Solid Waste

PROGRAM DESCRIPTION

The Solid Waste Management Program provides solid waste management services for the County. Refuse collection and recycling services are available to all citizens of Fairfax County by either private contractors or County collection crews. Private contractors presently account for approximately 85 percent of refuse collected. The remaining 15 percent are collected by County collection crews. The County also provides refuse collection services to all County agencies, except schools. Additionally, the County provides leaf collection services to participating neighborhoods. In order to provide the County with a long-term solution to refuse disposal, an Energy/Resource Recovery Facility is operated by Covanta Fairfax, Inc (CFI) at the I 95 Landfill Complex. This facility, began commercial operation on June 1, 1990, and has a design capacity of 3,000 tons per day (TPD).

LINK TO THE COMPREHENSIVE PLAN

Fairfax County's Comprehensive Plan has established a number of objectives and policies in order to:

- ✓ Provide conveniently located solid waste management facilities and operations, while ensuring that these facilities are compatible with adjacent land uses.
- ✓ Provide an efficient, cost effective and environmentally sound comprehensive solid waste management system that meets the current and future needs of the County.
- ✓ Provide a waste reduction and recycling program readily available to all that meets the current and future needs of the County.
- ✓ Modify and expand the I-66 Solid Waste Transfer Station, and consider the portion of the I-95 Landfill currently under closure procedures for adaptive reuse for active and passive recreational purposes.

Source: 2007 Edition of the Fairfax County Comprehensive Plan, Area IV, and the Policy Plan Element, Public Facilities Section, as amended

CURRENT PROGRAM INITIATIVES

The County operates two permitted solid waste management facilities - the I-95 Sanitary Landfill and the I-66 Transfer Station - and has developed the Waste-to-Energy Facility. All three facilities are operated under permits issued by the Virginia Department of Environmental Quality (VDEQ).The I-95 Sanitary Landfill closed in December 1995 and since that time serves only as a land disposal for ash originating from the Covanta Energy Resource Recovery Facility in Fairfax County, and other regional facilities. The closed sanitary landfill requires constant upkeep in order to ensure that the facility is environmentally sound. The I-66 Transfer Station has been operational since 1983. Refuse deposited by collection vehicles is loaded into tractor-trailer trucks and transported to the I-95 Energy/Resource Recovery Facility or other appropriate locations for disposal.

The I-95 Waste-to-Energy Facility is located on the site of the I-95 Landfill Complex in Lorton, Va. This facility receives the trash generated in Fairfax County and converts it to energy through incineration. The facility is owned and operated by Covanta Fairfax, Inc. The total capital cost of the Waste-to-Energy Facility was $195,000,000, and was financed through the sale of revenue bonds and the owner's capital. Additional air pollution control equipment was installed at the facility to comply with provisions of the Clean Air Act. The capital cost for the air pollution systems was $7.75 million, and was funded through bonds originally issued for the facility and owner equity. The facility has also added an ash conditioning system at a cost of $500,000.

The Newington Refuse Collection Complex currently houses the County's collection fleet along with administrative facilities for personnel. Infrastructure costs are paid by refuse collection fees.

The County's twenty-year Solid Waste Management Plan was adopted by the Board of Supervisors in 2004. This Plan provides a framework for implementing solid waste management programs and facilities.

CURRENT PROJECT DESCRIPTIONS

1. **I-66 Permit and Receiving Center** (Springfield District): $1,200,000 for the renovation of the existing permit and receiving center at the I-66 Transfer Station. The building was opened in 1983 and currently houses the permit offices, main scales, and limited locker room facilities. The renovation work includes the installation of a new HVAC system, renovations to bathroom facilities and conference areas, modifications to the existing scale house and other related modifications to meet present needs and building codes. Construction work will be initiated in FY 2014 and anticipate to be completed in FY 2015.

2. I**-66 Truck Ramp Retaining Wall** (Springfield District): $846,000 for the renovation of the truck ramp retaining wall that provides access to the lower level of the transfer station below the refuse chutes at the I-66 Transfer Station. The ramp and retaining wall were built in 1995 and have significantly settled and displaced with the current danger of collapsing. Construction will begin during FY 2014 with the project to be completed in FY 2015.

3. **I-66 Landfill Leachate Systems** (Springfield District): This project continues to fund the closure and post closure care for the I-66 landfill which was closed during 1982. The work includes the correcting of areas which have settled due to decomposition of the waste, adding new landfill gas wells and piping for controlling the landfill migration, groundwater corrective action, installation of a low-permeability cap on the existing slopes and improving the storm water management system. This project will be an ongoing project.

Aerial view of the I-95 Energy/Resource Recovery Facility.

4. **I-95 Landfill Area Three Lined Landfill** (Mt. Vernon District): $973,000 for the installation of a flexible membrane liner, leachate collection system and storm water management system to convert the landfill space into disposal areas for ash generated by the Energy/Resource Recovery Facility (E/RRF). The project will be constructed in four phases. The first three phases of construction are now complete, and provides disposal capacity to 2031, based on current disposal rates. DEQ has approved additional capacity to construct Phase IV, if it is needed, and could extend disposal capacity an additional 10 – 15 years, bases on current rates. Design and planning should begin by 2026. New landfill cell development will continue through the life of the landfill.

5. **I-95 Landfill Leachate Facility** (Mt. Vernon District): This is an on-going project for the leachate collection, pretreatment, treatment and storage facilities to process fluids collected in the leachate collection system installed at the Municipal Solid Waste (MSW) and ash disposal areas of the landfill. This fund also supports the active remediation of impacted groundwater migrating away from the landfill as required by the facility permit and in accordance with Virginia Solid Waste Management Regulations for leachate collection, pretreatment, treatment and storage facilities to process fluids collected in the leachate collection system installed at the Municipal Solid Waste (MSW) and ash disposal areas of the landfill.

6. **I-95 Landfill Closure** (Mt Vernon District): This is an on-going project required to meet all state and federal regulations for placing the synthetic cap on the Area Three Lined Landfill of the I-95 Landfill. Four phases of closure will occur in the Area Three Lined Landfill (ATLL) unit and consist of capping the landfill with a flexible membrane liner and/or low permeability soil to "seal" the Landfill from external sources. Phases I and IIA of the ATLL which includes the side slopes of Phase I and Phase II have been capped and approved by the Virginia Department of Environmental Quality. Modifications are proposed to the capped areas for Phase III in order to make more storage areas available at the site for recyclables and other beneficial uses.

7. **I-95 Landfill Methane Gas Recovery** (Mt. Vernon District): This is an on-going project for the installation of the methane gas extraction system at the I-95 Landfill, including collection wells and pipes. This project is a multi-phase project. The project includes installation, repair, or reconstruction of vertical and horizontal piping, mechanical gas moving equipment, landfill gas treatment equipment, and electronic communications and control. As an additional benefit, most of the recovered methane is being utilized to produce electricity at the Landfill, for sale to Dominion Virginia Power. A three mile pipeline that runs between the I-95 Landfill and the Noman M. Cole, Jr. Pollution Control Plant, to convey excess landfill gas to the treatment plant for use as a fuel, was completed during the summer of 1997. During 2005, the heating system at the maintenance shop at the I-95 Landfill was converted from propane heaters to Landfill gas heaters. The project won a national award from the Environmental Protection Agency (EPA).

8. **Newington Refuse Collection Facility** (Mt. Vernon District): This is an on-going project to fund infrastructure improvements to the existing facility. The project is a multi-phase project over several years that will not expand the footprint of the existing site. This project will also support the tracking of stormwater retrofits for water quality at the facility.

I-95 Ashfill Cell – Phase IIIA, constructed and ready for use

PROJECT COST SUMMARIES
SOLID WASTE
($000's)

	Project Title/ Project Number	Source of Funds	Budgeted or Expended Through FY 2014	FY 2015	FY 2016	FY 2017	FY 2018	FY 2019	Total FY2015-FY2019	Total FY2020-FY2024	Total Project Estimate
1	I-66 Permit and Receiving Center Renovation / SW-000004	X	***400***	***800***					800		1,200
2	I-66 Truck Ramp Retaining Wall / SW-000005	X	***400***	***446***					446		846
3	I-66 Landfill Leachate Systems / SW-000006	X	***C***	***1,000***					1,000	1,000	2,000
4	I-95 Landfill Area 3 Lined Landfill / 2G25-001-000	X	***223***						0	750	973
5	I-95 Landfill Leachate Facility / 2G25-002-000	X	***C***	***500***	500	500	400	100	2,000	500	2,500
6	I-95 Landfill Closure / 2G25-004-000	X	***C***	***4,000***	500	500	500	500	6,000	2,500	8,500
7	I-95 Landfill Methane Gas Recovery / SW-000003	X	***C***	***1,000***	100	100	100	100	1,400	500	1,900
8	Newington Refuse Collection Facility / SW-000001	X	***C***	***200***	200	200	100	***100***	800	450	1,250
	TOTAL		***$1,023***	$7,946	$1,300	$1,300	$1,100	$800	$12,446	$5,700	$19,169

Notes: Numbers in ***bold italics*** represent funded amounts. A "C" in the 'Budgeted or Expended' column denotes a continuing project.

Key: Stage of Development	
	Feasibility Study or Design
	Land Acquisition
	Construction

Key: Source of Funds	
B	Bonds
G	General Fund
S	State
F	Federal
X	Other
U	Undetermined

Solid Waste Project Locations

1 I-66 Permit and Receiving Center

2 I-66 Truck Ramp Retaining Wall

3 I-66 Landfill Leachate Systems

4-7 I-95 Landfill Projects

8 Newington Refuse Collection Facility

Note: Map numbers correspond to project descriptions in the text and cost summary tables. Only CIP projects with selected, fixed sites are shown on the map.