

Solid Waste

PROGRAM DESCRIPTION

The Division of Solid Waste Disposal and Resource Recovery and the Division of Solid Waste Collection and Recycling provide solid waste 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 or contractors working for the County. 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, which is privately owned and operated, 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 Energy-from-Waste Facility. All three facilities are operated under permits issued by the Virginia Department of Environmental Quality (VDEQ).

The I-95 Landfill is the only sanitary landfill in the County and provides land disposal for ash originating not only in Fairfax County, but also in Arlington County and the Cities and Towns of Alexandria, Fairfax, Falls Church, Vienna, Herndon and Clifton.

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 Energy-from-Waste Facility (the I-95 Energy/Resource Recovery Facility) or other appropriate locations for disposal.

The total capital cost of the facility was \$195,000,000, which was financed through the sale of revenue bonds and the owner's capital. CFI has constructed additional air pollution control equipment at the facility to comply with provisions of the Clean Air Act. Mercury, acid gases and nitrogen oxide removal systems are now operational. 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 through the introduction of dolomitic lime into the top and bottom ash. The system then mixes the ash to ensure a more consistent ash product for disposal into the ash landfill. Implementation of this system cost about a half-million dollars.

The Newington Refuse Collection Complex currently houses the County's collection fleet along with administrative facilities for personnel. This facility recently underwent energy retrofits to minimize energy use. 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 Transfer Station Expansion** (Springfield District). \$21,159,000 for the construction of the expanded Transfer Station and Citizens Disposal Facility (now referred to as the Recycling and Disposal Center). The redesign and expansion of the I-66 Recycling and Disposal Center (RDC) was completed in July 2009.
2. **I-66 Workers Facility** (Springfield District). \$4,575,000 for the construction of an updated employee facility. This facility will contain offices, meeting/training rooms and locker facilities. Miscellaneous repairs to the old portion of the original transfer station building and other on-site needs will also be accomplished. The project is under design and the construction is expected to begin during October 2010. It is anticipated that the building construction will be completed by FY 2012.
3. **I-95 Landfill Area Three Lined Landfill** (Mt. Vernon District): \$15,800,000 is for Phases III and IV of the Area Three Lined Landfill Project. The Phase IIIA construction was completed during March 2008. Placement of ash began during October 2008 and this phase has ash disposal capacity for six years. The disposal capacity of Phase IIIA is increased due to the fact that some areas of Phase I and Phase II will be available for ash disposal under the Phase IIIA. The construction of Phase IIIB has been delayed due to the fact that more disposal capacity is available under Phase IIIA than previously anticipated. The construction of Phase IIIB will begin during FY 2013 and will be completed during FY 2014. The construction work will include the installation of a double synthetic flexible membrane, leachate collection and detection system and related work. New landfill cell development will continue through the life of the landfill.
4. **I-95 Landfill Leachate Facility** (Mt. Vernon District): \$2,450,000 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. This is an ongoing project.
5. **I-95 Landfill Paved Ditch Extension** (Mt. Vernon District): \$360,000 for drainage improvements for the intermediate slopes of the I-95 Landfill to control erosion. This work involves



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

placing armored ditches on side slope areas and stormwater pipes at bench crossings. This is an ongoing project.

6. **I-95 Landfill Closure** (Mt Vernon District): \$5,000,000 to meet all state and federal regulations regarding the Area Three Lined Landfill of the I-95 Landfill. This project will involve eight individual phases. Phase I to Phase IV covered the MSW portion of the project. Four additional phases of closure will occur in the Area Three Lined Landfill (ATLL) unit and consist of capping the landfill with a flexible membrane liner material and/or low permeability soil to “seal” the Landfill from external sources. Phases I, II, III and IV (MSW) have been completed and approved by the Virginia Department of Environmental Quality. 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 existing capped areas under Phase III (MSW) in order to make more storage areas available at site for recyclables. The construction is expected to begin during FY 2011.
7. **I-95 Landfill Methane Gas Recovery** (Mt. Vernon District): \$4,169,000 to capture methane gas generated in the I-95 Landfill by means of collection wells and pipes. This project is a multi-phase project. 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 contract was awarded to Michigan Cogeneration during 1990 for 22 years for the generation of electricity. The contract will expire during 2012. The County is in the process of looking into various options for future years of Land Fill Gas (LFG) utilization. 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 the propane heaters to Landfill gas heaters. The project won a national award from the Environmental Protection Agency (EPA). This is an ongoing project.
8. **Newington Refuse Collection Facility** (Mt. Vernon District): \$675,000 to fund infrastructure repairs to the existing building and pavement areas. The project is a multi-phase project over several years that will not expand the footprint of the existing site.



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 2010	FY 2011	FY 2012	FY 2013	FY 2014	FY 2015	Total FY2011-FY2015	Total FY2016-FY2020	Total Project Estimate
1. I-66 Transfer Station Expansion / 174002 through 174006	X	21,159						0		21,159
2. I-66 Workers Facility / 174007	X	500	4,075					4,075		4,575
3. I-95 Landfill Area 3 Lined Landfill / 186435	X	C			2,300	5,000		7,300	8,500	15,800
4. I-95 Landfill Leachate Facility / 186440	X	C	400	400	400	400	400	2,000	450	2,450
5. I-95 Landfill Paved Ditch Extension / 186470	X	C	63	63	63	61	60	310	50	360
6. I-95 Landfill Closure / 186650	X	C	500	500	500	3,500		5,000		5,000
7. I-95 Landfill Methane Gas Recovery / 186600	X	C	100	3,100	100	100	100	3,500	669	4,169
8. Newington Refuse Collection Facility / 109001	X	C	100	100	100	100	100	500	175	675
TOTAL		\$21,659	\$5,238	\$4,163	\$3,463	\$9,161	\$660	\$22,685	\$9,844	\$54,188

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

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

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

Solid Waste Project Locations



- 1-2 I-66 Transfer Station Expansion
- 3-7 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.