

# SOLID WASTE SUB-ELEMENT

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## **SOLID WASTE SUB-ELEMENT**

### **INTRODUCTION**

The solid waste management practices of the City presently consist solely of collection of solid waste by a private contractor. Residential collection is made twice per week for household refuse, once per week for recyclable materials and yard trash, and by request for special items such as white goods (i.e. appliances). Commercial collection is made twice or more each week. All solid waste including yard waste generated within the City is disposed of at the Glades Road Sanitary Landfill as per an interlocal agreement with the County.

### **EXISTING CONDITIONS**

#### **The Glades Road Sanitary Landfill**

The City of Port St. Lucie does not and has never operated a solid waste disposal facility within the City. However, there are two abandoned dump sites within the City that have been identified by the Department of Environmental Protection (DEP). One is in the northwest quarter of Section 7, Township 37, Range 41, on the east side of Lennard Road and approximately 1.75 miles south of Walton Road. This site was used by General Development Corporation for disposal of residential and commercial solid waste. The second site is in the northeast quarter of Section 20, Township 36, Range 40, on the west side of Airoso Boulevard approximately 1800 feet north of Floresta Boulevard. This site was used by various property owners to dispose of building materials and some garbage. The Department of Environmental Protection Sites List describes a "minimal potential problem" to these two dump sites.

Solid waste collected within Port St. Lucie is transported to the Glades Road Sanitary Landfill for disposal. The Glades Road Sanitary Landfill was constructed in 1978 and is the only permitted landfill in the County. The landfill is located on Glades Road, north of Midway Road, to the immediate south of the intersection of Interstate 95, and the Florida Turnpike (Sunshine State Parkway). The 330 acre site is owned and operated by St. Lucie County.

Phase I of the Glades Road Sanitary Landfill is an unlined Class I / Class III landfill which comprises 28 acres of the site and is now closed and capped. Phase II is currently in operation and consists of 24 acres of lined Class I landfill space and 4 acres of a previously classified Class III cell which has been modified and permitted for Class I waste disposal. Development of Phases III and IV has not begun at this time and will consist of 25 and 21 acres respectively. Phase III construction will begin about the year 2000 based on current demand projections and will be put on-line sometime between 2000 and 2002 as Phase II reaches capacity. Phase III will be a Class III cell when completed and will cover 28 acres of the Glades Road site.

Total estimated capacity remaining in Phase II is 2,165,256 cubic yards. The total estimated capacity of all projected Phases including the currently utilized Phase II is 9,062,526 cubic yards (July 1995). At the current rate of use, the landfill will be able to meet demand until the year 2023. The proportional capacity pertaining to the City is 898,614 cubic yards or 41.5% (based on 1995 figures derived from the County Solid Waste Dept. and current population figures). Current use in the City appears to be 3.25 lbs/c/day (obtained from current contractor/ St Lucie Waste/BFI, based on dwelling units). There are no specific plans for a new landfill although the 1991 Solid Waste Master Plan discusses future potential site selection. At this time the County is placing \$485,000 in escrow each year for future land acquisition. This land acquisition could occur in approximately 15 years.

In 1994 St. Lucie County instituted a mandatory solid waste and collection and disposal ordinance which has increased the total volume of waste arriving at the landfill. This increase in total volume has been offset by the reduction in volume caused by recycling and waste reduction mandates defined in the States 1988 Solid Waste Management Reduction Act and subsequent amendments.

Over the past five years, the amount of solid waste generated and deposited in the landfill has decreased on a per capita basis. There are several reasons for this reduction. The adopted Level Of Service of 8.77 lbs/c/day was taken from county wide calculations and did not accurately reflect true usage in Port St Lucie. According to the 1991 St. Lucie County Solid Waste Master Plan (prepared by Camp, Dresser and McKee), a more accurate estimate for county wide use in 1991 would have been 6.9 lbs/c/day (pg 2-16). The most significant reduction was caused by the mandatory recycling programs instituted by the City of Port St Lucie in 1991, and the County and Fort Pierce in 1992 to meet requirements of the Solid Waste Management Act. These programs have had a major impact on lessening the amount of solid waste reaching the landfill. The recycling and waste reduction program has succeeded in reducing the current volume of solid waste deposited in the landfill by 51%, which is above the minimum 30% requirement of the Solid Waste Management Act.

The following Table demonstrates the applicable regulatory agencies pertaining to solid waste management.

**TABLE B-1: FEDERAL AND STATE REGULATORY REVIEWS  
APPLICABLE TO SOLID WASTE FACILITIES**

<u>QUALITY</u>	<u>AGENCY REVIEW</u>	<u>ACTIVITY WHERE AIR REVIEW IS APPLICABLE</u>
New and Modified Source Review Requirements		
1. Prevention of	DEP, EPA 1	Air emissions in significant attainment areas.
2. New Source Review for Nonattainment	DEP	Air emission in nonattainment areas.
Permit to Construct Air Pollution Sources	DEP	Construction of air pollution source (subsequent to testing).
Permit to Operate Air Pollution Sources	DEP	Operation of air pollution source (subsequent to testing).
<u>WATER QUALITY</u>		
Permit to Dredge and fill	DEP, COE 2	Dredging and filling where possible effect on water quality.
Permit to Construct Wastewater Discharge	DEP	Discharge into state waters (construction of point source).
Lease of Sovereign Lands for Dredge/Fill	DEP	Sovereign Lands, Aquatic Preserves
Permit to Construct Wastewater Discharge	DEP	Discharge into state waters (operation).
Consumptive Use Permit	SFWMD	Consumptive use of surface and ground water and drilling of wells.

TABLE B-1 (CONT.)

SOLID WASTE	ACTIVITY WHERE	
	<u>AGENCY REVIEW</u>	<u>REVIEW IS APPLICABLE</u>
Permit to Construct Solid Waste Facility	DEP	Construction of solid waste facilities
Permit to Operate a Solid Waste Facility	DEP	Operation of solid waste facility
OTHER		
Certification of Proposed Electrical Power Generating Plant Site	DEP 3	Any power plant over 50 MW. Optional for smaller facilities
Notice of Construction	FAA	Construction of a tall emissions stack
Environmental Impact Statement Provisions	EPA, COE	EIS requirements or other dependent upon federal involvement

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NOTE:

- 1) DEP reviews permits and recommends to EPA the action to take. Final determination issued by EPA.
- 2) Joint application between DEP and Corps of Engineers.
- 3) Use of the Florida Electrical Power Plant Siting Act (PPSA) may preclude the need for individual permit applications under Florida law since it serves as a clearinghouse for these various permits. A Memorandum of Understanding has been reached with EPA. Their permit requirements may also be addressed under the PPSA.

SOURCE: Model Element for Sanitary Sewer, Solid Waste, Drainage, Potable Water, and Natural Groundwater Aquifer Recharge Element; Florida Department of Community Affairs, May, 1987; modified by REP/Inc., 1988.

The potential environmental impacts of solid waste facilities have led to the development of an extensive network of permitting requirements at the federal and state levels. Impacts on air and water quality are reviewed by the U.S. Environmental Protection Agency (EPA) and the Florida Department of Environmental Protection (DEP), and where dredging and filling might occur, by the U.S. Army Corps of Engineers (USACOE). The South Florida Water Management District (SFWMD) also provides state level review of water quality and quantity impacts. Actual construction and operation of solid waste facilities requires further permits and review by DEP. For processing plants which will generate electrical power or require tall emission stacks, further DEP and Federal Aviation Administration (FAA) review may be required. These Federal and State regulatory responsibilities are summarized in Table B-1. The former DNR and DEP have merged and now are the DEP. The DEP now has most of the responsibility for regulating landfills.

Projected solid waste generation (Table B-2) for Saint Lucie County and the City are as follows:

**Table B-2**  
**Saint Lucie County Solid Waste Generation**

<b><u>Year</u></b>	<b><u>Projected Population</u></b>	<b><u>Tonnage Landfilled</u></b>	<b><u>30% Recycled</u></b>	<b><u>Total</u></b>	<b><u>88% Class I</u></b>	<b><u>12% ClassIII</u></b>
1995	171,160	156,000	46,800	202,800	137,280	18,720
2000	194,800	189,228	56,768	245,996	166,520	22,707
2005	218,100	209,437	62,831	272,268	184,304	25,132
2010	241,100	229,396	68,818	298,214	201,868	27,527

**City of Port St. Lucie Proportional Solid Waste Generation**

<b><u>Year</u></b>	<b><u>Projected Population</u></b>	<b><u>Tonnage Landfilled</u></b>	<b><u>30% Recycled</u></b>	<b><u>Total</u></b>	<b><u>88% Class I</u></b>	<b><u>12% ClassIII</u></b>
1995	71,055	64,740	19,422	84,162	56,971	7,768
2000	86,803	84,206	25,261	109,468	74,101	10,104
2005	100,672	96,206	29,027	125,787	85,147	11,611
2010	112,644	107,127	32,138	139,266	94,271	12,855

Saint Lucie County population figures from BEBR Florida Population Study, Vol 29, #2, Bulletin 114, February 1996, City of Port St. Lucie population figures from City of Port St Lucie Planning Department 1996, 1995 "Tonnage Landfilled" from Saint Lucie County Public works.

Utilizing the five and ten year time frames from the adopted date of the plan there is a projected proportional demand of 89,006 tons by the year 2002, and 100,574 tons by the year 2007 for the City of Port St. Lucie.

### **Hazardous Wastes**

There is no permitted hazardous waste Treatment Storage or Disposal Facility (TSDF) in the City. Household hazardous wastes may be taken to the Glades Road site on Fridays and the second Saturday of the month for disposal. These wastes are not disposed of in the landfill itself but are removed from the site by private industry to be recycled or disposed of properly. The household hazardous wastes accepted include used motor oil, lead acid batteries, paints, solvents, pesticides, and herbicides. In addition to the Glades Road site, used motor oil may be disposed of through numerous private facilities throughout the County. These facilities consist of quick oil change facilities, and some auto parts distributors. Commercially generated hazardous and medical wastes are collected by permitted haulers in the private sector. There are currently two identified Small Quantity Generators and no identified Large Quantity Generators of hazardous waste in the City. The SQG's are Herd Enterprises and Airoso Cleaners. LQG's produce 1000 kilograms of hazardous waste per month, while SQG's produce from 100 to 1000 kilograms per month. In addition, Conditionally Exempt Small Quantity Generators (CESQG) may produce up to 100 kilograms per month. The majority of the generators in Port St. Lucie are CESQGs. These CESQG's are required to either take their hazardous waste to a certified private hazardous waste facility for proper disposal, or have a permitted private hazardous waste hauler pick up the materials for proper disposal.

When a TSDF facility is available, the small quantity generators in the City would be expected to use it. At present, the St. Lucie County Health Unit is identifying potential hazardous waste generators through their input for approval of occupational licenses. In addition the State of Florida notifies local County authorities whenever they issue a permit to a business which may produce hazardous waste in such quantities as to qualify for one of the above mentioned categories. Infectious wastes, such as may be generated by hospitals, are either destroyed on-site by incineration or shipped off-site as bio-hazardous waste for incineration.

Six monitoring wells were constructed at the Glades Road Landfill site as a requirement of permit applications. Samples from these monitoring wells, in addition to other sampling points such as the surface water discharge point from the leachate treatment pond and the borrow pit, are analyzed four times per year.

These monitoring wells at the Glades Road landfill site have not indicated any contaminated plumes. The three drainage district canals (96, 101 and 102) are sampled and checked for contamination. The landfill has had one violation and adheres strictly to DEP's guidelines which are designed to protect the natural resources from pollution from the landfill.

The preceding data identified the existing and projected capacity of the St. Lucie County Glades Road landfill, which serves the City and the rest of the County and the present levels of service within the City and County. The useful life of the Glades Road landfill will be extended by the Florida Solid Waste Management and Reduction Act of 1988. In general, the law requires, among many other things, a weight reduction of 30% of wastes that are landfilled. Waste reduction can be achieved by recycling, composting, source reduction, or other acceptable methods. The City needs to compile background data for solid waste to assist in the implementation of the law and its subsequent rules and plans. The needed background data consist of solid waste generation rates and types according to land use and population.

### **Hazardous Waste Facilities**

As indicated in the previous section, the City of Port St. Lucie does not provide hazardous waste storage or transfer facilities. At the Glades Rd. facility St. Lucie County accepts and stores household hazardous wastes. Since the City contracts with private haulers for solid waste collection and disposal, the City needs to notify hazardous waste generators that are identified in the City that disposal of hazardous waste with residential or commercial solid waste is prohibited.

One often overlooked fact is that hazardous materials of commerce may become hazardous wastes if they are released to the environment. Therefore, the City needs to evaluate new code provisions that would regulate the storage and management of hazardous materials within the City. Secondary containment coupled with spill prevention control and countermeasure (SPCC) plans is especially needed where a release to the environment would include the City Utility Department wellfields or the North Fork of the St. Lucie River.

### **PERFORMANCE ASSESSMENT**

In general, solid waste collection in the City has been satisfactory and the Glades Road landfill has been accepting these wastes without undue restrictions.

Current performance standards meet the terms of the Florida Solid Waste Management and Volume Reduction Act of 1988.

## **GOALS, OBJECTIVES, AND POLICIES**

### **GOAL 4.B.1: PROVIDE SOLID WASTE MANAGEMENT SYSTEMS FOR THE City OF PORT ST. LUCIE THROUGH THE PLANNING PERIOD OF THE YEAR 2015.**

Objective 4.B.1.1: The City has and will continue to compile solid waste background data to quantify solid waste generation. This data is and will be made available to St. Lucie County.

Policy 4.B.1.1.1: The City will continue to require the solid waste hauler to audit the materials collected and maintain baseline solid waste data.

Objective 4.B.1.2: The City will continue to develop solid waste management plans in accordance with City Ordinance 91-33, and in conjunction with St. Lucie County's policies and the terms of the Florida Solid Waste Management and Volume Reduction Act of 1988. The plans will include levels of service and solid waste volume reduction efforts by the City, which will maximize existing facilities.

Policy 4.B.1.2.2: The City will continue to evaluate the feasibility and probable costs of establishing recycling centers within the City, and continue to use the recycling facilities at the County landfill.

Policy 4.B.1.2.4: The City will continue to monitor mandatory recycling of glass, aluminum, plastic, and newsprint waste products.

Objective 4.B.1.3: The City shall continue to cooperate with St. Lucie County to insure that development permits are issued only when adequate facility capacity is available to serve the development.

Policy 4.B.1.3.1: The level of service standard adopted for solid waste facilities is 3.25 pounds/capita/day.

### **GOAL 4.B.2: DEVELOP AND IMPLEMENT A HAZARDOUS MATERIAL MANAGEMENT PLAN FOR THE CITY.**

Objective 4.B.2.1: The City will continue to support the County emergency response plan in accordance with the Superfund Amendments and Reauthorization Act 1(SARA), of 1986, Title III, 40 CFR Part 370.

Policy 4.B.2.1.1: The City will meet with representatives of St. Lucie County, the Treasure Coast Regional Planning Council, the St. Lucie County Health Unit, and the regulated members of the business community to update the countywide hazardous materials management plan as necessary.

Policy 4.B.2.1.2: The City will utilize data from the County Government Hazardous Waste Assessment for St. Lucie County along with occupational license data collected by the St. Lucie County Health Unit, to identify the potential locations of hazardous waste or hazardous materials.

Objective 4.B.2.2: By the year 2000, the City will review, revise, and adopt new regulations as needed regarding a hazardous materials management plan for the City in accordance with Objective 4.B.2.1.

Policy 4.B.2.2.1: The plan will continue to include elements for protection of wellfields and watersheds.

Policy 4.B.2.2.2: The plan will include provisions for spill prevention control and countermeasures (SPCC) plans at regulated business.

Policy 4.B.2.2.3: The plan will include provision for periodic inspection by code enforcement officers.

Policy 4.B.2.2.4: The City shall continue to support St. Lucie County with its educational program to inform the City's residents of effective methods to safely store and dispose of household and commercial hazardous material, and procedures to follow in emergencies.

Policy 4.B.2.2.5: The City will continue to cooperate with the County in "Amnesty Days" and other methods to be used to encourage the collection and disposal of household and commercial hazardous waste material.