eligible tax account.

This fund is used to pay for recycling and environmental programs throughout the County. The primary source of revenue is generated by a \$74 environmental service fee charged annually to each improved property. The debt service for the Stormwater Management portion of this program has accelerated in recent years due primarily to costs associated with the National Pollutant Discharge Elimination System (NPDES) Retrofit capital projects. The FY12-FY16 CIP is currently programmed for \$21.6 million in bond funding over the next five years. In addition to this, the County will need to issue \$7.5 million in bonds to cover existing capital improvement projects. Bond funds are not issued until projects are in progress.

In order to fund existing programs, increased consultant and mapping costs associated with the NPDES program, and to cover the increasing debt service costs, fee increases will be needed in future years. Rate adjustments are calculated on a break-even basis. Unless another funding source is identified or proposed NPDES requirements are lowered, the current fee of \$74 would need to be increased to \$127 by FY16 in order to cover the proposed program.

Table 5-3: ESF Plan

	FY 2009 Actual	FY 2010 Actual	FY 2011 Actual	FY 2012 Actual	FY 2013 Actual	FY 2014 *Adopted	FY 2015 *Adopted	FY 2016 *Estimate	FY 2017 *Estimate	FY 2018 *Estimate	FY 2019 *Estimate	FY 2020 *Estimate	FY 2021 *Estimate
Revenues:													
Environmental Service Fee	\$3,130,879	\$3,435,183	\$3,476,052	\$3,539,854	\$3,638,448	\$3,349,000	\$3,842,300	\$3,892,200	\$3,942,000	\$3,992,100	\$4,042,800	\$4,094,100	\$4,146,100
Other Service Charges/Misc.	161,599	177,393	381,235	402,649	282,804	228,800	205,700	205,700	205,700	205,700	205,700	205,700	205,700
Total Operating Revenues	\$3,292,478	\$3,612,576	\$3,857,287	\$3,942,503	\$3,921,252	\$3,577,800	\$4,048,000	\$4,097,900	\$4,147,700	\$4,197,800	\$4,248,500	\$4,299,800	\$4,351,800
Fund Balance Appropriation	239,952	36,700	19,900	160,500	340,248	123,500	252,400	23,100	23,800	24,500	25,200	26,000	26,800
Total Revenues	\$3,532,430	\$3,649,276	\$3,877,187	\$4,103,003	\$4,261,500	\$3,701,300	\$4,300,400	\$4,121,000	\$4,171,500	\$4,222,300	\$4,273,700	\$4,325,800	\$4,378,600
Expenses:													
Salary & Fringe: Recycling / Litter Control	\$958,639	\$925,567	\$995,196	\$1,040,990	\$1,034,331	1,104,400	1,095,800	1,150,600	1,208,100	1,268,500	1,331,900	1,398,500	1,468,400
Salary & Fringe: NPDES	0	54,691	49,451	102,358	267,351	0	0	0	0	0	0	0	0
Operating: Recycling / Litter Control	1,949,990	1,676,168	1,750,732	1,824,184	1,916,910	2,144,000	2,314,000	2,383,400	2,454,900	2,528,500	2,604,400	2,682,500	2,763,000
Operating: NPDES	184,198	180,315	167,183	143,604	291,817	0	0	0	0	0	0	0	0
New/Small Capital/Equipment	35,570	0	0	164,309	32,348	23,500	202,400	23,100	23,800	24,500	25,200	26,000	26,800
Operating Contingency	0	0	0	0	0	0	0	0	0	0	0	0	0
Total Operating	\$3,128,397	\$2,836,741	\$2,962,562	\$3,275,445	\$3,542,757	\$3,271,900	\$3,612,200	\$3,557,100	\$3,686,800	\$3,821,500	\$3,961,500	\$4,107,000	\$4,258,200
Debt Service: P & I Recycling / Litter Control	\$91,222	\$103,230	\$74,124	\$71,571	\$58,511	\$308,400	\$567,200	\$593,700	\$589,100	\$584,500	\$321,200	\$60,100	\$30,300
Debt Service: P & I NPDES	144,225	182,812	217,867	262,259	327,851	0	0	0	0	0	0	0	0
Debt Service: P & I (future Recycling Projects)	0	0	0	0	0	0	0	0	16,200	86,000	86,000	86,000	86,000
Debt Service: P & I (future equipment leases)	0	0	0	0	0	0	0	28,700	110,800	178,600	416,650	640,300	705,800
Total Debt Service	\$235,447	\$286,042	\$291,991	\$333,830	\$386,362	\$308,400	\$567,200	\$622,400	\$716,100	\$849,100	\$823,850	\$786,400	\$822,100
Capital/Equipment Reserve	\$120,030	\$121,000	\$121,000	\$121,000	\$121,000	\$121,000	\$121,000	\$121,000	\$121,000	\$121,000	\$121,000	\$121,000	\$121,000
Total Expenses	\$3,483,874	\$3,243,783	\$3,375,553	\$3,730,275	\$4,050,119	\$3,701,300	\$4,300,400	\$4,300,500	\$4,523,900	\$4,791,600	\$4,906,350	\$5,014,400	\$5,201,300
Surplus\Deficit:	\$48,556	\$405,493	\$501,634	\$372,728	\$211,381	\$0	\$0	(\$179,500)	(\$352,400)	(\$569,300)	(\$632,650)	(\$688,600)	(\$822,700)
Estimated Improved Properties:	48,866	49,325	49,826	50,518	51,467	51,588	52,104	52,781	53,457	54,136	54,824	55,520	56,225
<u>Estimated Annual Environmental Service Fee Adjustment</u>		\$6	\$0	\$0	\$1	(\$6)	\$9	\$3	\$7	\$11	\$12	\$12	\$15
Annual ESF Fee per Improved Property	\$68	\$74	\$74	\$74	\$75	\$69	\$78	\$81	\$85	\$89	\$90	\$90	\$93
% rate change		8.8%	0.0%	0.0%	1.4%	-8.0%	13.0%	3.8%	4.9%	4.7%	1.1%	0.0%	3.3%

*In FY 2014 NPDES costs were moved to the WPRF Fund.

Table 5-3: ESF Fund
Capital Improvement Program Operating Impact

Bond Issues	Total	FY 2011	FY 2012	FY 2013	*FY 2014	FY 2015	FY 2016	FY 2017	FY 2018	FY 2019	FY 2020	FY 2021
Recycling Projects (prior approved)	\$1,011,500	\$0	\$0	\$0	\$0	\$0	\$1,011,500	\$0	\$0	\$0	\$0	\$0
NPDES Projects	2,100,000	1,400,000	700,000	0	0	0	0	0	0	0	0	0
FY15-FY19 Approved Recycling Projects	0	0	0	0	0	0	0	0	0	0	0	0
Total	\$3,111,500	\$1,400,000	\$700,000	\$0	\$0	\$0	\$1,011,500	\$0	\$0	\$0	\$0	\$0

Debt Service Payments (lag bond issues by one year)

Annual Payment per Bond Issue

2011 Bond Issue		\$25,183	\$49,541	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0
2012 Bond Issue		0	19,445	0	0	0	0	0	0	0	0	0
2016 Bond Issue (future)		0	0	0	0	0	16,200	86,000	86,000	86,000	86,000	86,000
Cumulative Debt Service: P&I (future)		\$25,183	\$68,986	\$0	\$0	\$0	\$16,200	\$86,000	\$86,000	\$86,000	\$86,000	\$86,000

*In FY 2014 NPDES costs were moved to the WPRF Fund.

5.3 WASTE STREAM CHARACTERIZATION

- Aluminum/non-ferrous metal
- Ferrous metal
- Glass
- Plastic
- Newspaper
- Cardboard
- Batteries
- Yard waste
- Other organics
- Scrap Tires
- Textiles
- Wood
- Household hazardous waste
- Electronics
- Rubber

Charles County will continue to research other waste stream characterization studies to establish the required database for the effective planning of collection and waste management facilities. The assessment will include an evaluation of the quantity, composition and source of waste generated within the county. Sources to be characterized will include residences, businesses, and institutions. Ultimately, the characterization will include surveys and interviews with generators and waste management officials to more accurately determine the quantities of waste imported and exported from the county, and the breakdown of residential versus commercial waste. The waste characterization will address all disposal and processing facilities within the county, including the landfill, yard waste composting site, and recycling drop-off centers. Random samples of incoming loads will be obtained, and the following waste fractions will be characterized:

Waste stream characterization studies will be conducted throughout the planning period as programs are implemented, and more specific data is required to evaluate the effectiveness of components of the integrated solid waste management plan.

5.4 SOURCE REDUCTION

Source reduction continues to become an increasingly important component of the Charles County solid waste management program. Reduction of the amount of waste generated extends the useful life of the county landfill and reduces expenditures required for collection, recycling, and disposal programs. Source reduction programs generally fall into the following categories: product reuse, reduced material volume, reduced toxicity, increased product lifetime, and decreased consumption. Examples of source reduction alternatives are presented below.

<i>Buying in Bulk</i>	<i>Reusable Drink Containers</i>	<i>Waste Exchange (Swaps)</i>
<i>Cloth Diapers</i>	<i>Minimizing Packaging</i>	<i>Double-Sided Copying</i>
<i>Repairing Broken Items</i>	<i>Buying Durable Products</i>	<i>Junk Mail Reduction</i>
<i>Donating Clothing</i>	<i>Mulching Mowers</i>	<i>Reusable Air Filters</i>
<i>Cloth Shopping Bags, Lunch Bags</i>	<i>Repairing Pallets</i>	<i>Reduce Use of Disposable Cups, Plates</i>
<i>Drink Concentrates</i>	<i>Printer Cartridge</i>	
	<i>Remanufacturing</i>	<i>Hand Driers</i>

Source reduction will continue to be encouraged through a publicity campaign designed to keep citizens aware of the available options. Public information booklets and presentations have been prepared to identify available source reduction methods. The campaign emphasizes the benefits of source reduction and identifies source reduction as the highest priority waste management tool for Charles County. The Charles County Department of Public Works will continue its publicity program on the benefits of mulching mowers and backyard composting.

The County has implemented a waste exchange program with a private non-profit organization. The waste exchange facility accepts types of wastes that can potentially be reused by other consumers rather than disposed of in the landfill, including paint, toys, sports equipment, clothes, furniture, and appliances. The waste exchange is a functional relay, staffed by volunteers and members of the ReUse Barn.

Source reduction can be implemented through education and research, financial incentives and disincentives, and by regulation. In Charles County, source reduction is primarily implemented through voluntary public participation. The source reduction program is designed to make citizens and businesses aware of the options available to reduce the generation of waste, as well as the benefits and cost advantages. The program includes production and distribution of additional informational materials, and conducting educational seminars for homeowners and commercial establishments. Topics, for example, include backyard composting and "green shoppers lists" for buying environmentally friendly products.

Providing financial incentives for source reduction on a county-wide basis will also be evaluated. The County has initiated a volume-based billing system for waste hauled to the landfill or the designated drop-off locations. Alternatives available for expanding the program include tax credits/exemptions, product disposal charges, and volume-based billing for all waste collected within the County. Governmental agencies and businesses can continue to reduce waste through measures such as double-sided copying, reuse of scrap paper, and implementing a procurement policy that encourages the minimization of packaging.

5.5 COLLECTION (SOLID WASTE AND RECYCLABLES)

The incorporated towns of La Plata and Indian Head provide municipal waste and recycling collection. In the unincorporated areas of the county, residents as well as commercial and institutional establishments, currently contract with a hauler of their choice. Recyclables are collected from approximately 38,370 homes via a contract with a private hauler and funded by the ESF.

The institution of a licensing system is recommended in order to give the County more control over haulers' services, such as requirements for recyclable collection, record keeping, and billing methods. This system would provide for county flow control and accounting of recyclables, while affording haulers and residents the advantages of a "controlled" free-enterprise system. This system should give the County positive control over collection systems that may be needed to meet recycling goals.

Implementation should begin with a feasibility study to determine the standards and policies for licensing haulers. Elected officials from incorporated municipalities should make a decision early in the process about whether or not their jurisdictions will be included. A committee representing private haulers should be consulted during the planning process to develop a system that will best serve the needs of the community.

Standards and policies for the licensing system should address the following requirements:

- Qualifications for company owners
- Collection frequency and hours
- Billing procedures
- Point of collection, containers
- Vehicles and equipment
- Personnel training
- Requirements for collection of recyclables, including yard waste
- Bulk item pick-up

Once the licensing procedure has been established, the implementation of a volume-based billing system is recommended. Municipalities throughout the country have invariably found that volume-based billing results in significant waste reduction and increases in recycling quantities. Volume-based billing means that the residential or commercial customer is charged based on the number and size of containers put out for collection each week. In a "pay-as-you-throw" (PAYT) system, standardized collection containers are issued, with a set monthly collection fee associated with each size. Stickers can be purchased for any excess waste placed in bags. Volume-based billing encourages waste reduction and recycling, minimizes the size and number of disposal containers, and reduces costs. The system provides a direct economic incentive for citizens and businesses to reduce the amount of waste that they generate.

Institution of a volume-based billing system can result in some increase in illegal dumping to avoid increased collection fees. This practice can be minimized by providing convenient outlets for all residents to recycle, and also through an effective public information program that reinforces the attitude that illegal dumping is a socially unacceptable practice.

The County may also implement a limited pilot program to evaluate the feasibility of franchised collection. A pilot franchised collection district may be established in an unincorporated area of the County. The franchise would be awarded to a private hauler based on competitive bidding. The limited pilot program could include volume-based billing and economic incentives for recycling. The pilot program could provide a good data base for the evaluation of the cost-effectiveness of the existing free enterprise system, and the effectiveness of volume-based billing.

5.6 RECYCLING

Based on the goals and objectives of the 1994-1999 Comprehensive Solid Waste Management Plan, the County intended to incrementally increase its recycling rate to 25 percent or more by the year 2004. Charles County achieved a waste diversion rate of 55% in 2009.

5.6.1 Residential Collection

Approximately 50 percent of the residential waste generated in Charles County was recycled during 2009. Waste Diversion rates have ranged from at 35 percent to 50 percent each year since 2004. The collection system expansion and increased effectiveness will provide increased opportunities for yard waste collection. This is important due to the increased volume of yard waste to be composted over the planning period.

The County has taken the following steps which have proven effective for the residential recycling program:

- Expanded the curbside recycling collection program to over 70 percent of unincorporated improved properties in the County.
- Increase participation in the curbside recycling program to 50 to 75 percent
- Expanded the curbside recycling collection area, as recommended by the feasibility study.
- Established additional recyclable drop-off center locations.
- Single Stream recycling program with additional items accepted
- Expanded the public information and education program.
- Changed curbside collection container from a 18 gallon bin to 95 gallon wheeled cart
- Implemented yard waste collection.

Commingled single-stream collection of recyclables was initiated in 2007 and all material is currently transferred to Waste Management's materials recovery facility (MRF)

Yard waste collection has been implemented and runs from April through December each year.

Charles County recycled approximately 51,537 tons of residential and commercial solid waste in 2009 through implementation of the programs described above. If necessary, additional options to increase participation and residential recycling rates will be developed and evaluated, including:

- Financial incentives
- Increased collection frequency
- Mandatory recycling
- Landfill disposal bans
- Recycling of additional types of materials

5.6.2 Apartment Building and Condominium Recycling

In April, 2012, the Maryland General Assembly passed House Bill 1, Environmental-Recycling – Apartment Buildings and Condominiums requiring recycling in all apartment buildings and condominiums that contain 10 or more dwelling units. The law becomes effective on October 1, 2012 (amending Section 9-1703 of the Environment Article, Annotated Code of Maryland). Section 9-1703 (b) (12) of the Environment Article, Annotated Code of Maryland requires Charles County to revise its recycling plan within the Solid Waste Management Plan by October 1, 2013. The Department approved language should be inserted in Chapter V, “Plan of Action,” of the Solid Waste Management Plan. Apartment buildings and condominiums must implement a recycling plan by October 1, 2014.

Apartment Building and Condominium Recycling Program

Through the cooperation of Charles County Department of Public Works, Environmental Resources Division and owners or managers of apartment buildings or councils of unit owners of condominiums (“apartment and condominium officials”), and other stakeholders involved in the implementation of this law, the County has identified fifty six (56) apartment buildings and condominiums that fall under the scope of the law. The Charles County Department of Public Works, Environmental Resources Division has relayed the requirements of the law, including the materials that must be recycled; at a minimum, recyclables must include plastic containers, metal & glass containers, cardboard and paper to the apartment and condominium officials.

Apartment and condominium officials shall complete and send to the Charles County Department of Public Works, Environmental Resources Division a Maryland Recycling Act (MRA) Survey Form, reporting to the County on an annual basis details on the required recycling activities.

Collection of Materials

Apartment and condominium officials directly, or through contracting with a private sector company, are responsible for providing all containers, labor, and equipment necessary to fulfill recycling requirements throughout their buildings. Distinctive colors and/or markings of recycling containers should be provided to avoid cross contamination. The apartment and condominium officials must ensure collection and transportation of recyclable materials from apartment and condominium locations to markets, or other legal recycling destinations. Residents will be responsible for placing recyclables in recycling containers prior to their removal on the scheduled pick up day.

Apartment and condominium officials identified how the materials will be stored, collected, and transported to the recycling markets for the collected materials. Apartment and condominium officials must report to the County on an annual basis details on the required recycling activities.

Marketing of Materials

Apartment and condominium officials are responsible for the marketing or other legal recycling and waste disposition of their recyclables. The apartment and condominium officials shall submit annual reports detailing the recycling and waste tonnage removed from the apartment and condominium and the markets for the materials or legal recycling destinations for the materials.

Materials Required to be Recycled

Apartment and condominium officials of Condominium shall recycle the following materials:

- Plastic bottles, jugs, and wide-mouth containers
- Metal Cans and Beverage Containers
- Glass bottles and jars
- Paper
- Cardboard

Responsible Parties

Entities that will be involved in implementing the law are:

- A. Charles County Commissioners
 - Responsible for adopting the MDE approved language of ABCR Program for the Solid Waste/Recycling Management Plan amendment.
- B. Charles County Department of Public Works, Environmental Resources Division -
 - Responsible for overseeing County Office of Recycling activities and assuring that all apartment buildings and condominiums that fall under the requirements are included in the ABCR Program.

- Communicate the requirements of the law to the apartment and condominium officials. Assist apartment and condominium officials in developing a recycling program, if so requested. Monitor the progress and performance of the ABCR Program.
- Develop the requirements of an ABCR Program in conjunction with input from apartment and condominium officials.
- Update the County’s recycling plan to include the ABCR Program and amend the Comprehensive County Solid Waste Management Plan.
- Develop a recycling reporting survey to be used by apartment and condominium officials in reporting recycling activities.

C. Charles County Department of Planning and Growth Management –

- Responsible for amending the Solid Waste Management Plan to include ABCR Program.

D. Owner or Manager of the Apartment Building or Councils of the Unit Owners of Condominium –

- Responsible for providing recycling to the residents of each apartment building or condominium by October 1, 2014.
- Indicate level of self-performance to provide recycling collection from residential building locations or secure and manage recycling contracts with a contractor.
- Perform record keeping and report to the County on an annual basis.

Participating Apartment Buildings or Condominiums (56) in ABCR Program

Complex Name	Location	Units
327 St. Mary’s Avenue	327 St. Mary’s Avenue La Plata, MD 20646	12
604 Kent Avenue LLC	604 Kent Ave La Plata 20646	10
Adams Crossing	12330 Vivian Adams Dr Waldorf 20602	192
Westchester at Pavilions	St Patricks Dr Waldorf 20601	491
Bannister Associates, d/b/a Smallwood Gardens	Hamilton, Hunt, & Husk Pl Waldorf 20602	208
Blair House	6 Blair Rd Indian Head 20640	11
Brookmont	Wedgewood Pl Waldorf 20602	104
Chaney Properties Inc.	2135 Crain Hwy Waldorf 20601	20
Coachman's Landing	Thoroughbred Ct Waldorf 20603	104
Crossland Apartments	Heritage Pl Waldorf 20602	96
Carols Apartments	101 Carols Pl La Plata 20646	21
Carols Condominiums	201 Carols Place La Plata, MD 20646	42
Edelen Station	100/200/600/800 Edelen Station Pl La Plata, MD 20646	64
Pineview Apartments	12171/12173 Ell Ln Waldorf 20602	32
Fennell Christopher A	6325 Fennell Pl La Plata 20646	12

Complex Name	Location	Units
Fox Chase Apartments LLC	Night Heron Ct Waldorf 20603	176
Gleneagles Apartments LLC	Lewisham and Monaghan Pl Waldorf 20602	184
Jaycees Apartments	12150 Ell Ln Waldorf 20602	36
Charles Landing Apartments	Blair Rd Indian Head 20640	33
Charles Landing South	41 Jameson Ct Indian Head, MD 20640	60
Headen House Associates	October Pl Waldorf 20602	180
Heritage Place II	301 Dorchester Ave La Plata 20646	30
Heritage Place	601 Piney Branch Way, 605/609 Zekiah Run Way La Plata, MD 20646	32
Holly Station	3001 Hollins Lane Ln Waldorf 20601	150
Holly Station Ltd Partnership #2	3001 Hollins Lane Ln Waldorf 20601	60
Holly Station Ltd Partnership 3	Hollins Lane Ln Waldorf 20602	150
Holly Station Ltd Partnership IV	Hollins Lane Ln Waldorf 20603	150
Hunter's Run Apartments	4136 Falcon Pl Waldorf, 20603	104
Huntington	Gallery Pl Waldorf 20602	204
Indian Head Elderly Ltd. Partnership	106 Gentry Ct Bryans Road 20616	32
JSB Apartments	2165 Crain Hwy Waldorf 20601	48
K & S Indian Head	4085 Indian Head Hwy Indian Head 20640	10
Fenwick Landing	11655 Doolittle Dr Waldorf 20602	15
La Plata Garden Apartments	310 Caroline Dr La Plata 20646	52
Victory Lakeside	2005 St Thomas Dr Waldorf 20602	54
The Maples	101 Wesley Dr La Plata 20646	75
Benedict Apartments	7320 Benedict Ave Benedict 20612	10
La Plata Grande Garden I (Carroll La Plata Village)	656 Piscataway Ct La Plata 20646	32
La Plata Grande Garden II	Kent Ave La Plata 20646	36
La Plata Manor	1 Hickory Ln La Plata 20646	100
New Forest Apartments LLC	New Forest Ct Waldorf 20603	256
Palmer Apartments LP	Palmer Pl, Prince Albert Sq, Pilgrims Sq, Orangeman Sq, Otter Sq Waldorf 20602	152
Sheffield Greens Apartments	Prestancia Pl Waldorf 20602	252
Southwinds Active Adult Community	4210 Southwinds Pl White Plains 20695	94
Southwinds Active Adult Community	4225 Southwinds Dr White Plains 20695	100
The Nines	Litchfield, Flossmoor, and Indian Hills Waldorf 20602	120

Complex Name	Location	Units
Thunderbird Apartments	Crain Highway Bel Alton, MD 20611	32
Victory Brookside, Inc.	Wingate Ct Waldorf 20602	56
Village Green Ltd. Partnership	12131 Ell Ln Waldorf 20601	60
Village Lake Apartments LLC	2009 St Thomas Dr Waldorf 20602	122
Wakefield Terrace Associates	2000 Amberleaf Pl Waldorf 20602	204
Waldorf Astor Apartments	3605 Moses Way Waldorf 20602	96
Waldorf Elderly LLC	11080 Weymouth Ct Waldorf 20601	108
Waldorf Elderly Phase II LP	11060 Weymouth Ct Waldorf 20603	60
Woodcrest Apartments	800 Washington Ave La Plata 20646	11
Woodcrest Apartments	300 Harford St La Plata 20646	10
327 St. Mary's Avenue	327 St. Mary's Avenue La Plata, MD 20646	12
604 Kent Avenue LLC	604 Kent Ave La Plata 20646	10

Source: *Maryland Department of Assessments and Taxation. Updated by DPW October 2014.*

Note: New apartment buildings or condominiums that will fall under the requirements of the law will begin participating in the ABCR program within three months of being notified by the Charles County Department of Public Works, Environmental Resources Division.

Schedule for the Development and Implementation of the Program

The ABCR Program will be implemented according to the following schedule:

- April 30, 2014, Charles County will distribute MDE approved language of the ABCR Program to the apartment and condominium officials for ABCR Program implementation.
- August 1, 2014, apartment and condominium officials will educate the residents about the ABCR Program and discuss the requirements of the law.
- September 1, 2014, apartment and condominium official will provide training or assistance to the residents and advise them of the date when the residents can start collecting the materials.
- September 1, 2014, apartment and condominium officials finalize and secure recycling services contracts with the private contractors.
- On or before October 1, 2014, residents start collecting and recycling the materials at the participating apartment buildings or condominiums.

Program Monitoring

The Charles County Department of Public Works, Environmental Resources Division shall monitor the progress and performance of the ABCR Program. However, the apartment and condominium officials will conduct inspections, review service levels, investigate reported or

unreported pick-up and disposal complaints, meet with residents or recycling contractor staff to educate or review practices, and review contractor compliance with the recycling contract. Any issues which arise from these visits that are deemed deficiencies on the part of the residents or recycling contractor will be detailed in writing and reported to the violator. The apartment and condominium officials shall initiate actions to correct all deficiencies within 60 days of being notified.

The apartment and condominium officials shall be responsible to keep the residents current on new regulations, laws, and mandates affecting recycling in the apartment buildings or condominiums.

Program Enforcement

The Charles County Department of Public Works, Environmental Resources Division will ensure that the recycling at apartments and condominiums will be implemented in accordance with Section 9-1703 and 9-1711 of the Environment Article, Annotated Code of Maryland and enforcement will be performed in accordance with the County Code.

Upon receiving a complaint or report of violation, the Charles County Department of Public Works, Environmental Resources Division shall institute an investigation, and if a violation exists, a notice shall be issued, in writing, to the responsible party requiring them to correct all deficiencies and perform any other tasks necessary to achieve compliance with the Environment Article.

Any person, firm or corporation who or which fails to correct, within thirty (30) days from notice from Charles County, all cited in said violation notice shall be subject to citation for a civil infraction, in accordance with 9-1711 of the Environment Article of the Annotated Code of Maryland, punishable by a fine of not exceeding \$50 for each day on which the violation occurs and each day said violation shall be permitted to exist shall constitute a separate offense.

If the citation is not timely paid, Charles County may enforce the fine by an action in a Maryland court of competent jurisdiction.

5.6.3 Commercial, Industrial and Institutional Recycling

Offices, stores, institutions, and industries typically generate 30 to 40 percent of the municipal solid waste stream in a community. As documented in Chapter 3, approximately 60 percent of Municipal Solid Waste generation in Charles County can be attributed to commercial/institutional sources. Commercial recycling is inclusive of commercial, industrial, and institutional sources (excluding yard waste). The county recycled over 65 percent of commercial solid waste in 2009.

An effective commercial recycling program is critical to meeting diversion rate objectives. Commercial wastes contain a high percentage of recyclable materials, including corrugated cardboard (10 to 15 percent), office paper (20 to 40 percent), glass, aluminum, tires, ferrous metals, and landscaping debris. The high percentage of recyclable materials within the commercial waste stream provides an excellent opportunity for increasing the current commercial recycling rate. The County has gradually increased the commercial recycling rate from 30 percent in 2000 to approximately 65 percent in 2009. Charles County's business community strongly supports channeling as many programs as possible through the private sector. That philosophy, combined with limited public funds, means the County's emphasis will be on privately provided recycling collection and marketing. The County will serve mainly as a vehicle for education and coordination of the various business sectors to increase commercial recycling.

As the majority of commercial and institutional establishments are located within the municipalities and federal installations, the success of commercial recycling will depend heavily on the effectiveness of their programs. The Charles County Department of Public Works will work closely with the municipalities and the Naval Surface Warfare Center to implement and expand programs within their limits.

Municipalities will be encouraged to contact commercial establishments to:

- Explain the program and elicit support.
- Distribute the County's educational literature on waste reduction and recycling.
- Provide follow-up to encourage implementation of the program and provide assistance.
- Serve as a liaison between the County's recycling coordinator and commercial establishments.
- Obtain data on waste generation and recycling.

Strategies for accomplishing additional commercial recycling throughout the county include:

- Production of a Business Recycling Brochure. This brochure will summarize how to start-up recycling programs, including waste audits, market information, government and private resources, etc.
- Organization of an Annual Business Recycling Forum.
- Assessment of Existing Business Recycling. The County, in preparation for reporting recycling information, will develop a tracking system to determine the extent of business recycling. An assessment of areas (regional and type of business) that are not recycling will be compiled and a strategy developed to expand recycling in those areas.
- Coordination of Business Efforts. Based on the results of the assessment, the County will begin coordinating the stimulation of recycling efforts where they are lacking. This could include bringing together individual businesses in shopping centers/industrial parks/towns to jointly recycle.

5.6.4 Material Recovery Facility (MRF)

Private in conjunction with the nearby jurisdiction of Prince Georges County have made significant into a single stream material recovery facility (MRF). This facility, located in Landover Maryland, is currently accepting all materials accepted by the County's curbside collection program. The volume of recyclables is but a small fraction of the total.

Construction of an MRF in Charles County would not be cost effective when existing facilities are close by and are willing to accept the material. Recyclables would further that such an endeavor would be in the best of times.

The County will consider conducting an MRF feasibility study to determine if this type of facility will aid in meeting or surpassing the goals of the Solid Waste Management Plan. The evaluation will examine the materials for recycling and the type of facility configuration (level of mechanization, etc.) needed. An updated market survey for recycled materials may be conducted; the survey will enable the county to effectively evaluate private sector proposals in comparison to projected public ownership and operation costs. The study will include an evaluation of the need for flow control to improve the economic feasibility of the proposed MRF.

The size and level of technology depends directly on recycling targets, collection methodology, and types of materials chosen for recycling.

As presented in Table 5-2, the County's action plan to achieve a 35 percent reduction in waste disposal will not require a county MRF. A low-technology MRF would include, at a minimum, storage bins and roll-offs, a baler, a glass crusher, and a conveyor line for hand sorting. Charles County does not estimate the need for an MRF during the planning period discussed in this document due to the current achievement of surpassing set recycling goals and because of the new state-of-the-art single stream facility opened in Largo, Maryland by Waste Management, Inc. The additional capital expenditure would not be economically feasible for the desired result.

5.6.5 Rubble Recycling/Processing Facility

Charles County will encourage the establishment of a rubble recycling/processing facility within or in close proximity to the County. Such facilities currently exist within several of the private sand and gravel mining sites. These sites act as a rubble material recovery facility and/or a facility to shred the rubble (including used concrete) to be reused as aggregates or in the production of concrete. These materials could also be used as an alternative daily cover material for the landfill. These facilities and possible future facilities could significantly reduce land disposal capacity requirements for county-generated rubble. Future facilities can be either publicly or privately owned and/or operated. The most economically viable location for the facility will be on the site for a new rubble landfill within the county. It is the County's ultimate objective to landfill only those construction and demolition waste materials that cannot be effectively reused or recycled.

In the future, the County hopes to conduct a feasibility study that will address technologies to be employed, facility location, materials to be recycled, markets, and public information requirements. The feasibility study will be initiated by a meeting with contractors and haulers, and their input will be solicited throughout the evaluation process. The waste characterization study, previously described, will provide the database to determine types and capacity of required equipment and facilities. The county will evaluate the feasibility of establishing a material reuse center at the facility, in which used or off-spec construction materials can be accumulated and used directly by other contractors or homeowners. This could include such items as cabinets, doors, plumbing fixtures, electrical and heating supplies, windows and hardware.

At a minimum, the rubble MRF should recycle wood, paper, cardboard, asphalt, concrete, and metal. Other waste categories that will be evaluated for recycling include drywall, other masonry wastes, packing materials, clean fill and topsoil. The rubble MRF will require the following equipment, at a minimum:

- Front-end loaders
- Concrete/asphalt crushing plant
- Stump grinder
- Tub grinder/shredder
- Magnetic separators
- Vibrating screens/trommel screens
- Storage pad/bins
- Paved sorting area and/or conveyor sorting line

In order for a rubble recycling facility to be successful, an effective public information program must be implemented to educate contractors on the merits and mechanisms for rubble recycling. The county will encourage contractors to separate recyclables at construction and demolition sites, on a voluntary basis.

Implementation of the program will begin with a feasibility study to evaluate markets for recycled materials, types of materials to be recycled, processing technologies, facility siting, and collection alternatives. The feasibility study will be initiated by a meeting with contractors and haulers to gain their input and support for the program.

In order to provide an economic incentive for contractors to recycle, the rubble recycling facility will charge a reduced tipping fee for source-separated recyclables from construction sites. During initial stages of the facility operation, this may require that the program be subsidized by the county, similar to the subsidy given to the MSW recycling program. As rubble landfill tipping fees increase throughout the region, and additional markets for recycled materials are established, the requirement for subsidies should be reduced. The economic incentive of the free market should result in a significant increase in the recycling of rubble waste over the planning

period. Alternatively, the county may evaluate the applicability of flow control to enhance the economic viability of the proposed facility.

A facility for producing an alternative daily cover material would process the entire rubble waste stream through large shredders, and the rubble would be handled using front-end loaders and cranes. The facility would also require sufficient space for storage pads and bins.

5.7 YARD WASTE

Backyard composting and leaving grass clippings on the lawn will continue to be encouraged as the preferred method of managing yard waste. The County will continue public outreach to promote backyard composting and grasscycling. An expanded publicity program explaining the merits of not bagging grass clippings and backyard composting will be continued.

Collection and transportation are the most costly elements of a yard waste management program. Curbside collection of yard waste was implemented in and will continue to be expanded.

An additional market which Charles County is well positioned to utilize is the farming community. Farmers will be encouraged to work with local haulers and landscaping/tree trimming companies to utilize their yard wastes in manure pits, compost piles, and soil incorporation.

An estimated 8 percent of the municipal waste generated in Charles County is yard waste. Charles County has recycled virtually all of this material in recent years through its mulch and composting operations, and through the efforts of private companies in the county that will continue to produce mulch from wood waste obtained from landscaping, tree trimming, and maintenance contractors.

5.8 LAND DISPOSAL FACILITIES

Charles County will continue to provide disposal capacity for municipal solid waste throughout the planning period. Reliance on disposal facilities in other counties or states can mean the loss of control over the availability of capacity and the charges that will be incurred for disposal.

Regional landfill solutions could be considered if firm commitments for capacity and tipping fees can be obtained for the planning period. However, the Southern Maryland region is far from resolving this issue. Charles County will continue its participation in regional efforts for waste disposal planning.

5.8.1 Municipal Sanitary Landfill

The Charles County Landfill will provide the County with disposal capacity for county-generated solid waste for approximately 30 years, assuming 50 percent of the rubble is landfilled and a solid cover material is used. The landfill is projected to reach capacity in 2025, at which time a new municipal landfill is required to be operational. The estimated date for the County Landfill to reach capacity has been extended recently due to a lesser quantity of municipal solid waste entering the facility. The established tipping fee of \$70.00 has made it more attractive for haulers to dispose of solid waste in other jurisdictions where the fees are considerably less. Thus, the estimated life of the County Landfill has been extended contingent upon the disposal of the majority of bulk commercial wastes outside of the County. In 2009, ITIS estimated that 50% of the waste processed in out of the County facilities.

Charles County will continue to evaluate options for maximizing the disposal capacity and useful life of the landfill. Alternatives to be evaluated will include use of alternate daily cover materials such as foams, synthetic granular materials, and geosynthetics, and landfill mining.

The County will reevaluate the acceptance of asbestos wastes at the landfill. If feasible, a specific asbestos disposal area, with appropriate operating procedures, will be established at the facility. This would provide the County positive control to ensure asbestos disposal capacity is available at a reasonable cost, rather than relying on out-of-county facilities.

5.8.2 Rubble Landfills

Based on the current tipping fee of \$70 and the environmental service fee of \$65, nearly all commercial rubble waste is transported out-of-county for disposal. Therefore, the life of the County Sanitary Landfill has been extended 2025. Should the amount of rubble waste delivered to County landfill increase significantly, the county may conduct a feasibility study to evaluate the construction and operation of a rubble landfill and the associated processing technology. The need for disposal could be significantly reduced through the implementation of a rubble recycling facility.

A new rubble landfill would be under private ownership. The facility will be sited in accordance with the siting criteria presented in Chapter 4, and constructed and operated in compliance with all state and county regulatory criteria previously discussed.

The process of siting, permitting and constructing a new rubble landfill will take several years. Two years are projected for the siting and land acquisition process, which will allow for extensive public review and input, including workgroup meetings, public meetings and public hearings. Two years should be allotted for the permitting process. This process will include a detailed hydrogeologic site evaluation and detailed design of the facility; with review periods for citizen groups, county personnel and the MDE. The new MDE regulations for the construction of

a rubble landfill facility require the facility to have a liner and leachate management system. Construction of the first cell of the rubble landfill and ancillary facilities is projected to take one year.

Under the authority granted in Section 9-210 of the Environment Article of the Maryland Annotated Code, the County, via this Plan, may designate certain types of waste that may or may not be accepted at a rubble landfill permitted by MDE within its jurisdictional limits. Pursuant to that authority, a rubble landfill in Charles County may accept the following wastes for disposal:

- Land-clearing debris as defined in *COMAR* 26.0-4.07.11B
- Acceptable demolition debris as defined in *COMAR* 26.04.07.13B(2)(a)
- Acceptable construction debris as defined in *COMAR* 26.04.07.13B(3)(a)

An unlined rubble landfill in Charles County is prohibited from accepting asbestos waste. A rubble landfill in Charles County is prohibited from disposing of household appliances, white goods, and tires.

As previously mentioned, a rubble landfill is not necessary to accomplish the goals of the Comprehensive Solid Waste Management Plan. However, a feasibility study may be conducted if the acceptance of rubble material begins to significantly increase, therefore reducing the expected time of operation of the current landfill facility.

5.9 SLUDGE

Currently, an estimated 3000 dry tons per day of wastewater treatment sludge is land-applied in the County. Approximately 85 percent of the sludge that is land-applied is generated within the County (Mattawoman WWTP). The remaining 15 percent is imported from the Blue Plains WWTP in Washington, D.C.

The land application of sludge is regulated by the MDE, including the review and issuance of individual site permits. Currently, there are 64 farm sites and 9 reclaimed gravel mines permitted for land application throughout the County. Charles County citizens have raised concerns that the land application process is not adequately supervised or regulated by the MDE, which could result in environmental problems, such as sludge runoff and odors.

The County issued a contract for the construction of additional sludge management facilities at the Mattawoman WWTP, including lime stabilization, thickening/dewatering, odor control, and storage tanks.

In 1994, the County initiated a *Comprehensive Sludge Management Plan*. The Plan projected sludge volumes to be managed as well as evaluated disposal/land application and storage alternatives. The Plan evaluated the environmental protectiveness of the land application program

and recommended changes, where appropriate. This effort included county participation in the permitting and inspection of storage and land application sites.

5.10 HOUSEHOLD HAZARDOUS WASTES

The County will continue holding periodic household hazardous waste collection days in order to divert these materials from the landfill and potential illegal dumping. The feasibility of establishing a permanent receiving and processing facility at the landfill will also be evaluated. The public information program will incorporate a household hazardous waste component which will provide assistance in identifying these materials, as well as information on proper handling, storage and disposal procedures. Through the public information program, citizens and businesses will be encouraged to use non-toxic materials, as possible, for activities such as cleaning, painting and yard maintenance. A reference list of these "environmentally sensitive" products will be included in the plan, and updated as necessary.

5.11 CONTROLLED HAZARDOUS SUBSTANCES

Industries and commercial establishments in the County that generate and ship controlled hazardous substances, including special medical wastes, are closely regulated by the Hazardous Waste Program of MDE's Waste Management Administration, and are not under the jurisdiction of this plan. Each shipment must be manifested, and volumes and types of materials reported to the MDE. No additional actions for hazardous waste management are recommended under this plan; however, the County may address the management of controlled hazardous substances under a separate plan.

5.12 OTHER WASTES

Miscellaneous or special solid wastes that must be managed include asbestos, dead animals, tires, septage, water treatment sludge, and agricultural wastes. Existing management practices for these wastes were described in Section 3.6 of Chapter 3, and proposed management practices for these wastes were described in Table 5-1 of this chapter.

All asbestos wastes generated within the County are currently exported to out-of-county land disposal facilities. As discussed in the land disposal section of this chapter, the County will reevaluate provisions for the disposal of asbestos wastes at the Charles County landfill. However, there currently seems to be little need for the disposal of asbestos due to the ban of asbestos building materials.

Current practices employed for the disposal of dead animals are adequate, and will be continued for the planning period.

The current ban on landfilling tires will be continued. Tires will be collected at the landfill and service facilities and taken out-of-county to a processing facility.

Currently, no water treatment plant residues are generated or disposed within the County. Sewage is currently collected and processed at the Mattawoman WWTP; this practice will be continued throughout the planning period.

Current practices for the disposal of agricultural waste in the county are adequate and will be continued for the planning period.

5.13 LITTER CONTROL

The County initiated litter collection crews.

5.14 PUBLIC INFORMATION PROGRAM

As discussed throughout this chapter, an effective public information and education program is the key to the success of many of the components of the integrated solid waste management plan, including waste reduction and reuse, residential and commercial recycling, and household hazardous waste management. The County's Comprehensive Solid Waste Management public information and education plan addresses the following issues:

- Source Reduction
- Residential Recycling
- Commercial Recycling
- Yard Waste Composting
- Household Hazardous Waste
- Municipal Solid Waste Landfill
- Rubble
- Recycling/Processing
- Electronic Recycling

The County will continue its participation with regional efforts for public education and information programs.

5.15 FINANCING

The County plans to finance capital improvements and operating expenses for the solid waste program through the solid waste management fund based on solid waste fees collected at the Charles County Landfill and an annual environmental services fee on improved properties. Tables 5-2 and 5-3 present a detailed breakdown of estimated capital and operating costs for implementation of the recommended solid waste program for the planning period.

Construction of new cells at the Charles County Landfill are approved within the County's 5-year Capital Improvement Plan. The County funds the related construction costs by reserving a

portion of each landfill fee into a sinking fund so that sufficient reserves are available to finance the next cell expansion. This method of financing, known as Pay-go, provides the County with the maximum flexibility associated with operating a landfill. Pay-go funding alleviates the need to borrow funds and the dependency upon waste stream to meet debt obligations

It is imperative that costs for solid waste management are kept separate from general revenue taxes; in this way, citizens are made aware of the actual cost of the program, and the County has the flexibility to institute financial incentives for waste reduction and recycling, such as volume-based billing. When citizens and businesses are reminded by each month's bill of the growing solid waste management costs, there will be more public support for recycling and other programs that will ultimately help control costs. In addition, under this "user pays" system, commercial establishments have an incentive to initiate programs that will lower their monthly solid waste bill. As previously discussed, the implementation of a volume-based billing system is recommended as an incentive for waste reduction and recycling.

The County's recycling program is funded by the enterprise fund termed the "Environmental Service Fund". It derives its revenue from a separate line item on the property tax bill as a flat fee that is currently \$65.00 per improved property. The assessment is estimated to generate \$3.5 million in FY 2012. Expenditures for recycling operations are approximately \$2.8 million per year. The remaining balance is distributed for several other environmental programs that include funding for the Littler Control Program and the NDPES program.

5.16 LEGISLATIVE INITIATIVES

Meeting certain goals and objectives presented in Chapter 1 will require modifications or additions to county regulations and policies, including the following:

- Establish County policies to ensure that the goals and objectives of this Plan are achieved.
- Establish a mechanism for County approval of solid waste facility permit applications in order to certify conformance with this Plan, prior to application to the MDE. Approval must include adequate public notice and public hearings.
- Eliminate government-imposed impediments to the use of recycled products, and encourage the use of recycled product through government procurement regulations. The municipalities will be encouraged to establish a "buy recycled" policy for supplies.