

FINAL DRAFT
MATERIALS SEPARATION PLAN
FOR THE
LEE COUNTY SOLID WASTE DIVISION
1500 MONROE STREET
FORT MYERS, FLORIDA 33901



LEE COUNTY
S O U T H W E S T F L O R I D A

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FINAL DRAFT MATERIALS SEPARATION PLAN

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1.0 INTRODUCTION

1.1 Purpose

Lee County (the "County") intends to expand its existing Solid Waste Energy Recovery Facility (the "Facility"). The County is preparing this Materials Separation Plan to satisfy the requirements set forth in 40 CFR 60.57 (b), which apply to the expansion of the Facility.

1.2 Background

In 1989, the County developed a comprehensive Integrated Solid Waste Management Master Plan that included a course of action for the County to follow in order to ensure environmentally sound methods for the management, reuse, recycling and/or disposal of all solid waste generated in Lee County. The major recommendations established in the plan included the development of: an aggressive recycling program to reduce the quantity of materials requiring disposal; a waste-to-energy facility for waste reduction and energy recovery from those materials that are not recycled; and a Class I sanitary landfill for the disposal of ash and by-pass waste. In addition, the County established a self-imposed recycling and materials separation goal of 40 percent, which exceeds the 30 percent recycling goal established by the State of Florida (the "State").

The Lee County Solid Waste Management System (the "System") implements the provisions of the Integrated Solid Waste Management Master Plan. A brief description of the County's System is provided in Section 2, which highlights the initiatives implemented by the County to address materials separation as part of the overall solid waste management program. The System has become one of the most successful solid waste management and recycling programs in the State. The County's Materials Separation Plan (the "Plan") is embodied within the System and encompasses a wide array of integrated approaches, mechanisms and components to accomplish the materials separation goals. The County's Plan is designed to provide an integrated solid waste

management and materials separation approach and has proven to be a financially and environmentally sound means of providing solid waste services to the residents and businesses in Lee County. The Plan emphasizes the conservation of resources by diverting materials from solid waste disposal facilities through recycling, reuse, and reduction. Also, in support of the Plan, the County has implemented cooperative education and grant initiatives with the Lee County School System and Keep Lee County Beautiful.

The Florida Department of Environmental Protection (FDEP) 2000 Solid Waste Management Annual Report ranks Lee County number one for recycling in the State of Florida (see Appendix A). Despite the County's comprehensive recycling program, the amount of solid waste the County delivers to the Facility has increased each year since the Facility began operation, primarily due to population growth. In 1999, this amount reached the Facility's guaranteed annual capacity of 372,300 tons. In 2000, the Facility processed over 392,000 tons of County waste, while the County landfilled nearly 44,000 additional tons of processible waste. Current population projections for Lee and Hendry Counties suggest that processible solid waste generation will continue to increase, reaching nearly 550,000 tons by 2010. Rather than landfilling processible waste, it is the County's intention to expand the Facility by adding a third 660-tpd boiler unit, (at a reference waste of 5000 Btu/lb.) which would increase the Facility's permitted capacity to 1,980-tpd.

2.0 COUNTY SOLID WASTE MANAGEMENT SYSTEM SUMMARY

2.1 Solid Waste System Service Area

The County, through its ordinances, requires all residential and commercial generators within the unincorporated areas of the County to subscribe to waste collection services. The County has established franchise districts within the unincorporated areas and grants franchise haulers exclusive rights to collect waste from their assigned district(s). Likewise, all municipalities within the County have similar mandatory solid waste collection ordinances. Hendry County requires its residents and franchise haulers to dispose of all municipal solid waste at the Lee County Disposal Facility. The size of the area served by the Facility is depicted in the shaded area of Figure 2-1.

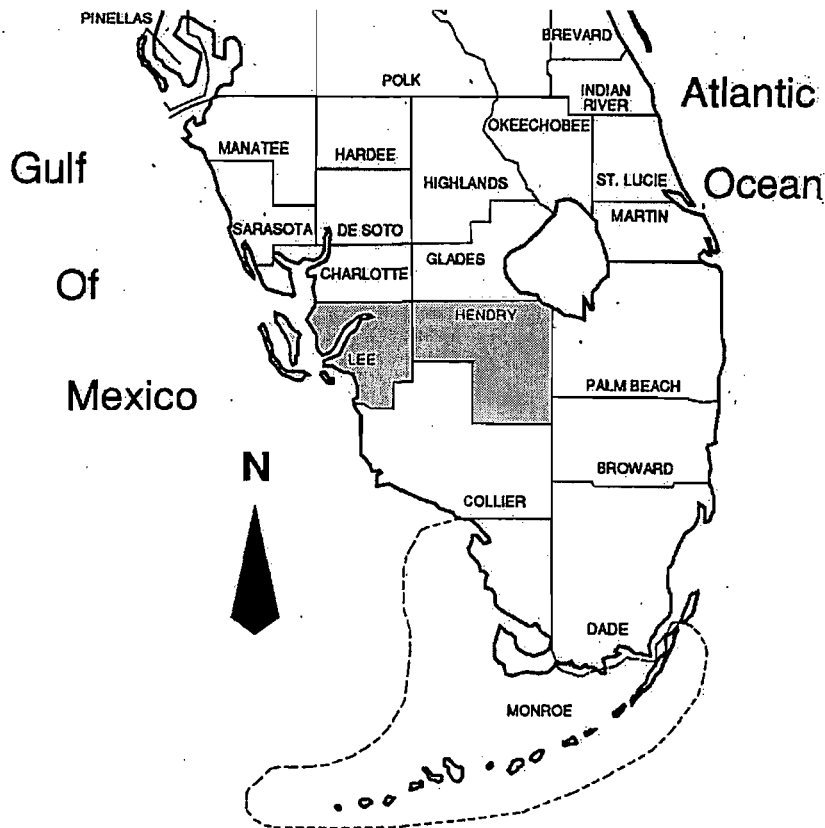


Figure 2-1

2.2 Solid Waste System Agreements

Vital elements of the County's success in effectively and efficiently managing the County's solid waste stream are its solid waste system agreements. The County has entered into a number of salient agreements that have enabled the County's System to provide for an economical, fiscally responsible and environmentally sound means of solid waste management within Lee County. These agreements include the:

- Lee / Hendry County Interlocal Agreement
- Covanta Service Agreement
- Electric Power Purchase Agreement
- Municipal Interlocal Agreements
- Franchise Agreements

2.3 Solid Waste System Components

The County's Plan encompasses a wide array of integrated mechanisms and components within the System to accomplish its materials separation goals. Briefly, the System includes the:

- Lee County Solid Waste Energy Recovery Facility
- Gulf Coast Landfill
- Lee / Hendry County Regional Landfill
- Transfer Stations
- Construction & Demolition Debris Processing and/or Disposal Facilities
- Materials Recycling Facility (MRF)
- Tire Processing Facility
- Household Hazardous Waste Collection Facilities
- Horticultural Waste Processing Facilities

For a detailed description of these facilities refer to Appendix B.

2.4 Solid Waste and Recyclable Material Quantities

The total quantity of solid waste generated in the County has increased 28 percent from 1996 to 1999. In calendar year 1999, the County generated 747,761 net tons of municipal solid waste, as reported to the FDEP, of which 271,347 tons were recycled. For a more detailed breakdown of the County's waste stream quantities and characteristics refer to Appendix C, Recycling Grant Report, Table 1: Municipal Solid Waste Collection and Recycling. Additionally, the historical quantities of solid waste specifically managed by Lee County are depicted in Table 2-3 of Appendix D. Solid waste quantities from Hendry County, which are handled by the Lee County system, are shown on Table 2-4 of Appendix D. However, recyclable materials from Hendry County do not enter into Lee County's solid waste stream, and are not included with the County's recycling totals.

2.5 Lee County Materials Separation Program

The County has implemented a comprehensive integrated materials separation system that includes the following programs:

- Construction and Demolition Debris Program
- Horticultural Waste Program
- Residential Recyclables Program
- Commercial Recyclables Program
- Ferrous and Non-Ferrous Recovery Program
- White Goods Program
- Waste Tire Program
- Household Hazardous Waste Program
- Pollution Prevention/Small Quantity Generator Program
- Other Special Waste Programs
- Electronic Products Recycling Program

3.0 MATERIALS SEPARATION PLAN

3.1 Goals and Approach

The County has a recycling goal of 40 percent, which exceeds the recycling goal established by the State. The County's Plan includes a variety of integrated mechanisms and approaches to accomplish its materials separation and recycling goals. The County has implemented a comprehensive solid waste system (the System) with proven success, as described in Appendix B. This Section summarizes the current Plan and proposed additions to the Plan that will be implemented (e.g., electronic product recycling). In addition, Appendix C (excerpts of the most recent Lee County Recycling Grant Report) provides additional information regarding the County's recycling program.

3.2 Lee County Materials Separation Program

Final disposition of solid waste generated in Lee County is dependent on the waste generator and the specific characteristics of the waste. A description of the System that the County has implemented to manage the waste stream and provide for a successful materials separation program is included in Appendix B. The County's Plan assumes that a significant portion of the waste generated by the County is recyclable. A large proportion of these recyclables are separately collected and brought to the County MRF, or to other privately operated recycling facilities within the County. The privately operated recycling facilities have a significant impact on the quantity of materials separated and recycled within the County. A list of existing recycling facilities is provided in Appendix C (Lee County Recycling Grant Report, Table 7).

Residential Recyclables Program

Lee County provides weekly curbside collection of residential recyclables within the unincorporated areas of the County through its franchise haulers. All single-family and multi-family units, including mobile home parks, apartment buildings and condominiums are included in this program. The materials collected are delivered to the County MRF

located in North Fort Myers, where the materials are sorted by type and processed prior to being marketed. Materials recycled include glass bottles, plastic containers (nos. 1 through 7), steel cans, aluminum cans and foil, corrugated cardboard, kraft paper bags, telephone books, magazines, newspapers and dry-cell batteries. The cities of Cape Coral and Fort Myers also provide weekly curbside recycling collection for residential units, and these materials are brought to the County MRF as well. The Town of Fort Myers Beach and Bonita Springs utilize County franchise haulers and have the same comprehensive recycling collection program as the County. The City of Sanibel provides for weekly curbside collection for single-family residences and also delivers the collected materials to the County MRF.

Commercial Recyclables Program

The County has a voluntary commercial recycling program, and does not mandate collection of recyclable materials from businesses and institutions. However, the County does require its franchise collection haulers to provide, at a minimum, recycling collection services for all businesses and institutions, and prohibits the imposition of any processing fees for any recyclables that are collected. This requirement applies for all materials collected by the County in its residential recycling program. Businesses and institutions contract independently for recycling services, and many commercial properties utilize the County's or cities' franchise haulers. In general, recycling within the commercial sector often depends on economic factors; recycling rates typically increase when market prices for recycled materials rise. Commercial recycling has also increased due to the "avoidance" of disposal or processing fees, despite the generally low price received for most recyclable materials. A number of privately owned and operated recycling facilities receive commercial recycled materials, in addition to the County MRF. A list of these facilities is provided in Appendix C, Table 7.

Ferrous and Non Ferrous Recovery Program

Lee County's recycling program collects steel and aluminum cans through its residential collection program. Private recycling facilities in the County have "buy-back" programs for scrap steel and aluminum. In addition, the County has implemented a post-

combustion ferrous and non-ferrous metals separation and recovery program at the Facility. The system includes a vibrating conveyor, rotary drum magnet, grizzly scalper, finger screen and eddy current separator. To date, more than 43,000 tons of ferrous and more than 1,000 tons of non-ferrous metals have been separated and recycled. These materials would otherwise have been buried in the landfill. The combination of source separation/collection and post combustion separation of aluminum and steel items enables Lee County to recycle at least of 90% of these materials.

Horticultural Waste Program

Horticultural or yard waste includes vegetative materials resulting from landscaping maintenance or land clearing operations, and includes grass clippings, palm fronds, tree and shrub trimmings, trees and tree stumps. The County, through its franchise haulers, provides weekly collection of horticultural wastes from all single-family residential dwellings within the unincorporated areas of the County. This material, as well as yard waste from many commercial properties, is currently delivered to a site in Fort Myers pursuant to an interlocal agreement between the City and the County. This material is processed into mulch, which is provided free to County residents and government agencies. As part of this program, the County delivers mulch to seven (7) locations throughout Lee County where the residents can obtain this recycled horticultural material at no cost. A portion of the County's horticultural waste also is hauled by private companies and processed at several private facilities located within the County. Virtually all horticultural waste is processed and reused in the County; only small incidental amounts of this material are delivered to the County's disposal facilities.

Construction and Demolition Debris Program

Construction and demolition debris (C&D) is defined as the uncontaminated solid waste resulting from the construction, remodeling, repair and demolition of structures and roads. Much of this portion of the waste stream can be recycled if properly sorted. Materials comprising C&D include concrete, asphalt, cardboard, stone, brick, wood, metals, plasterboard and sheetrock. Due to the non-combustible nature of much of the construction and demolition debris, only small quantities are accepted at the Facility.

Within the County, C&D is landfilled at the Gulf Coast Landfill and processed at other local C&D disposal and recycling facilities. Waste Corporation of America, Inc., located in Fort Myers, is a privately owned facility that recycles some of the components comprising C&D. Waste Corporation of America, Inc. currently receives approximately 100 to 200 tons per day of C&D materials. Some of the C&D generated in Lee County is disposed of in neighboring Charlotte and Collier Counties, where tip fees for C&D disposal are considerably lower than at Lee County's facilities. The County does not control the C&D disposal location of non-franchised haulers.

Household Hazardous Waste Program

Household hazardous wastes are those wastes consisting of discarded chemical products such as pesticides, paints, stains, solvents, drain cleaners, used motor oil, pool chemicals, antifreeze, auto batteries and household batteries. The County implemented a very successful HHW program in 1991, and recycles most of the materials brought in by the residents. The quantity of HHW collected has increased from a total of 205 tons per year in fiscal year 1996 to 233 tons per year in fiscal year 1999. The percentage of material recycled has increased from 71 percent to 81 percent. The average number of participants has increased from approximately 995 per event to 1173 per event. The recycled materials include lead acid batteries, dry cell batteries, used oil, latex paint, antifreeze and propane cylinders. Other materials that are accepted during these scheduled days include poisons and pesticides, fluorescent tubes, and corrosives. These wastes are handled by a licensed contract hauler that transports the non-recycled HHW to licensed disposal facilities outside of Lee County.

Pollution Prevention/Small Quantity Generator Program

The County has implemented the Lee County Pollution Prevention/Small Quantity Generator (P²/SQG) Program. This program monitors potential hazardous waste generators (businesses and institutions) and verifies the correct separation, handling and management of their hazardous waste materials. The program focuses on educating the public about pollution prevention and compliance issues, including recycling and disposal options for a variety of hazardous materials. The County's P²/SQG program was

the first in the State to assist a vehicle (fleet) maintenance facility to become a non-hazardous waste generating facility through proper materials separation and recycling practices. The County's program is recognized as one of the best in the State and has been used as a model for similar programs in the State and nationally.

White Goods Program

White goods are large appliances, such as stoves and refrigerators. These materials are collected separately by the franchise haulers, when requested by residential property owners, including single-family and multi-family residential units. The franchise haulers are required to deliver these recyclable materials directly to private recycling facilities. No additional fees are charged to the residential property owners for this service.

Waste Tire Program

The County maintains a waste tire storage and processing area at the Facility. The County pays a private tire processor in Bonita Springs to shred loads of tires. After the tires are shredded, the tires are returned to the Facility to be burned. By utilizing this process, the County recovers both energy and steel from the waste tires. In calendar year 2000, approximately 12,800 tons of shredded waste tires were burned at the Facility, generating approximately 17,920,000 kWh of electricity. The County also purchases tire "mulch" from the tire processing company for use at County parks and schools.

Other Special Waste Programs

The County has implemented special waste collection programs for batteries, used motor oil and certain residential biomedical waste. The County, through its residential and multi-family recycling program, collects household (dry cell) batteries. The County distributes bags and educational literature, and residents are encouraged to place spent household batteries at the curb on recycling collection day. When a "battery bag" is collected at curbside, a new empty bag is left in the customer's recycle bin. Commercial generators contract independently for proper disposal.

For used motor oil, the County has over 30 "oil-change" businesses participating in the State's used oil collection program. Additionally, the County accepts used motor oil at the scheduled HHW collection events.

With respect to residential biomedical waste, the County implemented a Used Sharps Program that provides safe and convenient disposal of used syringes from syringe-dependent residents (e.g., diabetics). Biomedical waste disposal containers (plastic red-boxes) are free at participating pharmacies. Drop-off locations for full containers are available at fire stations throughout Lee County. Disposal of this material is contracted to licensed biomedical waste haulers. Commercial generators of biomedical waste contract independently for proper collection and disposal.

Other commercially generated special waste, such as fluorescent bulbs, thermostats and thermometers, is contracted independently for proper collection and disposal by the generator. Many manufacturers, such as Honeywell, have programs for "taking-back" thermostats from equipment distributors. Information on these programs is provided to the public through the County's HHW Program and P²/SQG Program.

3.3 New Program Initiatives

Recovered Materials Processing Facility

The County is currently constructing a new Recovered Materials Processing Facility (RMPF) at the Facility site and relocating the existing MRF equipment to the new RMPF. The RMPF will be fully operational by the end of 2001, and will be capable of processing approximately 400 tpd of recovered recyclable materials. The new RMPF will enable the County to respond to changes in recovered materials composition, and add new materials to the County's recycling program in the future.

Electronic Products Recycling Program

The County was recently awarded an FDEP grant of \$50,000 to initiate an electronic products collection and recycling program. The County implemented this program on

July 24, 2001. The program will focus on monitors, televisions, computers and peripherals, and incidental amounts of other electronic products generated by households, small businesses and institutions. The County will collect these products during scheduled events at three convenient locations within Lee County. The County will also accept these products at the County's new RMPF, by appointment, on a weekly basis. As proposed in the grant application, the County expects to conduct approximately 57 collection events during the grant period and plans to continue the program after the grant period because of increased awareness and public demand for this program.

3.4 Alternative Disposal Methods Considered

As previously discussed, the County has a comprehensive and successful recycling and materials separation program. The County's program continues to grow and improve, but this program cannot handle all of the additional non-recyclable materials that are projected to be generated within the service area in the future.

The existing Facility has operated in excess of its contractual throughput capacity for the last two years. The remaining useful life of the Gulf Coast Landfill is estimated at approximately 15 months. Moreover, the County has previously agreed to limit the quantity of municipal solid waste that will be disposed at the Hendry County Regional Landfill. Consequently, there are only two practical and demonstrated options available for the future disposal of the materials that cannot be handled by the County's materials separation program: 1) expansion of the Facility, and/or 2) contracting for the transport and disposal of waste to an out-of-county landfill.

The County evaluated these options and determined that expansion of the Facility was the preferred option. Appendix D contains relevant excerpts from the March 2000 Solid Waste Management Plan Update that considered the two alternatives.

APPENDIX A

**EXCERPTS FROM FDEP 2000
SOLID WASTE MANAGEMENT ANNUAL REPORT**

Figure 12: Recycling in Florida's Counties (CY 1998)

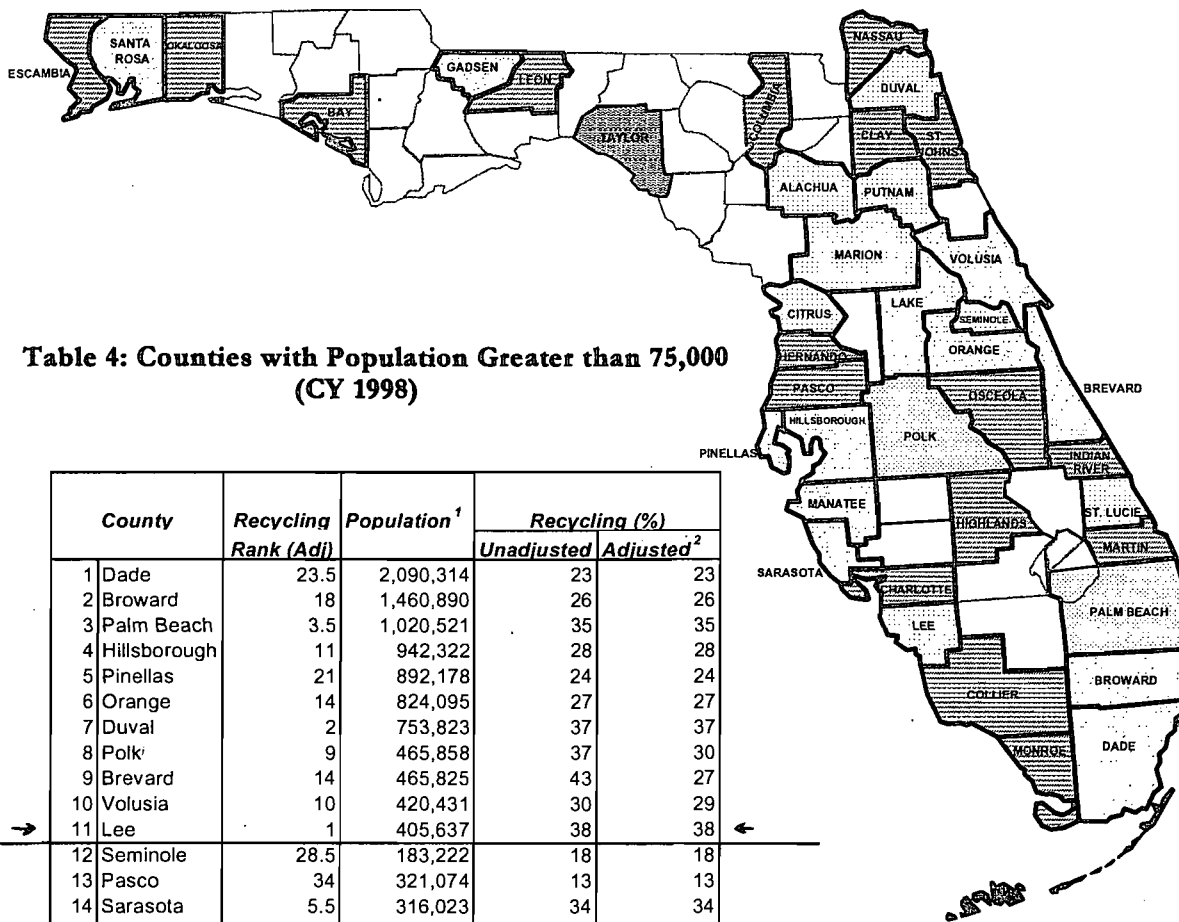






Table 4: Counties with Population Greater than 75,000 (CY 1998)

County	Recycling Rank (Adj)	Population ¹	Recycling (%)	
			Unadjusted	Adjusted ²
1 Dade	23.5	2,090,314	23	23
2 Broward	18	1,460,890	26	26
3 Palm Beach	3.5	1,020,521	35	35
4 Hillsborough	11	942,322	28	28
5 Pinellas	21	892,178	24	24
6 Orange	14	824,095	27	27
7 Duval	2	753,823	37	37
8 Polk	9	465,858	37	30
9 Brevard	14	465,825	43	27
10 Volusia	10	420,431	30	29
11 Lee	1	405,637	38	38
12 Seminole	28.5	183,222	18	18
13 Pasco	34	321,074	13	13
14 Sarasota	5.5	316,023	34	34
15 Escambia	28.5	296,164	18	18
16 Manatee	20	247,028	32	25
17 Marion	7	242,357	32	32
18 Leon	18	233,232	39	26
19 Alachua	3.5	211,403	35	35
20 Collier	26.5	210,095	22	22
21 Lake	14	196,073	27	27
22 Saint Lucie	5.5	183,222	40	34
23 Okaloosa	33	175,568	14	14
24 Osceola	30	148,712	16	16
25 Bay	35	147,496	12	12
26 Clay	31.5	134,534	15	15
27 Charlotte	18	133,655	26	26
28 Hernando	14	125,008	27	27
29 Martin	14	119,370	37	27
30 Citrus	8	112,424	31	31
31 Saint Johns	31.5	109,895	15	15
32 Santa Rosa	23.5	107,814	27	23
33 Indian River	23.5	106,690	40	23
34 Monroe	23.5	85,646	24	23
35 Highlands	26.5	80,458	22	22

-  Counties with a population > 75,000 which have met the 30% recycling goal.
-  Counties with a population > 75,000 which have not met the 30% recycling goal.
-  Counties with a population < 75,000 which have recycling rates of 30% or greater.
-  Counties with a population < 75,000 which have recycling rates < 30%.

1 1998 populations used by FDEP to allocate Recycling and Education (R&E) grants for the 1999-2000 grant cycle.
 2 The Legislature established a goal of 30 percent by the end of 1994 for counties with a population over 75,000.

**Table 6B: County Recycling⁴ in Florida
By Descending Adjusted Recycling Rate
(Jan. 1, 1998 - Dec. 31, 1998)**

County	Adjusted Recycling Rank	Population Rank	Population ²	MSW Recycling (%)		Minimum 5 Materials Recycling (%) ³				
				Unadjusted	Adjusted ³	News-papers	Glass	Aluminum Cans	Plastic Bottles	Steel Cans
Lee	1	11	405,637	38	38	59	22	29	21	100
Duval	2	7	753,823	37	37	54	77	24	14	49
Taylor	3	53	19,527	36	36	11	0	16	11	0
Palm Beach	4.5	3	1,020,521	35	35	50	26	53	11	58
Alachua	4.5	19	211,403	35	35	56	76	17	20	15
Saint Lucie	6.5	22	183,222	40	34	41	64	57	34	19
Sarasota	6.5	14	316,023	34	34	84	94	32	21	20
Marion	8	17	242,357	32	32	22	14	28	1	1
Citrus	9.5	30	112,424	31	31	39	26	41	9	6
Putnam	9.5	36	71,454	31	31	26	0	16	14	2
Polk	11	8	465,858	37	30	28	6	21	13	2
Volusia	12	10	420,431	30	29	48	33	21	24	15
Hillsborough	13	4	942,322	28	28	61	37	38	21	78
Hernando	16	28	125,008	27	27	65	16	1	4	1
Martin	16	29	119,370	37	27	63	40	19	18	14
Lake	16	21	196,073	27	27	53	12	16	9	20
Brevard	16	9	465,825	43	27	42	27	16	22	7
Orange	16	6	824,095	27	27	36	8	42	12	13
Leon	20.5	18	233,232	39	26	44	5	21	9	8
Charlotte	20.5	26	133,655	26	26	57	63	50	29	34
Sumter	20.5	41	47,907	26	26	53	35	17	6	29
Broward	20.5	2	1,460,890	26	26	73	75	20	91	11
Manatee	24	16	247,028	32	25	17	29	24	6	17
Calhoun	24	62	13,572	25	25	0	0	3	0	3
Columbia	24	37	55,368	25	25	12	4	27	3	4
Pinellas	26	5	892,178	24	24	33	13	98	17	97
Santa Rosa	28.5	33	107,814	27	23	29	3	16	2	2
Monroe	28.5	34	85,646	24	23	42	20	20	19	35
Indian River	28.5	32	106,690	40	23	75	26	18	27	7
Dade	28.5	1	2,090,314	23	23	31	40	8	20	41
Collier	32	20	210,095	22	22	47	9	49	69	7
Highlands	32	35	80,458	22	22	35	12	9	3	3
Suwannee	32	45	33,746	22	22	7	1	31	0	17
Bradford	34	49	25,355	21	21	21	6	13	4	3
Gilchrist	35.5	63	13,140	20	20	9	11	46	6	9
Okeechobee	35.5	44	35,059	20	20	7	0	15	0	0
Madison	37	54	19,277	19	19	8	2	10	3	3
Gulf	39	57	14,260	27	18	3	7	2	0	2
Escambia	39	15	296,164	18	18	11	0	16	0	0
Seminole	39	12	345,166	18	18	93	17	10	13	9
Union	41	60	13,459	17	17	11	4	16	3	3
Holmes	43.5	56	17,949	16	16	0	0	10	0	11
Wakulla	43.5	55	19,828	16	16	100	56	18	37	16
Glades	42	65	9,875	16	16	14	0	0	1	0
Osceola	43.5	25	148,712	16	16	40	6	4	2	1
Franklin	43.5	64	10,739	15	15	21	19	7	17	87
Lafayette	47	67	6,998	15	15	37	11	0	7	100
Clay	47	27	134,534	15	15	77	8	13	18	10
Saint Johns	47	31	109,894	15	15	55	3	5	3	2
Okaloosa	50	23	175,568	14	14	20	15	12	1	16
Nassau	52	38	54,538	13	13	11	5	1	0	0
Dixie	52	61	13,196	13	13	0	0	35	0	0
Pasco	52	13	321,074	13	13	17	18	9	23	24
Levy	55	46	32,416	12	12	22	12	26	0	0
Bay	55	24	147,496	12	12	0	0	12	0	0
Hardee	55	50	22,801	12	12	0	7	21	0	0
Gadsden	57	39	50,820	11	11	91	14	37	11	23
Jefferson	58.5	58	14,207	10	10	20	5	0	5	0
Hamilton	58.5	59	14,120	10	10	3	0	0	0	0
Baker	61	51	21,131	9	9	15	2	10	4	3
De Soto	61	48	27,927	9	9	26	4	19	1	0
Flagler	61	42	43,441	9	9	17	0	1	0	0
Washington	63	52	21,319	8	8	5	2	15	19	16
Liberty	64	66	7,708	7	7	30	10	6	5	10
Walton	65	43	38,304	5	5	0	0	31	1	100
Jackson	66	40	49,670	4	4	2	0	0	1	6
Hendry	67	47	30,364	3	3	1	0	0	1	0
State	NA	NA	5,913,450	28	28	44	30	22	18	30

¹ Percentages are based on Waste Composition Studies as reported by each County. □

For further discussion of the data's validity, see page 6 of the Introduction.

² Official 1998 Governor's Office estimates.

³ The Legislature established a goal of 30 percent by the end of 1994 for each county with a population over 75,000.

⁴ The Legislature established a goal of 50 percent for these materials by the end of 1994 for each county.

APPENDIX B

LEE COUNTY SOLID WASTE MANAGEMENT SYSTEM

LEE COUNTY SOLID WASTE MANAGEMENT SYSTEM

The Lee County Solid Waste Management System (the "System") is the result of a comprehensive Integrated Solid Waste Management Master Plan, that has evolved into one of the most successful solid waste management and recycling programs in the State and nationally. The Florida Department Of Environmental Protection (FDEP) 2000 Solid Waste Management Annual Report ranks Lee County number one for recycling in the State of Florida (see Appendix A). The County's Materials Separation Plan (the "Plan") is embodied within the County's System.

Background

The Florida Resource Recovery and Solid Waste Management Act of 1988, Part IV, Chapter 403, Florida Statutes, was enacted in order to reduce the amount of solid waste disposed of throughout the State. This legislation enabled Florida counties to provide solid waste disposal facilities for their residents and businesses. It mandated that recycling initiatives be pursued in each county in order to meet a recycling goal of 30 percent of the waste stream by the end of 1994. It also required that construction and demolition debris be segregated from the municipal solid waste stream and disposed of separately at landfills, and that a significant portion of newspaper, aluminum cans, glass and plastic bottles also be removed for recycling rather than disposal.

The Lee County Solid Waste Disposal and Resource Recovery Act of 1985, enabled the County to enter into a contract to construct, operate, and maintain a solid waste disposal and resource recovery system for the benefit of County residents. This legislation stipulated that all entities, both public and private, within the territorial boundaries of the County utilize the solid waste facilities designated by the County. This legislation also enabled the County to impose necessary fees in order to finance the costs of the system on a self-supporting, non-profit, cost-recovery basis. The Board of County Commissioners, as the County's governing body, is responsible for setting the rates and collecting all fees necessary to operate and maintain the County's Solid Waste System

(i.e. the "System"). The County's System is designed to provide for an integrated solid waste management and materials separation approach with proven success. The program includes an aggressive recycling goal of 40 percent and emphasizes the conservation of resources by diverting materials through recycling, reuse, and reduction, from existing solid waste management facilities. The County also has programs in place which close the recycling loop, (i.e. purchase recycled products), coupled with cooperative education programs with the Lee County School Board and Keep Lee County Beautiful.

A description of the elements of the County's System emphasizes the comprehensive initiatives implemented by the County to address materials separation as it relates to the overall solid waste management program and the fulfillment of the Plan.

Solid Waste Generation and Recycling Projections

In March 2000 the County updated its 1989 Integrated Solid Waste Management Master Plan, examining the status of the County's System and the impacts of the County's growth on its future. This solid waste master plan update, like the previously developed solid waste master plan, examined the various types of solid waste generated within the County, including the quantities of wastes and recyclables generated, as well as the characteristics of each specific type of material. Historical population trends were also examined, and population projections developed for the entire Lee and Hendry counties. These population projections were utilized to estimate the quantities of materials capable of being recycled or requiring disposal capacity, for each of the next 10 years. Appendix D contains pertinent excerpts of the Lee County Solid Waste Management Plan Update.

Population

Under the terms of the Lee County/ Hendry County Interlocal Agreement, dated October 17, 1989, municipal solid waste from Hendry County is to be handled by Lee County for a 20-year period. Accordingly, population projections and waste generation rates have been developed for both Lee and Hendry Counties. Appendix D, Table 2-1 depicts the estimated population growth for Lee and Hendry counties that were used to develop the

estimates of materials capable of separation or disposal. Additionally, as reported by the U.S. Census Bureau, the population of Lee County for the year 2000 is 440,888 persons, which represents a 31.6 percent change in population from 1990. The population of Hendry County for the year 2000 is 36,210 persons, which represents a 40.5 percent change in population from 1990. For reference, the State's percent population change from 1990 to 2000 is 23.5 percent as reported by the U.S. Census Bureau.

Solid Waste and Recyclable Material Quantities

The historical quantity of solid waste generated in Lee County is shown on Table 2-3 of Appendix D. As shown, there has been an increase in the total quantity of solid waste generated of approximately 28 percent from 1996 to 1999. Solid waste quantities from Hendry County, which are handled by the Lee County system, are shown on Table 2-4 of Appendix D. Recyclable materials from Hendry County, do not enter into Lee County's solid waste stream, and are not included with the County's recyclables totals. Additional solid waste, recyclables and ash residue quantities are provided in Appendix C, Table 1 of the Recycling Grant Report.

Solid Waste System Service Area

The County, through local ordinances, has mandated that all residential and commercial entities will be subject to mandatory waste collection within the unincorporated areas of Lee County. The County established franchise districts within the unincorporated areas and granted franchise haulers exclusive rights to collect waste from their assigned district(s). The six franchise hauling areas for the unincorporated portion of the County are shown on Figure 2-1. The haulers collect both residential and commercial waste as well as residential recyclables and horticultural waste. Each hauler delivers the waste to County-designated facilities in accordance with the terms of its franchise hauler agreements. The County pays the haulers for providing residential collection service in the unincorporated areas. The County collects the disposal fee, collection fee and a surcharge from unincorporated County residents to pay for all residential solid waste and recycling services. Commercial establishments in the unincorporated areas pay for solid

waste collection and disposal services directly to their franchise hauler. The franchise haulers pay the County a tipping fee for the disposal of commercial waste and other County surcharges. In addition, all users of the County's system pay a Disposal Facility Assessment directly to the County, which is based on their average waste generation.

Each of the incorporated cities located within the County has an ordinance, which establish mandatory collection of solid waste. The City of Fort Myers provides for municipal collection of all its waste, while the Cities of Cape Coral and Sanibel utilize private haulers. The Town of Fort Myers Beach and the City of Bonita Springs utilize the franchise hauler provided by the County. Interlocal Agreements between the County and the Cities provide for solid waste disposal and recycling capacity at County facilities and Disposal Facility Assessments.

Solid Waste Flow Control

The County, recognizing the importance of waste flow control to the economics of operating an integrated solid waste system, enacted County Ordinance No. 86-14 as amended and restated by Ordinance 95-19, which states that all waste collected in the County be directed to a County-designated facility for disposal. The County, also recognizing the possibility that the constitutionality of this flow control ordinance could be challenged, has maintained County disposal fees at competitive rates as a means of retaining economic flow control, while maintaining the financial health of their solid waste program. In addition to the County's Waste Flow Control Ordinance, the County's franchise haulers are required to deliver solid waste to the Facility. The County has Interlocal Agreements with the Cities of Fort Myers, Cape Coral, Sanibel, Bonita Springs and the Town of Ft. Myers Beach, to govern the delivery of waste to the Facility.

Solid Waste System Agreements

Vital elements of the County's success in effectively and efficiently managing the County's solid waste are its solid waste system agreements. The County has entered into

a number of salient agreements that have enabled the County's System to provide for economical, fiscally responsible and environmentally sound means of solid waste management within Lee County.

Hendry/Lee County Agreement

Under the terms of the Hendry/Lee County agreement, two transfer stations were constructed in Hendry County to transport waste from Hendry County to the Facility. Hendry County also agreed to assist the County in the development of the Regional Landfill. Hendry County requires its residents and franchise haulers to dispose of all waste either at the Transfer Stations, Regional Landfill or the Facility.

Covanta Service Agreement

The Service Agreement between the County and Covanta of Lee, Inc. (formerly Ogden Martin Systems of Lee, Inc.) requires that the Facility be operated and maintained to receive and process waste, generate steam, and convert that steam to electric power for export at established guaranteed levels. Facility performance is measured on an annual basis, in comparison to the guarantees contained in the agreement.

Electric Power Purchase Agreement

In May 1999, the County entered into an Electric Power Purchase Agreement (Agreement) with Seminole Electric Cooperative, Inc. (Seminole). Under the terms of this Agreement, Seminole began purchasing the net electric power produced by the Facility on December 15, 1999. The Agreement is scheduled to expire on December 31, 2015. After an initial three-year period, either Seminole or the County may request to renegotiate the energy and/or capacity pricing. Following commencement of energy delivery to Seminole, the County's electrical revenue increased by approximately 44 percent.

Interlocal Agreements

The County has recently negotiated revised interlocal agreements with the City of Fort. Myers, the City of Sanibel, the City of Cape Coral, the City of Bonita Springs, and the

Town of Fort Myers Beach to provide solid waste disposal and recycling capacity for these cities for a 10-year period.

Franchise Agreements

The unincorporated areas of the County are served by exclusive collection franchises, which cover both residential and commercial collection. In 1995 the County's franchise districts were re-drawn, dividing the unincorporated areas of the County into six hauling areas. In accordance with the terms of the Franchise Hauling Agreements, all franchised processible waste must be delivered to the Facility. The agreements were re-bid in FY 1999 with several new haulers awarded franchises beginning in October 2000.

Solid Waste System Components

Lee County Solid Waste Energy Recovery Facility

The Lee County Solid Waste Energy Recovery Facility (the "Facility") is a 1,200-ton per day (nominal) mass burn resource recovery facility located on a 155-acre site owned by the County on the north side of Buckingham Road in the unincorporated area of the County. The Facility has several innovative environmental aspects. Most notable are its air pollution control system, its metals recovery systems, its ecologically sound reuse of treated wastewater and its extensive wetlands protection and mitigation elements.

Briefly, the history of the Facility is as follows. In 1990, the County selected Ogden Martin Systems of Lee, Inc. (now Covanta) to design, construct, operate, and maintain the Facility, which was ultimately sized at 1,200 tons per day (tpd) with 1,800 tpd future facility capacity. The service agreement provides for the operation and maintenance of the facility for a 20-year period, beginning on December 1, 1994. "First fire" at this Facility took place on August 24, 1994. Representatives from Lee County, Covanta and the FDEP were present to participate and witness this event. Unit #1 was started up first on August 24, 1994 and Unit #2 on September 3, 1994. Acceptance testing was conducted from October 17-26, 1994 and the facility entered into commercial operation effective December 1, 1994. The Facility has operated with a combined boiler

availability of 91 percent and a Turbine Generator availability of 99.6 percent. In excess of 1.8 million tons of waste has been processed; 10,140,000 Klbs of steam produced; 1,077,000 KWh of power generated; over 1 million net KWh of power sold; 477,000 tons of ash produced; 43,000 tons of ferrous; and 1,000 tons of non-ferrous metals recovered

The Facility is equipped with two 660 tpd (at a reference waste of 5000 Btu) mass burn municipal waste combustors which utilize Martin reverse-reciprocating stoker grate and combustion control technology. Steam is generated by two 169 Klb/hr Distral water wall boilers. A Bailey Infi 90 Distributive Control System is used to regulate plant systems. The ABB pollution control equipment includes dry gas scrubbers, fabric filter baghouses and mercury and nitrogen oxide abatement systems. A Continuous Emissions Monitoring (CEM) system, built by Covanta, monitors carbon monoxide, oxygen, nitrogen oxide, opacity, sulfur dioxide, total steam production, power generation, ammonia injection rate, slaked lime usage, activated carbon usage, combustion efficiency, stack, and combustion zone temperatures. A Mitsubishi condensing steam turbine with extractions supplying auxiliary steam to air heaters, air ejectors, the deaerator and low pressure feedwater heaters drives a 39.7 MW air cooled, synchronous generator. Secondary treated wastewater is used to condense the turbine exhaust steam. This condensate is returned to the boilers. Net power produced is transformed to 138 kV and sold to Seminole Electric Company for distribution. Flyash is transported by an enclosed conveyor system to the Martin Ash Dischargers where it is combined with bottom ash from the grate. A grizzly scalper, magnetic separator, and non-ferrous recovery system are installed to recover ferrous and non-ferrous metals from the ash.

Gulf Coast Landfill

The Gulf Coast Landfill is located on the south side of State Road 82, approximately three miles east of U.S. Interstate 75. It is owned and operated by Waste Management Inc. of Florida (WMIF) who provides disposal capacity under contract to the County. The landfill is located on approximately 320 acres, and the County sends all non-processible waste (primarily C&D) as well as bypass waste and ash residue from the Facility to this landfill. The landfill has been constructed with a single synthetic liner and

leachate collection system. In January 1998, the FDEP renewed the operating permit for the landfill for an additional five-year period, potentially extending the useful life to October 2003. It is anticipated that the landfill will reach its permitted volume by the end of 2002, and closure is expected to begin in 2002 or 2003. Under the terms of the contract between the County and WMIF, no waste from outside Lee or Hendry counties may be accepted at the landfill facility unless approved by the County, except for limited quantities of Special Wastes, which are defined as being non-hazardous, but which may require specialized handling or management.

Lee / Hendry County Regional Landfill

The Lee / Hendry County Regional Landfill (the "Regional Landfill") is located in western Hendry County on an 1800 acre site owned by Lee County, with access to the site via State Road 82 and South Church Road. The County has contracted with WMIF to operate the landfill for a 20-year period, once the Gulf Coast Landfill is no longer utilized by the County for the disposal of ash and C&D. The landfill currently consists of a 12.3 acre Class I double-lined landfill cell, which includes a leachate collection system, double-lined leachate storage pond, and other support facilities. Construction of the first cell of the landfill was completed in March 1997, and it was designed to accept ash from the County's Facility as well as by-passed waste from Lee and Hendry counties for at least a 5-year period. The landfill design meets FDEP solid waste regulations as per the Florida Administrative Code.

It is anticipated that ash, C&D, and by-pass waste will continue to be disposed of at the Gulf Coast Landfill through the third quarter of calendar year 2002, and that the Regional Landfill cell will be capable of handling ash through the year 2007, with an additional cell required to be developed prior to that time. In addition, the County has established a policy of maintaining approximately 500,000 cubic yards of landfill capacity in reserve for uncontrollable circumstances and emergencies, such as hurricanes. Based on this policy, it is estimated that construction of a second cell will be required to be completed in 2004.

Transfer Stations

The County owns and WMIF operates two transfer stations located in Hendry County; one in LaBelle and one in Clewistown, each with a design capacity of 100 tpd. These transfer stations were constructed in 1992 in accordance with the terms of the Interlocal Agreement with Hendry County. The transfer stations currently accept a total of approximately 90 tpd of Class I (household) and 5 tpd of Class III (C&D) waste from Hendry County for transfer to a Lee County-designated facility. The transfer stations in Hendry County currently accept and process a total of approximately 38,000 tons per year of waste generated within Hendry County. The capacity of these transfer stations is approximately 57,000 tons per year.

C&D Processing and/or Disposal Facilities

Construction and demolition waste from franchise haulers is primarily delivered to the Gulf Coast Landfill for disposal. In fiscal year 1999, approximately 45,700 tons of C&D were brought to that facility. A relatively small quantity of C&D, that which is processible, is burned at the Facility, amounting to about 4,900 tons in fiscal year 1999. A permit modification to the PSD permit for the facility limits the amount of non-processible C&D burned to 5 percent of the total waste delivered. Non-processible C&D includes concrete, metals, gypsum products, plaster, rock, brick and masonry, and other non-combustible materials.

In addition, C&D generated by the commercial sector, is also delivered to Forestry Resources, Inc. in Fort Myers, a privately owned facility, which recycles some of the components comprising C&D and which currently receives approximately 100 tpd of materials. Much of the C&D generated in Lee County is also disposed of in neighboring Charlotte and Collier Counties, where tip fees for C&D disposal are lower than at Lee County facilities. The County does not control the location for C&D disposal from non-franchised haulers.

Materials Recycling Facility

The County's solid waste management program emphasizes the conservation of resources by diverting materials through recycling, reuse, and reduction from existing solid waste management facilities. The State has established a statewide goal of 30 percent waste reduction, reuse and recycling. The FDEP 2000 Solid Waste Management Annual Report shows that Lee County had the highest recycling rate for any County in the State of Florida (i.e. calendar year 1998). In calendar year 1999, the County recycled 36 percent of its waste and has consistently met the State's recycling goal of 30 percent. This materials diversion rate underscores the importance the County has placed upon materials separation and recyclables recovery. The cornerstone of the County's successful recycling program is the publicly owned Materials Recycling Facility (MRF) located in North Fort Myers to handle residential recyclable materials. All single family residential units as well as multi-family dwellings in the County are provided with curbside recyclables collection, and all residential recyclable materials are delivered to the MRF. The MRF processes both mixed papers and commingled materials in its processing lines. Corrugated cardboard, phone books, magazines and newspaper are manually separated on the fiber line. Steel cans, aluminum cans, plastics (PET, HDPE and mixed) and glass (clear, brown and green) are sorted on the commingled line.

The County is in the process of constructing a new 60,000 square foot Recovered Materials Processing Facility (RMPF) at the Facility site and relocating the existing MRF equipment to the new RMPF. The RMPF will be fully operational by the end of 2001, and will be capable of handling approximately 400 tpd of recovered recyclable materials. The new RMPF will allow for changes in recovered materials composition, and the addition of new materials to the program in the future.

Tire Processing Facility

In July 1996, the County submitted an amendment to the County's application for site certification of the Facility under the Florida Electrical Power Plant Siting Act for building and operating a waste tire processing system on the site of the Facility. The County currently uses this tire processing facility for storage and pays a private tire

processor in Bonita Springs to shred loads of tires, which once shredded, are returned to the Facility to be burned. By utilizing this process the County is recovering energy and steel from the waste tire materials. In calendar year 1999, approximately 12,800 tons of shredded tires were burned at the Facility. The quantity of tires capable of being processed at the Facility is limited by the modification to the facility's PSD permit, to 5% by weight, of the facility's total fuel, with compliance determined on a calendar month basis. At the current 1200 tpd capacity of the Facility, assuming an 85 percent availability, segregated tire tonnage's would be limited to 18,615 tons per year, or approximately 1,550 tons per month.

Household Hazardous Waste Collection Facilities

The County instituted a household hazardous waste (HHW) program in 1990, consisting of a household hazardous waste transfer station combined with advertised and schedule collection events. The HHW facility is used for the collection and temporary storage of HHW which residents may bring in free of charge, at seven one-day events each year, held at Page Field in Lee County and designated locations in Cape Coral and Bonita Springs. A second transfer/storage facility was built at the Facility site in 1998. The County accommodates residents who are moving, and require access to a disposal facility at other times, by accepting these materials at the Facility by appointment. The County also accepts hazardous materials from commercial establishments by conducting four HHW collection events at Page Field each year.

Horticultural Waste Processing Facilities

The County currently has an agreement with the City of Fort Myers to deliver its horticultural waste to the Fort Myers Horticultural Trash Processing Facility. This vegetative waste mulching facility and air curtain incinerator is located in Fort Myers. Loads of horticultural waste (primarily lawn clippings and trimmings, branches, palm fronds and logs) from weekly collections of households by the franchise haulers are delivered to this site. Waste is delivered both loose and in plastic bags, then shredded. The quantity of horticultural material collected and recycled has remained fairly constant, and in fiscal year 1999, 33,660 tons of horticultural materials were delivered to this

facility by Lee County. The resultant mulch is stockpiled and screened on site for distribution to County agencies and residents. The facility has been in operation since 1993.

Additionally, the County has recently obtained a permit modification for the Facility site in order to construct a yard waste processing facility on a 13-acre parcel of land. The new facility is intended to be large enough to accommodate an entire year's volume of incoming horticultural material, or approximately 40,000 tons annually, and sufficient storage and stockpiling will be available.

Other System Components

Other System Components include the County's management programs for special wastes. These programs include collection of waste oil, curbside collection of household batteries, a used sharps depository program, and white goods collection.

APPENDIX C

**EXCERPTS FROM SEPTEMBER 2000
RECYCLING GRANT REPORT**

**TABLE 1
MUNICIPAL SOLID WASTE
COLLECTION AND RECYCLING
(January 1, 1999 - December 31, 1999)**

Note: Refer to Grant Application Items 5(l) & 5(p)

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COUNTY: Lee		1999 POPULATION(a):			417,114			
(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	
Materials Type	Collected Tons	Percent Total Tons(b)	Pounds per Capita per Day(c)	Recycled Tons			Percent Recycled(e)	
				Public	Private	Total (d)		
1. Minimum 5 Materials(f)								
a. Newspaper	41,866	6	0.55	16,756	6,804	23,560	56	
b. Glass	34,529	5	0.45	6,912	562	7,474	22	
c. Aluminum cans	3,982	1	0.05	641	881	1,522	38	
d. Plastic bottles	8,321	1	0.11	2,157	3	2,160	26	
e. Steel cans	4,589	1	0.08	4,589	0	4,589	100	
2. Special Waste Materials(g)								
a. C&D debris (l)	59,821	8	0.79	0	22,400	22,400	37	
b. Yard trash	109,642	15	1.44	72,932	8,103	81,035	74	
c. White goods(h)	14,955	2	0.20	10,800	1,184	11,984	80	
d. Tires	5,982	1	0.08	6	0	6	0	
e. Process fuel(i)	NA	NA	NA	0	0	0	0	
3. Other Waste Materials								
a. Other plastics	14,955	2	0.20	0	194	194	1	
b. Ferrous metals(h)	59,821	8	0.79	9,402	22,345	31,747	53	
c. Non-ferrous metals	9,721	1	0.13	18	6,361	6,379	66	
d. Corrugated paper	72,776	10	0.86	1,008	71,081	72,089	99	
e. Office paper	4,221	1	0.06	390	927	1,317	31	
f. Other paper	18,432	2	0.24	1,556	439	1,995	11	
g. Food	52,343	7	0.69	482	0	482	1	
h. Textiles	22,432	3	0.29	0	1,498	1,498	7	
i. Miscellaneous	209,373	28	2.75	404	512	916	0	
4. County Totals	747,761	100.00	9.82	128,053	143,284	271,347	36	
<i>Must Equal Figure Reported in 5.e.:</i>		747,761		<i>Certified Materials Total (excluding rubber)</i>			166,508	<i>No rates > 100%</i>

5. MSW Management (tons)

a. Unadjusted Recycled (Line 4, Column 7)	271,347
b. Landfilled (Including Landfilled Combustor Ash)	232,419
c. Gross Combusted (VTE Input)	347,236
i) Landfilled Combustor Ash (j)	94,576
ii) Combustor Material Recycled (k)	8,665
iii) Net Combusted (Output) = 5c - 5c(i) - 5c(ii)	243,995
d. Gross MSW = 5a+5b+5c	851,002
e. Net MSW = 5a+5b+5c(iii)	747,761

(Must Equal Line 4, Column 2 of the Table and Line 4, Column 2 of TABLE 3.)

6. Adjusted Recycling Rate Calculations

a. Total tons of special wastes recycled.	115,425
<i>(Add lines 2a through 2e, column 7)</i>	
b. Special waste recycling percent	15.4
<i>(Divide line 6a by line 4, column 2 and multiply times 100.)</i>	
c. Line 4, column 8 minus line 6b.	20.8
<i>Adjusted Recycling Rate (6d or 6e the value not equal to 0)</i>	
d. If line 6b is equal to or greater than 15%, enter here line 6c plus 15%.	36%
e. If line 6b is less than 15%, enter here line 4, column 8.	0%

	Landfilled		Combusted		Recycled (Unadj.)	
	Tons	%	Tons	%	Tons	%
Gross MSW Management	232,419	27%	347,236	41%	271,347	32%
Net MSW Management	232,419	31%	243,995	33%	271,347	36%

- (a) Official April 1, 1999 Governor's Office population estimates.
- (b) Percent Total Tons = column 2 (material type tons) divided by line 4, column 2 (total county tons collected) times 100.
- (c) Pounds/Capita/Day = column 2 (material type tons) times 2,000 pound/ton divided by the 1999 county population divided by 365 days.
- (d) Use Certified Recycler's numbers provided by FDEP for the appropriate material types. Column 5 (recycled-public) + column 6 (recycled-private) = column 7 (Certified Recycler's total).
- (e) Percent Recycled = column 7 (Total recycled tons) divided by column 2 (material type tons) times 100. No recycling rates can be greater than 100%.
- (f) The Legislature established a goal of 50 percent for each material by the end of 1994 for each county.
- (g) The total of all Special Waste Materials can count towards no more than one half of the 30 percent recycling goal for each county.
- (h) To establish ferrous tonnage, subtract known white goods tonnage from Certified ferrous tonnage (White Goods + Ferrous Metals = Certified Ferrous). If white goods tonnage is not known, use 16% of the Certified Ferrous tonnage for this figure.
- (i) Process fuel (yard, wood and paper waste used in process boilers) should not be included in line 4, column 2 (total county tons collected), as they are accounted for in other material categories. They should be counted in line 4, column 7 (total county tons recycled).
- (j) Tonnage of incinerator byproducts (i.e. ash and filtered material) disposed in landfill.
- (k) Tonnage of materials recovered at the incinerator that is recycled (i.e. ash and ferrous metals.) includes non-ferrous
- (l) Tonnage most likely does not include Land Clearing Debris (LCD).

TABLE 2
WASTE REDUCTION
GOALS WORKSHEET
 (January 1, 1999 - December 31, 1999)

Note: Refer to Grant Application Item 5(I)

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 any formats, do not enter information into shaded areas.

COUNTY: Lee

1. BASE YEAR #1: July 1, 1990 - June 30, 1991

a. Total MSW disposed (landfilled plus combusted)	403,200 Tons
b. Population (Official April 1, 1989 figure)	338,427 People
c. MSW/Capita: 1a/1b =	1.19 Tons/Capita

2. BASE YEAR #2: July 1, 1991 - June 30, 1992

a. Total MSW disposed (landfilled plus combusted)	351,556 Tons
b. Population (Official April 1, 1990 figure)	344,032 People
c. MSW/Capita: 2a/2b =	1.02 Tons/Capita

3. BASE YEAR #3: July 1, 1992 - June 30, 1993

a. Total MSW disposed (landfilled plus combusted)	363,228 Tons
b. Population (Official April 1, 1991 figure)	350,809 People
c. MSW/Capita: 3a/3b =	1.04 Tons/Capita

4. BASE YEAR #4: July 1, 1993 - June 30, 1994

a. Total MSW disposed (landfilled plus combusted)	378,040 Tons
b. Population (Official April 1, 1992 figure)	350,037 People
c. MSW/Capita: 4a/4b =	1.06 Tons/Capita

5. BASE YEAR #5: July 1, 1994 - June 30, 1995

a. Total MSW disposed (landfilled plus combusted)	336,724 Tons
b. Population (Official April 1, 1993 figure)	378,342 People
c. MSW/Capita: 5a/5b =	0.89 Tons/Capita

6. BASE YEAR #6: July 1, 1995 - June 30, 1996

a. Total MSW disposed (landfilled plus combusted)	430,656 Tons
b. Population (Official April 1, 1994 figure)	383,706 People
c. MSW/Capita: 6a/6b =	0.89 Tons/Capita

7. CURRENT YEAR: January 1, 1999 - December 31, 1999

a. Total MSW disposed (Table 1, line 5b plus 5c(iii))	476,414 Tons
b. Population (Official April 1, 1998 figure)	417,114 People
c. MSW/Capita: 7a/7b =	1.14 Tons/Capita

8. WASTE REDUCTION PROGRESS (a)

a. Base Year #1 to Current Year:	$[(1c - 7c) / 1c] \times 100 =$	4%
b. Base Year #2 to Current Year:	$[(2c - 7c) / 2c] \times 100 =$	-12%
c. Base Year #3 to Current Year:	$[(3c - 7c) / 3c] \times 100 =$	-10%
d. Base Year #4 to Current Year:	$[(4c - 7c) / 4c] \times 100 =$	-8%
e. Base Year #5 to Current Year:	$[(5c - 7c) / 5c] \times 100 =$	-28%
f. Base Year #6 to Current Year:	$[(6c - 7c) / 6c] \times 100 =$	-28%

(a) A negative number indicates that there has been an increase in the MSW disposal rate per capita.

TABLE 3

**CURRENT AND FUTURE MSW
COLLECTION AND RECYCLING BY GENERATOR TYPE**

(Jan. 1, 1999 - Dec. 31, 1999; Jan. 1, 2000 - Dec. 31, 2000 and Jan. 1, 2019 - Dec. 31, 2019)

Note: Refer to Grant Application Items 5(b) & 5(m)

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SECTION A

COUNTY: Lee

1999 POPULATION(a): 417,114

Generator Type	Collected and Recycled Jan. 1, 1999 - Dec. 31, 1999				
	Collected Tons(b)	Percent Total Tons(c)	Pounds per Capita per Day(d)	Recycled Tons	Percent Recycled(e)
1. Residential Single Family	179,837	24	2.36	71,935	40
2. Residential Multi-Family	96,835	13	1.27	47,458	49
3. Commercial	471,089	63	6.19	151,954	32
4. County Totals	747,761	100	9.82	271,347	36
<i>Must Equal Figure Reported in Table 1:</i>	747,761		9.82	271,347	36

NOTE: Line 4, Columns 2,4,5,6 (Generator Type County Totals) Must Equal TABLE 1, Line 4, Columns 2,4,7,8 (County Totals).

SECTION B

2000 POPULATION: 431,296

2019 POPULATION: 766,588

Generator Type	To Be Collected and Recycled Jan. 1, 2000 - Dec. 31, 2000					To Be Collected Jan. 1, 2019 - Dec. 31, 2019		
	Collected Tons(b)	Percent Total Tons(c)	Pounds per Capita per Day(d)	Recycled Tons	Percent Recycled(e)	Collected Tons(b)	Percent Total Tons(f)	Pounds per Capita per Day(d)
1. Residential Single Family	165,998	24	2.11	83,141	50	322,197	24	2.30
2. Residential Multi-Family	89,382	13	1.14	43,797	49	173,491	13	1.24
3. Commercial	434,836	63	5.52	149,148	34	844,009	63	6.03
4. County Totals	690,216	100	8.77	276,086	40	1,339,697	100	9.58

(a) Official April 1, 1999 Governor's Office population estimates.

(b) Collected Tons = Tons Recycled + Tons Landfilled + Tons Combusted (Net).

(c) Percent Total Tons = column 2 (generator type tons) divided by column 2, line 4 (total county tons collected) times 100.

(d) Pounds/Capita/Day = column 2 (generator type tons) times 2,000 pound/ton divided by the appropriate county population divided by 365 days.

(e) Percent Recycled = column 5 (recycled tons) divided by column 2 (generator type tons) times 100.

(f) Percent Total Tons = column 7 (generator type tons) divided by column 7, line 4 (total county tons collected) times 100.

(g) Pounds/Capita/Day = column 7 (generator type tons) times 2,000 pound/ton divided by the 2019 county population divided by 365 days.

TABLE 4
MUNICIPAL SOLID WASTE TO BE
COLLECTED AND RECYCLED

(January 1, 2000 - December 31, 2000 and January 1, 2019 - December 31, 2019)

Note: Refer to Grant Application Items 5(b) & 5(m)

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COUNTY:	2000 POPULATION:		2019 POPULATION:					
Lee	431,286	766,588						
(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)
Materials	To Be Collected and Recycled Jan. 1, 2000 - Dec. 31, 2000					To Be Collected Jan. 1, 2019 - Dec. 31, 2019		
	Collected Tons(a)	Percent Total Tons(b)	Pounds per Capita per Day(c)	Recycled Tons (d)	Percent Recycled	Collected Tons(e)	Percent Total Tons(b)	Pounds per Capita per Day(f)
1. Minimum 5 Materials(g)								
a. Newspaper	41,413	6	0.53	28,989	70	53,588	4	0.38
b. Glass	34,511	5	0.44	8,628	25	53,588	4	0.38
c. Aluminum cans	6,902	1	0.09	2,623	38	40,191	3	0.29
d. Plastic bottles	6,902	1	0.09	1,933	28	40,191	3	0.29
e. Steel cans	6,902	1	0.09	6,902	100	26,794	2	0.19
2. Special Waste Materials(h)								
a. C&D debris	55,217	8	0.70	20,430	37	147,367	11	1.05
b. Yard trash	96,630	14	1.23	71,506	74	133,970	10	0.96
c. White goods	13,804	2	0.18	11,043	80	13,397	1	0.10
d. Tires	6,902	1	0.09	690	10	13,397	1	0.10
e. Process fuel(i)	NA	NA	NA		0	NA	NA	NA
3. Other Waste Materials								
a. Other plastics	13,804	2	0.18	276	2	40,191	3	0.29
b. Ferrous metals	55,217	8	0.70	41,413	75	107,176	8	0.77
c. Non-ferrous metals	6,902	1	0.09	5,177	75	13,397	1	0.10
d. Corrugated paper	69,022	10	0.88	68,331	99	13,397	1	0.10
e. Office paper	6,902	1	0.09	2,278	33	66,985	5	0.48
f. Other paper	13,804	2	0.18	2,071	15	13,397	1	0.10
g. Food	48,315	7	0.61	483	1	107,176	8	0.77
h. Textiles	20,706	3	0.26	1,449	7	80,382	6	0.57
i. Miscellaneous	186,358	27	2.37	1,864	1	375,115	28	2.68
4. County Totals	690,216	100.00	8.77	276,086	40	1,339,697	100.00	9.58
Must Equal Figure Reported in Table 3:	690,216	Must = 100%	8.77	276,086	40	1,339,697	Must = 100%	9.58

- (a) Collected Tons = column 2, line 4 (total tons collected) times column 3 (percent total tons) divided by 100.
- (b) Percent Total Tons as reported in County's Waste Composition study. County Total must = 100%.
- (c) Pounds/Capita/Day = column 2 (material type tons) times 2,000 pound/ton divided by the 2000 county population divided by 365 days.
- (d) Recycled Tons = column 6 (percent recycled) times column 2 (material type tons) divided by 100. No recycling rates can be greater than 100%.
- (e) Collected Tons = column 7, line 4 (total tons collected) times column 8 (percent total tons) divided by 100.
- (f) Pounds/Capita/Day = column 7 (material type tons) times 2,000 pound/ton divided by the 2019 county population divided by 365 days.
- (g) The Legislature established a goal of 50 percent for each material by the end of 1994 for each county.
- (h) The total of these materials can count towards no more than one half of the 30 percent recycling goal for each county.
- (i) Process fuel (yard, wood and paper waste used in process boilers) should not be included in line 4, column 2 (total county tons collected), as they are accounted for in other material categories. They should be counted in line 4, column 5 (total county tons recycled.)

TABLE 5

PARTICIPATION IN RECYCLING
(Average for the Calendar Year 1999)

Note: Refer to Grant Application Item 5(k)

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COUNTY: Lee

1999 POPULATION(b): 417,114

Generator Type	Total Units in County	Residents per Unit (c)
Residential Single Family	137,913	2.20
Residential Multi-Family	74,977	1.50
Commercial	11,000	NA

(1) Recycling Services	(2) County Units with Service Available	(3) Percent of Total Units in County with Service Available(d)	(4) County Units Participating in Available Service	(5) Percent of County Units Participating in Available Service(e)	(6) Percent of Total Units in County Participating(f)	(7) Population Participating in Available Service(g)	(8) Percent of County Population Participating in Available Service(h)
Residential Single Family							
a. Curbside collection	137,913	100	103,890	75	75	228,558	55
b. Drop off stations	137,913	100	7,000	5	5	15,400	4
c. Mobile drop off	0	0	0	0	0	0	0
d. Buy back centers	137,913	100	27,400	20	20	60,280	14
Residential Multi-Family							
a. Curbside collection	74,977	100	63,730	85	85	95,595	23
b. Drop off stations	74,977	100	3,750	5	5	5,625	1
c. Mobile drop off	0	0	0	0	0	0	0
d. Buy back centers	74,977	100	15,000	20	20	22,500	5
Commercial							
a. Scheduled collection	11,000	100	4,015	37	37	NA	NA
b. On call collection	11,000	100	700	6	6	NA	NA

(a) In the application narrative, include a summary of calculations/methodology used to determine average figures

(b) Official April 1, 1999 Governor's Office population estimate.

(c) The Residents per Unit figures for Residential Single Family and Residential Multi Family can be acquired from the county planning department as reported in the County's comprehensive plan.

(d) Percent of Total Units in County with Service Available = column 2 (County Units with Service Available) divided by Total Units in County times 100.

(e) Percent of County Units Participating in Available Service = column 4 (County Units Participating in Available Service) divided by column 2 (County Units with Available Service) times 100.

(f) Percent of Total Units in County Participating = column 4 (County Units Participating in Available Service) divided by Total Units in County times 100.

(g) Population Participating in Available Service = column 4 (County Units Participating in Available Service) times Residents per Unit.

(h) Percent of County Population Participating in Available Service = column 7 (Population Participating in Available Service) divided by the 1999 official population times 100.

TABLE 6
MUNICIPAL SOLID WASTE MANAGEMENT FACILITIES
 (As of June 2000)

Note: Refer to Grant Application Item 5(l)

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COUNTY: Lee

Facility <i>(List Landfills by Class, then Waste-to-Energy Facilities)</i>	Facility Type (a)	Remaining Permitted Capacity			Planned Increase			Ownership Type <i>(Place "X" in Column)</i>	
		Landfill (cubic yards)	Waste-to-Energy (tons per day)	Years Capacity Remaining	Landfill (cubic yards)	Waste-to-Energy (tons per day)	Year On-line	Public	Private
1. Gulf Coast Landfill	III	592,322		3					X
2. Lee/Hendry Landfill	I	13,500,000		50				X	
3. Lee/Hendry Resource Recovery	WTE		1,200	30		600	2005	X	
4.									
5.									
6.									
7.									
8.									
9.									
10.									
11.									
12.									
13.									
14.									
15.									
16.									
17.									
18.									
19.									
20.									
21.									
22.									
Totals	3	14,092,322	1,200	83	0	600		2	1

SOLID WASTE DISPOSAL FEES (dollars per ton) (b)

Class I	WTE Facility	Yard Trash	White Goods	C&D	Passenger Tires	Asbestos	Out of County	Petroleum Contaminated Soils
\$35.00	\$50.00	\$12.25	\$35.00	\$35.00	\$17.50	\$35.00	\$50.00	\$50.00

(a) Designate facility as Class I, II, or III (landfill); C&D; or WTE.

(b) If any numbers are expressed in units other than dollars per ton, indicate those units beneath the number. If using a range, specify an average value.

COUNTY: LeB

1999 POPULATION(a):

417,114

Facility/Address/City/Zip (* Indicates Proposed Facility)	Phone# (Area Code)	Type(1) (Abbreviations below)	Ownership		Capacity Tons/Day	Processed Tons/Day	Service Area(2)			Material Source(3)			Material Handled(4) (Abbreviations listed below)
			Public	Private			PD	ED	MC	A	B	C	
EX. Nonhazardous Recycling Center 234 East Dr. Anywhere 33033	850-935-1234	MRF	X		100	73	X					X	ON,OP,MP,G,A,P,S
1. LEE COUNTY RECYCLING 1 7941 MERCANTILE DR. N FT MYERS 33917	(941) 731-3700	RMPF	X		300.00	130.00		X				X	ON,OC,M,G,A,P,OPL,S,OTD
2. GULF COAST HORTICULTURAL 11890 SR 82 EAST FT MYERS 33913	(941) 332-4211	RMPF		X		170.00		X				X	Y
3. FORESTRY RESOURCES, INC 4353 MICHIGAN LINK FT. MYERS 33916	(941) 334-7343	RMPF		X		100.00	X					X	Y,C
4. GARDEN ST IRON & METAL 3350 METRO PARKWAY FT MYERS 33916	(941) 337-5865	BB		X		200.00			X			X	A,S,W,SM
5. GARDEN ST PAPER PRODUCTS 2998 SOUTH ST FT MYERS 33916	(941) 332-1250	BB		X		100.00			X			X	OC,OP,MP
6. AMERICAN ALUMINUM RECYCLING 2203 US 41 FT. MYERS 33901	(941) 332-4699	BB		X		50.00	X					X	A
7. ALLIED RECYCLING 3460 MLKING JR BLVD FT MYERS 33918	(941) 332-7766	BB		X		100.00			X			X	A,S,W,SM
8. ALLIED RECYCLING 3770 PALMETTO AV FT MYERS 33918	(941) 332-4991	BB		X		50.00			X			X	ON,OC,OP,MP
9. SP RECYCLING 6180 FEDERAL CT FT MYERS 33905	(941) 894-7333	BB		X		50.00			X			X	ON,M,MP
10. ALL SCRAP SALVAGE 2294-8 BRUNER LN FT MYERS 33912	(941) 482-5722	BB		X		10.00	X					X	W,SM
11. KENETECH RESOURCE RECOVERY 2451 ARCADIA ST FT MYERS 33916	(941) 337-1973	RMPF		X		100.00		X			X		Y
12. GULF COAST GRINDING 4650 MAYFLOWER FT MYERS 33912	(941) 334-4426	RMPF		X		50.00	X					X	Y
13. BRONLEY PALLET 6115 IDLEWILD ST B17 FT MYERS 33912	(941) 277-9026	O		X		10.00				X		X	O-PALLETS
14. A & D SCRAP MATERIAL, INC 3066 CRANFORD FT MYERS 33905	(941) 332-3865	BB		X		50.00			X			X	ON,OC,OP,MP
15.													
16.													
17.													
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38.													
39.													
Totals	44	NA	1	13	300.00	1170.00	4	4	6	1	13	0	NA

(a) M - Monday, T - Tuesday, W - Wednesday, R - Thursday, F - Friday, S - Saturday, U - Sunday. List hours as 8-5
 (b) MRF - Materials Recovery Facility (dry MRF), RMPF - Recovered Materials Processing Facility (clean MRF), DO - Drop off center, BB - Buy back center, O - Other
 (c) PC - Partial County, EC - Entre County, MC - Multiple County
 (d) Majority of the materials coming from these sources: R - Residential, C - Commercial, B - Both Residential & Commercial
 (e) ON-Old Newspaper, OC-Old Corrugated Containers, M-Magazines, OP-Office Paper, MP-Mixed Paper, G-Glass Bottles, A-Aluminum Cans, P-Plastic Bottles, OP-Other Plastics.
 S-Steel Cans, W-White Goods, SM-Scrap Metal, T-Tires, Y-Yard Trash, C-C&D, O-others.

Table 8
LOCAL GOVERNMENT PROGRAM COST SUMMARY (a)
 (October 1; 1999 - September 30, 2000)
 Note: Refer to Grant Application Item 5(e)

COUNTY:	Lee	POPULATION (b):	417,114
----------------	-----	------------------------	---------

Cost Categories	Dollars Spent and Encumbered (c)		
	R&E Funds	Local Funds (d)	Total
Equipment & Building(e)			
Public Sector(f)	19,776	12,400	32,176
sub-total	19,776	12,400	32,176
Operating Services(g)			
Public Sector(f)		362,347	362,347
Private Sector Contracts(h)	179,519	1,675,322	1,854,841
sub-total	179,519	2,037,669	2,217,188
Planning/Engineering Studies(i)			
Public Sector(f)			0
Private Sector Contracts(h)			0
sub-total	0	0	0
Public Education(j)			
Public Sector(f)	9,280	113,356	122,636
Private Sector Contracts(h)	17,576	14,145	31,721
sub-total	26,856	127,501	154,357
Total Public Costs	29,056	488,103	517,159
Total Private Contract Costs	197,095	1,689,467	1,886,562
Grand Total Used	226,151	2,177,570	2,403,721
Costs Per Capita	0.54	5.22	5.76
Grant Award	226,151		
Remaining R&E Funds Not Used(k)	0		

- (a) Information requested in this table should include cost data for both the county government and the participating municipalities found within its borders.
- (b) Official April 1, 1999 Governor's Office population estimate.
- (c) Include all dollars spent or committed via a purchase order by the local government on recycling programs during the county fiscal year.
- (d) Any local revenues (non-R&E grants) such as tip fees, advalorem taxes, special assessments, recycling fee via waste disposal bill, material sales revenue etc., spent on the recycling program.
- (e) Funds spent and encumbered for the acquisition of recycling equipment and recycling facilities.
- (f) Publicly funded and operated entities such as a county or city gov't, regional planning councils, public universities, school boards, etc. May include contracts or purchase orders with public entities.
- (g) Funds spent and encumbered for the acquisition of services relating to the collection, processing, marketing and sales of recycled material.
- (h) Privately owned and operated entities, including non-profit organizations, contracted or retained through a purchase order to provide services or products to the local gov't for its recycling program.
- (i) Funds spent and encumbered for the acquisition of planning and/or engineering products or services relating to the recycling program.
- (j) Funds spent and encumbered for the acquisition of educational products or services for schools or the general public relating to the recycling program.
- (k) All remaining R&E grant funds not spent or encumbered during the county fiscal year.
- (l) Funds spent and encumbered for the acquisition of educational products or services for schools or the general public relating to the recycling program.
- (m) All remaining R&E grant funds not spent or encumbered during the county fiscal year.
- (n) Funds spent and encumbered for the acquisition of services relating to the collection, processing, marketing and sales of recycled material.
- (o) Privately owned and operated entities, including non-profit organizations, contracted or retained through a purchase order to provide services or products to the local gov't for its recycling program.
- (p) Funds spent and encumbered for the acquisition of planning and/or engineering products or services relating to the recycling program.
- (q) Funds spent and encumbered for the acquisition of educational products or services for schools or the general public relating to the recycling program.

TABLE 9
TIMETABLE FOR THE CONTINUED DEVELOPMENT & IMPLEMENTATION
OF RECYCLING/WASTE REDUCTION PROGRAMS

(October 1, 2000 - September 30, 2002)

Note: Refer to Grant Application Item 5(j)

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COUNTY: Lee

Sector Program Elements	Events(a)																						
	FFY 00-01												FFY 01-02										
	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.
Single Family																							
1. Curbside Collection	O	O	O	O	O	O	O	O	O	O	O	O	O	O	O	O	O	O	O	O	O	O	O
2. MRF Relocation and Expansion	B	B	B	B	B	B	B	B	B	C	C	C	O	O	O	O	O	O	O	O	O	O	O
3.																							
4.																							
5.																							
6.																							
Multi-Family																							
1. Curbside Collection	O	O	O	O	O	O	O	O	O	O	O	O	O	O	O	O	O	O	O	O	O	O	O
2.																							
3.																							
4.																							
5.																							
6.																							
Commercial																							
1. Curbside Collection	O	O	O	O	O	O	O	O	O	O	O	O	O	O	O	O	O	O	O	O	O	O	O
2.																							
3.																							
4.																							
5.																							
6.																							
Institutional																							
1. Lee County School District	O	O	O	O	O	O	O	O	O	O	O	O	O	O	O	O	O	O	O	O	O	O	O
2.																							
3.																							
4.																							
5.																							
6.																							

(a) Use this list of events. Additional event may be used and should be listed below. P - Planned, R - Procured, O - Operating, H - Hiring Key Staff, C - Contracting for Services, M - Executing Marketing Agreements

Additional Events:

Table 11
CITY/INSTITUTIONAL RECYCLING PROGRAMS
 (As of June 2000)

COUNTY: Lee

Program Name	Coordinator/Contact	Address	Zip Code	Telephone	99-00 R&E \$\$ Allocated(b)	Mandatory Recycling(c)
Cape Coral	Holly Ussery	P.O. Box 150027	33915	(941) 574-0844	\$67,255.00	
Ft. Myers	Kris Gookin	P.O. Drawer 2217	33902	(941) 332-6836	\$19,543.00	
Sanibel	Gates Castle	800 Dunlop Rd	33957	(941) 472-6397	\$2,512.00	
School District	Carolyn Morrow	3500 Central Ave	33901	(941) 337-8208	\$0.00	
Totals	4				\$89,310.00	

(a) Information listed should include significant institutional programs such as universities, public schools, hospital and prisons as well as city recycling programs. Do not list the county program.

(b) R&E Grant dollars provided by the state and passed on to each city to provide recycling services. \$0.00 indicates that no funds were provided to the city.

(c) For City programs, indicate if recycling is mandated by local ordinance or policy for the residential sector with an R, or for the commercial sector with a C (RC for both). Otherwise, LEAVE BLANK.



Jeb Bush
Governor

Department of Environmental Protection

Twin Towers Office Building
2600 Blair Stone Road
Tallahassee, Florida 32399-2400

David B. Struhs
Secretary

Certification Statement

I certify to the best of my knowledge that all the information LEE
County has provided in Part II of the Recycling and Education Grant Application;
including the recycling, landfill, and combustion numbers are complete and accurate.

Collin Davis
Signature of County Recycling Coordinator

9/28/00
Date

Randy J. Simpson
Signature of County Solid Waste Director

9/28/00
Date

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Jeb Bush
Governor

Department of Environmental Protection

Twin Towers Building
2600 Blair Stone Road
Tallahassee, Florida 32399-2400

DEP Form 62-716.900(1)
Form Title Solid Waste
Recycling and Education
Grant Application
Effective Date 11-16-1994

David B. Struhs
Secretary

Solid Waste Recycling and Education Grant Application Part Two

1. Name of Applicant: Lee County Environmental Services
2. Contact Person (person handling program on daily basis): Rick Clontz, Recycling Coordinator
3. Address of Contact Person:
1500 Monroe Street, 3rd Floor
Ft. Myers, FL 33901
4. Telephone Number of Contact Person: (941) 479-8181

5. Required Attachments:

Are the following items attached? If not, please explain. Due October 1 of each year.

- (a) X A description of the recycling and education projects or planning studies, including any business and accounting plans. Rule 62-716.410 (1a)
- (b) X An estimate of the quantity and type of materials to be collected and recycled, including an explanation of the methods used to estimate this quantity. Rule 62-716.410(1b)
- (c) X A description of all existing or proposed recycling facilities, collection centers, or other related service centers located within the county, including ownership, capacity, type of facility, and approximate service area of such facilities. Rule 62-716.410(1c)
- (d) X A demonstration that the materials to be collected or processed, or both, are not presently being recovered to the extent necessary to meet the goal established in Section 403.706(4), F.S. and would not be so recovered, but for the proposed recycling project and a description of the method used to make this determination. This demonstration shall include an explanation of how existing private and public sector recycling programs and efforts will be incorporated into the recycling and education program. Rule 62-716.410(1d)
- (e) X A summary of all costs incurred, or to be incurred, in planning or implementing the recycling and education projects. Rule 62-716.410(1e)
- (f) X Any contracts or agreements entered into or summaries of contemplated agreements or contracts to develop and implement the recycling program. Rule 62-716.410(1g)
- (g) X The measurable objectives of the education program and an explanation of how the education program will directly promote the use of an existing or planned local recycling project. Rule 62-716.410(1h)
- (h) X A description of the methods to be used in evaluating the success of the education and recycling programs. Rule 62-716.410(1i)
- (i) X An explanation of the manner in which the recycling program will be implemented. Rule 62-716.410 (2a)
- (j) X A timetable for the continued development and implementation of the recycling program. Rule 62-716.410(2b)
- (k) X The estimated percentage of the population participating in various types of recycling activities. Rule 62-716.410(2c)
- (l) X The percent reduction each year in municipal solid waste disposed of at solid waste disposal facilities as a result of public and private recycling programs, including the success rates, perceived reasons for failure or success, and the public and private sector recycling activities which are ongoing and most successful. Rule 62-716.410(2d)
- (m) X A description of the type and the weight of solid waste generated within the applicant's service areas and the general type and the weight of solid waste that is expected to be generated within the service areas in the 20-year period following the date of the grant application. Rule 62-716.410(2e)

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9-19-00

- (n) An identification and description of the facilities where solid waste is being disposed of or processed, the remaining available permitted capacity of such facilities, any planned increases in the capacity of such facilities, and the anticipated effect of recycling programs on the type and size of such facilities. Rule 62-716.410(2f)
- (o) _____ An explanation of how existing or anticipated solid waste reduction or recycling will affect the type and size of any planned or existing solid waste management facilities in the affected service areas. Rule 62-716.410(2g)
- (p) A description and evaluation of solid waste that is being or could be recycled, including, but not limited to:
 - (1) The type and weight of solid waste or materials which would otherwise become solid waste that is being or could be recycled by the public and private sector, giving consideration at a minimum to the following materials: glass, aluminum, steel and bimetallic materials, office paper, yard trash, newsprint, corrugated paper, and plastics;
 - (2) The anticipated and available markets or uses for materials collected through recycling programs; and
 - (3) The estimated costs of and revenue from operating and maintaining existing and proposed recycling programs. This does not include specific costs and revenues from privately operated recycling programs, but a summary of such costs and revenues is required if the applicant intends to provide funding for such programs. Rule 62-716.410(2h)
- (q) A description of any recycling activities implemented or existing prior to July 1, 1989. Rule 62-716.410(2i)
- (r) Local governments whose comprehensive plans have been submitted at the time of application shall provide an explanation of how the recycling program relates to the future land use elements, sanitary sewer, solid waste, drainage, potable water, and natural groundwater aquifer recharge elements; intergovernmental coordination elements; and capital improvements elements of the local government comprehensive plans prepared pursuant to part II of chapter 163, F.S. by the county or municipality. Rule 62-716.410(2j)
- (s) A description of how all special wastes will be managed. Rule 62-716.410(2k)

6. Does each solid waste facility owned or operated by the county or municipality have weight scales? Rule 62-716.420(2a)
Yes No _____

7. Has the operator of each landfill owned or operated by this county or municipality completed an operator training course approved by the Department? Rule 62-716.420(3)
Yes No _____

I CERTIFY that I am familiar with the information contained in this application, and that to the best of my knowledge and belief such information is true, complete and accurate. I further certify that I possess the authority to apply for this grant on behalf of this local government.

John E. Allison
Signature of Authorized Representative

9/19/00
Date

Please return form to:
Department of Environmental Protection
Bureau of Solid and Hazardous Waste
Solid Waste Section
2600 Blair Stone Road
MS 4565
Tallahassee, Florida 32399-2400

APPROVED AS TO FORM
By *[Signature]*
OFFICE OF COUNTY ATTORNEY

5a. A description of the recycling, waste reduction, and education projects or planning studies, including any business and accounting plans.

1. SUMMARY OF RECYCLING PROGRAM

A. Unincorporated Lee County

All single-family homes receive weekly curbside recycling service. The County provides blue 18-gallon recycling bins for commingled collection of glass bottles, #1-7 plastic containers, steel cans, aluminum cans and foil, corrugated cardboard, Kraft paper bags, telephone books, magazines, and newspapers. Franchise haulers transport the commingled materials and the fibers to the Lee County Materials Recycling Facility (MRF) for sorting and processing for market.

All multi-family units were added to the recycling program in 1995. This includes mobile home parks, apartment buildings, condominiums, and residences with more than four units. These complexes are provided with either curbside collection or central drop-offs using 96-gallon carts and in-unit bins or reusable bags. Multi-family units recycle all the same materials that the residential sector collects; these recyclables are also taken to the Lee County MRF.

The MRF is County-owned and privately operated. In 1996, recycling revenue was used to add a complete fiber sorting line to the MRF, increasing processing capacity and types of materials accepted on the curbside program.

Businesses contract independently for recycling collection. Commercial recycling increased this year in spite of low market prices for recyclables. Although businesses seem primarily interested in the cost savings provided by recycling, many employees are devoted to environmental issues and are willing to create opportunities to recycle.

The School District and all the large hospitals in Lee County have recycling programs. County government recycles office paper, aluminum, glass, and plastic at some parks; and scrap metal from sign shops and fleet shops.

In 1999, the equivalent of 1.7 full-time employees provided support to the County recycling program. The percentage of time allocated to recycling is as follows:

<u>Position</u>	<u>Time Allocated to Recycling</u>
Recycling Coordinator	90%
Public Promotions Specialist	30%
Sr. Fiscal Officer	16%
Solid Waste Director	3%
Engineer III	10%
Engineer I	10%
Right of Way Crew	8%

The job descriptions for these positions are provided in Appendix C.

B. Cape Coral

Cape Coral has weekly curbside recycling for single-family residents, and is phasing in a cart collection program for multi-family units. These materials are processed at the Lee County MRF and the city receives revenue for those tons.

C. Fort Myers

Fort Myers has weekly curbside recycling for single-family residents and many multi-family residents. These materials are processed at the Lee County MRF and the City receives revenue for those tons. The City provides cardboard and office paper recycling for businesses.

D. Sanibel

Sanibel has weekly curbside recycling for single-family residents and many multi-family residents. These materials are processed at the Lee County MRF and the City receives revenue for those tons. Sanibel has voluntary multi-family and business recycling.

E. Fort Myers Beach

The Town of Fort Myers Beach was chartered in 1996. It is still under the unincorporated Lee County franchise hauling contracts for solid waste and recycling collection.

2. BUSINESS PLAN

A. Mission Statement

To continue to develop and refine a comprehensive countywide recycling program that encourages the conservation of our natural resources. Create public awareness of the need for source reduction, reuse and recycling, and the direct benefits associated with these activities. Promote the idea that if each individual takes responsibility for doing his/her small part, then, collectively, we accomplish big goals. Promote the education of our children about solid waste issues through guided tours of our solid waste facilities, and in school curriculum of the 4 R's: Reduce, Recover, Reuse and Recycle. Promote commercial recycling by providing technical assistance in setting up recycling programs for businesses.

B. Funding and Revenues

The Lee County recycling program is funded by surcharges and recycling revenues. The following table shows that as the funding needs of the recycling program change, the tipping fee surcharge amount is proportionately changed to meet these demands:

Fiscal Year	Recycling Surcharge/ton
89/90	\$ 3.85
90/91	6.00
91/92	7.28
92/93	8.88
93/94	9.11
94/95	10.12
95/96	1.61
96/97	0.14
97/98	1.53
98/99	0.69
99/00	2.10
00/01	0.67

In the past, curbside recycling collection costs were not included in residential garbage bills, so the recycling surcharge was used to offset these costs. Recycling collection costs were included in the residential garbage bills starting in fiscal year 1995-96 when the franchise hauling contracts were competitively bid. This significantly reduced the recycling budget and the resulting surcharge.

FCR, Inc. operates the Lee County MRF and through August 1999 paid \$24.00 per ton for every ton received; after this a sliding scale was used, based on market prices. Approximately \$ 600,000 in revenue is projected for fiscal year 2000-01, and is included in the recycling budget (Table 12).

C. Plans and Projects for 2000-2001

The residential and multi-family program will focus on education, reinforcing the recycling message and reminding residents what materials are accepted. Public information efforts this year focused on reducing residue coming into the MRF and increasing participation. The business recycling program will focus on the basics of recycling. This group needs information on how recycling works and encouragement to participate. The business goal is to contact all businesses at least once with recycling information and provide interested businesses with technical information and assistance in setting up a recycling program.

Lee County will begin construction on a new MRF. This will be located on the Waste-To-Energy (WTE) property in order to share scale facilities and will be powered by the WTE plant. The facility will be 60,000 square feet with a processing capacity of 400 TPD. This will allow for greater storage space for incoming and processed materials, and provide processing efficiencies. Completion is expected in November 2001.

5b. An estimate of the quantity and type of materials to be collected and recycled or waste reduced, including an explanation of the methods used to estimate this quantity.

Current and future solid waste and recycling quantities are presented in Tables 3 and 4. These estimates are based on population and waste generation projections from Malcolm Pirnie's report Lee County Solid Waste Management Plan Update (Appendix D) which

Table 12
LEE COUNTY SOLID WASTE DIVISION
RECYCLING BUDGET 00-01

CODE DESCRIPTION	BUDGET
1210 Salaries, etc	\$169,134.00
2410 Internal /IGS Costs	\$71,744.00
3465 Software Technical suppt	\$600.00
3490 Other Contracted Services	\$1,551,613.00
4022 In State Travel	\$1,800.00
4023 Out of State Travel	\$1,800.00
4210 Postage	\$20,000.00
4510 Electric	\$12,000.00
4330 Water & Sewer	\$2,500.00
4340 Trash, Garbage	\$85,000.00
4410 Land, Bldg rental	\$20,000.00
4620 Vehicle Maint.	\$1,000.00
4690 Other Repair & Maint.	\$63,000.00
4715 County Print Shop	\$350.00
4810 Promotional advertising	\$112,700.00
4811 Promotions/brochures	\$23,525.00
4984 Rebates to Cities	\$204,000.00
5290 Other supplies	\$35,000.00
5410 Reference Materials	\$300.00
5420 Memberships	\$400.00
8210 Keep Lee Co Beautiful subsidy	\$15,000.00
	<i>total</i> \$2,391,466.00

Curbside Recycling	
Tons Collected 0/01 Goal	36,000
Projected Revenue	\$600,000.00

projects a 3.4% growth in solid waste each year to 2005, and 2.8% growth to 2010. A 3% growth was used for each year for 2010 through 2019. In 1999 the actual quantity of solid waste collected increased by 9% over the previous year. The quantity recycled increased 6% over the previous year.

Malcolm Pirnie projects Lee County's population to grow by 3.4% per year through 2005, and 2.8% through 2010. A 3% growth rate for years 2010 through 2019 was used for Tables 3 and 4. Actual population growth has remained between 2 and 3% for several years including 1999.

5c. A description of all existing or proposed recycling facilities, collection centers, or other related service centers located within the county, including ownership, capacity, type of facility, and approximate service area of such facilities.

Local recycling facilities, materials collected and processing capacity are listed in Table 7. Processing capacity is sufficient to meet current needs, however, more recycling collection options for businesses are needed.

5d. A demonstration that the materials to be collected or processed, or both, are not presently being recovered to the extent necessary to meet the goal established in Section 403.706(4), F.S. and would not be so recovered, but for the proposed recycling or waste reduction project and a description of the method used to make this determination. This demonstration shall include an explanation of how existing private and public sector recycling programs and efforts will be incorporated into the recycling or waste reduction education program.

Lee County believes that public/private partnerships are an integral part of the recycling program's success. The Lee County MRF is owned by the County but operated by a private firm. Curbside recycling collection for single and multi-family residents is contracted by the County to private firms, as are the yard waste recycling and office paper recycling programs.

A public MRF is used because local private recyclers only accept a few source-separated materials. With our own MRF we can accept a wider range of materials, focusing on the Minimum Five Materials, and can easily expand or change the program as needed. Commingled collection is easier for residents, reduces collection costs, and gives us control of material quality and marketability.

5e. A summary of all costs incurred, or to be incurred, in planning or implementing the recycling, waste reduction, and education projects.

Table 8 presents a summary of the recycling program costs incurred for unincorporated Lee County and the Cities in fiscal year 1999-00. Over \$2,400,000 was spent in Lee County on recycling programs. The State Recycling Grant money represents 9% of the total spent. Because these programs are mature, most of the money was spent on collection.

5f. Any contracts or agreements entered into or summaries of contemplated agreements or contracts to develop and implement the recycling or waste reduction program.

The current contracts for recycling services are presented in Appendix A. Lee County has a contract with FCR, Inc. to operate Lee County's MRF. Lee County owns the equipment; FCR accepts, processes and markets the recyclables collected on the residential and multi-family curbside programs from all of Lee County. FCR pays Lee County a per ton rate, based on an average market price.

A similar contract is in place with Better Than Wood Industries, Inc. for operation of the plastic lumber molding plant. Lee County owns the equipment; BTW purchases plastic from the Lee County curbside recycling program, produces plastic lumber products and markets them. Lee County purchases recycled plastic products at a reduced cost.

Lee County contracted with Waste Management, Inc. for the horticultural waste program in 1999. Yard waste from unincorporated Lee County residents and many commercial accounts was directed to this facility. Waste Management accepted, processed and marketed the resulting mulch and was required to provide mulch free to Lee County government and to residents.

Copies of the interlocal agreements between Lee County and the Cities of Cape Coral, Fort Myers, Sanibel and the Town of Fort Myers Beach are also presented in Appendix A. The Cities of Cape Coral, Fort Myers, and Sanibel direct their residential and multi-family recyclables to the Lee County MRF and receive the per ton rate. The Town of Fort Myers Beach is still included in the Lee County garbage and recycling franchise hauling contracts.

5g. The measurable objectives of the education program, and an explanation of how the education program will directly promote the use of an existing or planned local recycling or waste reduction project.

An integral part of the Lee County recycling plan is the public education effort using recycling, composting and source-reduction programs to foster a greater appreciation for environmental protection and natural resource conservation.

The education program goals for residential recycling are to reach all residents in unincorporated Lee County at least once with recycling information, to increase participation by 10% (from 69 to 75%), and to therefore increase materials coming in to the MRF by 10%. The goal for multi-family recycling is to provide information to at least ten percent of units and thereby decrease contamination in recycling totes and increase participation as measured by quantity of materials recycled. The business goal is to contact all businesses at least once with recycling information and provide at least 100 interested businesses with technical information and assistance in setting up a recycling program.

The School District uses the Florida Department of Education "4 R's" curriculum and provides opportunities for gaining practical experience in recycling through school-based recycling projects and tours of solid waste facilities. All fifth graders tour the MRF each year and all eighth graders tour the MRF, WTE plant and landfill. Because of School District budget cuts, this program was drastically cut in 99/00.

The primary purpose of the recycling education program is to increase participation through awareness of recycling programs and what materials are included. The recycling education program includes recycling and source reduction information through the use of the radio, TV and newspaper ads; print materials; exhibits; and group presentations. Brochures are mailed to all unincorporated residents (over 100,000 homes) at least once per year describing all solid waste management programs and recycling guidelines.

5h. A description of the methods to be used in evaluating the success of the education, recycling, and waste reduction programs.

The education program's success is measured by how many people and businesses participate in recycling. The education program increased the tonnage of residential materials going to the MRF to over 32,000 tons this fiscal year, an 8% increase over last year, and decreased the residue at the MRF. Residential participation increased from 69% last year to 75% this year. Commercial recycling participation increased from 35% to 43%.

The recycling program's success is measured by the amount of materials recycled, reduction in disposal tonnage and compliance with State and County recycling goals. The recycling program successfully met the State's 30% recycling goal and the County's 40% recycling and waste reduction goal. Total recyclables collected increased 6% over last year, from 255,229 tons to 271,247 tons for a 36% recycling rate.

5i. An explanation of the manner in which the recycling or waste reduction program will be implemented.

The residential curbside recycling plan for Lee County started in 1989 with 800 homes on a pilot program. Recyclables--clear glass, milk jugs, 2-liter pop bottles, and aluminum cans collected in blue bags and newspapers collected in paper bags--were hand-sorted by Goodwill Industries employees at the Lee County MRF. More materials and more neighborhoods were added gradually. By 1992, all single-family residents were on the program, and the County switched to blue recycling bins as the semi-automated MRF was completed. FCR, Inc. took over the MRF operating contract in 1994. In 1996, a five-sort paper line was added to the MRF and #3-7 plastics, corrugated cardboard and magazines were added to the collection program. Markets for mixed cullet have strengthened and it is no longer considered residue, but instead is shipped to a processor for a small fee.

Multi-family recycling was an additional service and charge when recycling began, yet many complexes found that it was worth the effort. Recycling collection for unincorporated multi-family units became standard service in 1995.

Commercial recycling is a voluntary program; businesses are contacted about setting up recycling programs through presentations, exhibits at business fairs and advertising in business journals. On-site assistance is also provided for businesses interested in a review of their waste management practices, setting up recycling, or improving their existing recycling system.

Currently these programs in unincorporated Lee County are provided by the equivalent of 1.7 full time employees.

5j. A timetable for the continued development and implementation of the recycling or waste reduction program.

The projected timetable for the implementation of the Lee County recycling program is shown in Table 9. The residential and multi-family programs are operating and are maintained through education and information. Commercial recycling is being taught and demonstrated to encourage new programs to come on line and to improve capture rates of established programs.

Lee County will begin construction on a new MRF. This will be located on the Waste-To-Energy (WTE) property in order to share scale facilities and will be powered by the WTE plant. The facility will be 60,000 square feet with a processing capacity of 400 TPD. This will allow for greater storage space for incoming and processed materials, and provide processing efficiencies. Completion is expected in November 2001.

5k. The estimated percentage of the population participating in various types of recycling or waste reduction activities.

Lee County has a voluntary recycling program. In 1999, average participation for single-family residents on the curbside program was 75% (Table 5). This was calculated by taking a yearly participation average by franchise area and city and calculating a weighted yearly average (based on population) for the entire county. Because Lee County has a high seasonal population the monthly average increases in the winter when most homes are occupied. Multi-family participation is measured by the number of complexes participating in the program, since a reliable estimate of residents using the central collection system is not available. Eighty-five percent of multi-family dwellings have on-site recycling programs. About 43% of businesses participate in recycling; 37% of businesses have regular or full time recycling programs and the remainder have on-call recycling, take materials to drop-off centers, or recycle on a semi-annual basis, such as when they delete records or materials.

5l. The percent reduction each year in municipal solid waste disposed of at solid waste disposal facilities as a result of public and private recycling or waste reduction programs, including the success rates, perceived reasons for failure or success, and the public and private sector recycling activities which are ongoing and most successful.

In 1999, as a result of public and private recycling programs, Lee County recycled 36% of its waste (Table 1). While total solid waste generated increased 9% over the previous year, recycling increased 6% over last year.

Since all trash goes to the WTE plant, it is assumed that 100% of steel cans are recovered. The DEP certified ferrous metals number was divided between the white goods and ferrous categories based on the recent waste composition study that showed white goods to be 1.6% of the waste stream or 11,984 tons. This was subtracted from the certified ferrous number to arrive at the 31,747 tons of ferrous metals in 3b. A non-ferrous removal-system was added to the WTE in late 1999. The quantity of combustor material recycled (Table 1, line 5cii) also includes non-ferrous material.

MSW per capita is 1.14 tons for this year (Table 2). The waste reduction progress ranges from -28% to 4% depending on the base year used.

One of the reasons for the success of the recycling program is our publicly owned MRF. We are committed to recycling only materials with long-term marketability, and to producing high quality loads. This protects us in low market times because we do not have to delete materials from the program as markets disappear, and the high quality gives us priority when demand for recyclables is low. The operating contract was let in 1994 through managed competition between the public and private sector. This provided us with good income for our material, which was used to expand the facility. Now that market prices are depressed, we are not under pressure to delete materials from the program. We may adjust the financial arrangement with the operator but the materials accepted are still under our control and we are able to maintain the program's stability and public trust.

5m. A description of the type and weight of solid waste generated within the applicant's service areas and the general type and the weight of solid waste that is expected to be generated within the service areas in the 20-year period following the date of the grant application.

Waste generation rates are displayed in Tables 3 and 4. These estimates are based on population and waste generation projections from Malcolm Pirnie's report Lee County Solid Waste Management Plan Update (Appendix D) which projects a 3.4% growth in population and solid waste each year to 2005, and 2.8% growth to 2010. A 3% growth was used for each year for 2010 through 2019.

Malcolm Pirnie completed a waste composition study in 1997 which is the basis for the distribution of recyclables in the waste stream shown in Tables 4 and 1, column 3. Distribution was adjusted to reflect actual quantities reported.

5n. An identification and description of the facilities where solid waste is being disposed of or processed, the remaining available permitted capacity of such facilities, any planned increases in the capacity of such facilities, and the anticipated effect of recycling or waste reduction programs on the type and size of such facilities.

At present, there is only one active landfill in Lee County, the Gulf Coast Landfill, owned and operated by Waste Management, Inc. (Table 6). This facility primarily accepts C&D debris and ash from the Waste-To-Energy plant and has an estimated remaining life of about three years. The Lee/Hendry County landfill, located in Hendry County, is completed but not open and does not receive waste. Lee County will apply for an operating permit before the Gulf Coast Landfill is closed and the Lee/Hendry landfill is needed for disposal capacity.

Lee County owns a 1200 TPD Resource Recovery Facility. It is a joint facility with Hendry County, and is operated by Ogden Martin Systems, Inc. Attainment of the state-mandated 30% recycling goal and the County's 40% recycling and waste reduction goal was taken into consideration in the sizing of this facility.

The tipping fees are:

	<u>98/99</u>	<u>99/00</u>	<u>00/01</u>
Disposal Surcharges:	\$52.63	\$50.00	\$50.00
Solid Waste Operations	\$ 2.86	\$ 3.42	\$ 2.37
Right-of-Way Cleanup	\$ 0.69	\$ 0.37	\$ 0.61
Recycling	\$ 1.93	\$ 2.10	\$ 0.67
Hazardous Waste	\$ 0.14	\$ 1.42	\$ 0.00
Solid Waste Management	<u>\$ 6.00</u>	<u>\$ 6.00</u>	<u>\$ 6.00</u>
	\$64.25	\$63.31	\$59.65

5o. An explanation of how existing or anticipated solid waste reduction or recycling will affect the type and size of any planned or existing solid waste management facilities in the affected service areas.

Recycling programs have been taken into consideration in planning disposal facilities. The impacts are reviewed in Malcolm Pirnie's report Lee County Solid Waste Management Plan Update (Appendix D).

During the planning for the WTE plant for Lee County, many concerns were raised about its impact on recycling. An 1800 TPD capacity facility was planned, but in the end a 1200 TPD plant was built, reducing the total cost approximately 25 million dollars and avoiding a planned increase in residential garbage bills. Recycling was in place and program expansions were planned; in fact, the County had set its own 40% recycling and waste reduction goal. A put-or-pay clause was also removed from the WTE contract when it was downsized, thus relieving pressure on waste flow to be directed to the WTE plant. The existing landfill primarily receives ash and C&D debris and is expected to last another three years, so the Lee/Hendry landfill will not be put into service as soon, all of which keep solid waste management costs down.

Most importantly, the recycling program is expanding each year. The MRF processes over 120 TPD of residential recyclables and the WTE averages 1000 TPD of waste, so if Lee County were not recycling, the WTE plant would already be at capacity and require an expansion. Because residents are so committed to recycling, a WTE expansion is not planned until 2005, again saving residents money. It was estimated that it costs \$140/ton to collect and dispose of one ton of trash. Obviously diverting recyclables is not only resourceful and environmental, but also economical. Recycling is a key piece of the integrated waste management system.

5p. A description and evaluation of solid waste that is being or could be recycled, including, but not limited to:

- (1) The type and weight of solid waste or materials which would otherwise become solid waste that is being or could be recycled by the public and private sector, giving consideration at a minimum to the following materials: glass, aluminum, steel and bimetallic materials, office paper, yard trash, newsprint, corrugated paper, and plastics;
- (2) The anticipated and available markets or uses for materials collected through recycling programs; and,
- (3) The estimated costs of and revenue from operating and maintaining existing and proposed recycling programs. This does not include specific costs and revenues

from privately operated recycling programs, but a summary of such costs and revenues is required if the applicant intends to provide funding for such programs.

Quantities of materials recycled are listed in Table 1. Over 270,000 tons of recyclables were collected in Lee County in the past year.

The Lee County MRF has a long term marketing agreement with SP Recycling for newspaper processed from the curbside program. No problems with market capacity for other materials are expected. Commercial recycling has been difficult recently due to low market prices and lack of available recyclers. Currently, only one office paper recycler collects in the area, limiting options for businesses wishing to recycle.

Revenue from the Lee County MRF operation goes toward offsetting costs at the MRF. In 1999, the Solid Waste Division received revenues from a \$2.10/ton recycling surcharge for every ton disposed. Table 8 includes the local government recycling program costs. Table 12 shows the Lee County recycling budget for 2000-01 with projected revenue.

5q. A description of any recycling programs implemented or existing prior to July 1, 1989.

(DEP no longer requires this section)

5r. Local governments whose comprehensive plans have been submitted at the time of application shall provide an explanation of how the recycling program relates to the future land use elements, sanitary sewer, solid waste, drainage, potable water, and natural groundwater aquifer recharge elements; intergovernmental coordination elements; and capital improvements elements of the local government comprehensive plans prepared pursuant to Part II of Chapter 163, F.S. by the county or municipality.

The Lee Plan 1994 was adopted by the Board of County Commissioners and amended in 1996. Lee County's recycling program is integrated into the many elements of the comprehensive plan as indicated in the following:

- **FUTURE LAND USE:** The recycling program is intended to enhance future land use by diverting materials from the landfill and decreasing the reliance on this type of solid waste facility as stated in Policy 40.1.3.
- **SANITARY SEWER:** A program of co-composting sewage sludge pursuant to Policy 40.2.1, allows recycling of this material and decreased reliance on other forms of disposal
- **SOLID WASTE:** Through Policies 40.1.1 to 40.2.6 the County has created a fully integrated solid waste management system in which recycling and waste reduction is the cornerstone.
- **DRAINAGE AND POTABLE WATER:** In conjunction with Policy 41.1.2, the County reviews all developments including solid waste facilities, which can adversely affect potable waters. The current recycling facility is enclosed, providing protection of potable water supplies not always achievable by other waste management techniques.

- **NATURAL GROUND WATER AQUIFER RECHARGE:** Through Policy 41.2.1, the County has established strict guidelines regulating facility types and development in recharge areas and sensitive zones.
- **INTERGOVERNMENTAL COORDINATION:** The County provides for coordination and joint planning as indicated in Section XII of the Lee Plan. Policy 17.6 specifically established coordination for services to Gasparilla Island. Interlocal agreements with Charlotte County provide for recycling and other solid waste services.
- **CAPITAL IMPROVEMENTS:** In accordance with Policies 70.1.1 through 70.1.2, the County has established strict guidelines to assure that public facilities are adequate to service the needs of existing and future development. Policy 70.1.3 (3) specifically addresses the minimum acceptance level of service for solid waste disposal facilities.

The Comprehensive Plan's Policy 40.2.5 states: "the minimum acceptable level-of-service standard for availability of solid waste disposal facilities shall be 7 pounds per capita per day." Current and projected waste generation rates are in line with this Level of Service.

5s. A description of how all special wastes will be managed.

Special waste management programs are in place for used oil, construction and demolition debris, white goods, waste tires, biomedical wastes, and batteries.

- **USED OIL:** Used motor oil is collected at household hazardous waste collection events and daily by over 30 businesses participating in the State's used oil collection program.
- **CONSTRUCTION AND DEMOLITION DEBRIS (C&D):** Forestry Resources, Inc., processes and recycles C&D debris. Other C&D debris is presently landfilled.
- **WHITE GOODS:** White goods are collected separately by franchise garbage haulers and delivered to local recyclers. White goods collected on the County's right-of-way cleanup program are also delivered to private recyclers. Under the County's franchise garbage hauling contract, haulers are now required to collect white goods from multi-family units, which has decreased illegal dumping of white goods.
- **WASTE TIRES:** The waste tires generated in Lee County are delivered to the WTE plant. Tire mulch and other products have been purchased for several schools and parks to help develop recycled tire markets in Florida.
- **BIOMEDICAL WASTE:** Lee County's used sharps program provides safe and convenient disposal of used needles from syringe-dependent residents. Red-box disposal containers are free at participating pharmacies and convenient drop-off locations for full containers are available at fire stations throughout the County. Collection and disposal of material is contracted to licensed biomedical waste haulers. Commercial generators of biohazardous waste contract independently for proper disposal.
- **BATTERIES:** Button cell batteries are collected at several pharmacies and electronics stores for recycling. Residents place waste household (dry cell) batteries in bags and place them at the curb on their recycling day. Batteries collected are recycled or disposed of by a hazardous waste contractor. Commercial generators contract independently for proper disposal. These generators were surveyed before the WTE plant came on line; they and other mercury generators--hospitals, HVAC contractors, etc.--all had contracts for this service.

5t. A description of the progress made toward developing a composting program for organic materials such as yard waste, food waste, and paper waste that would otherwise be disposed of in a landfill.

All residential yard waste is currently collected separated from garbage and is processed into mulch or compost. Commercial land clearing debris is also ground into mulch. The resulting product is distributed to five sites throughout the County for residents' use. The County Parks Department also uses this mulch for their landscaping projects. Over 81,000 tons of horticultural material were recycled this year.

Lee County schools are conducting a pilot composting program. Broken pallets are made into composting bins by the vo-tech classes, then cafeteria food waste and paper hand-towel waste is composted. No numbers are available, but so far the program is successfully reducing waste and producing compost.

5u. A description of the procurement policies and activities by county and city governments who will be utilizing the Recycling and Education grant monies.

The Lee County Administrative Code for recycled content procurement was adopted in 1991 and amended in 1997 (Appendix B). The policy states that 75% of paper products purchased by County offices must contain recycled content, and that janitorial paper products must have at least 50% recycled content. All printed materials are to indicate that they are printed on recycled paper. The policy requires purchase of recycled content when available and that bid specifications request recycled content. It also limits the purchase of non-recyclable paper products. The policy created a recycled-content paper product pool within the County for smaller Departments and Divisions to purchase from.

A list of vendors and the recycled content products they provide is circulated yearly to County departments. Recycled plastic park benches, picnic tables, car stops and lumber products are to be purchased instead of pressure-treated wood or other materials when the life cycle cost is equal, with a minimum of 50%. In 1999, Lee County government purchased over 20 tons of recycled plastic products, such as picnic tables and lumber made from the plastics collected by Lee County's residential curbside programs. In 1999 Lee County government purchased \$178,000 worth of recycled content products. What percent of all products purchased by Lee County this figure represents was not available.

APPENDIX D

**EXCERPTS FROM MARCH 2000
SOLID WASTE MANAGEMENT PLAN UPDATE**

**EXCERPTS FROM SECTION 2:
SOLID WASTE QUANTITIES AND CHARACTERISTICS**

**TABLE 2-1
PROJECTED POPULATIONS**

CALENDAR YEAR	LEE COUNTY			HENDRY COUNTY			TOTAL POPULATION OF STUDY AREA
	PERMANENT POPULATION (1)	SEASONAL POPULATION (1,2)	TOTAL POPULATION	PERMANENT POPULATION (3)	SEASONAL POPULATION (3)	TOTAL POPULATION	
1995	414,574	24,874	439,448	-	-	-	-
1996	430,257	25,815	456,072	-	-	-	-
1997	446,530	26,792	473,322	-	-	-	-
1998	463,417	27,805	491,222	-	-	-	-
1999	480,948	28,857	509,805	33,350	1,300	34,650	544,455
2000	499,150	29,949	529,099	33,842	1,241	35,083	564,182
2001	516,281	30,977	547,258	34,857	1,278	36,135	583,393
2002	533,412	32,005	565,417	35,872	1,315	37,187	602,604
2003	550,544	33,033	583,577	36,886	1,352	38,238	621,815
2004	567,675	34,061	601,736	37,901	1,389	39,290	641,026
2005	584,806	35,088	619,894	38,916	1,427	40,343	660,237
2006	601,169	36,070	637,239	39,270	1,440	40,710	677,949
2007	617,533	37,052	654,585	39,624	1,453	41,077	695,662
2008	633,896	38,034	671,930	39,978	1,466	41,444	713,373
2009	650,260	39,016	689,276	40,332	1,479	41,811	731,086
2010	666,623	39,997	706,620	40,686	1,492	42,178	748,798

Notes:

(1) Based on BEBR population projection information received from the Lee County Division of Planning. Linear progression estimated between years 2000, 2005 and 2010.

(2) Based on calculated seasonal population of 18% of permanent population, provided by Lee County Division of Planning. Seasonal population assumes an average stay of four months.

(3) Based on information received from the Hendry County Planning Consultant, LaRue Planning & Management Services, Inc. 1998 data unavailable. Linear progression estimated between the years 2000, 2005 and 2010.

TABLE 2-2
POPULATION PROJECTIONS BY AREA
(including estimated seasonal population)

COMMUNITY	ESTIMATED PERCENTAGE OF 1999 POPULATION	ESTIMATED PERCENTAGE OF 2000 POPULATION	RESULTING ESTIMATED 2000 POPULATION	ESTIMATED PERCENTAGE OF 2010 POPULATION	RESULTING ESTIMATED 2100 POPULATION
City of Fort Myers	11.3%	14.5%	76,600	14.6%	103,000
City of Cape Coral	23.2%	22.8%	120,800	26.4%	186,500
Sanibel	1.4%	2.5%	13,400	2.3%	16,300
Fort Myers Beach	1.5%	1.6%	8,300	1.3%	9,300
Bonita Springs	5.3%	5.2%	27,500	6.2%	43,800
Rest of Lee County	57.3%	53.4%	282,500	49.2%	347,800
TOTAL		100.0%	529,100	100%	706,700

TABLE 2-3
HISTORICAL LEE COUNTY SOLID WASTE STREAM
(in tons)
(Excludes Hendry County Tonnage)

FISCAL YEAR	WASTE TO ENERGY (1)	MSW LANDFILLED (2,3)	CHARLOTTE COUNTY LANDFILL	WHITE GOODS	TOTAL TIRES	RECYCLED & HORTICULTURE (5)	CONSTRUCTION & DEMOLITION (6)	MRF (7)	PRIVATE RECYCLING (8,9)	HOUSEHOLD HAZARDOUS WASTE	TOTAL WASTE GENERATED
1995	296,870	-	-	(4)	-	-	55,000	-	-	-	351,870
1996	300,695	2,131	1,846	(4)	905	31,311	34,507	23,680	126,429	204	521,708
1997	315,619	3,063	1,804	387	944	31,008	41,074	26,015	129,049	215	549,178
1998	340,706	2,142	1,824	6,542	1,527	30,822	42,124	26,502	176,335	156	628,680
1999	347,036	19,533	1,859	6,673	2,601	33,660	45,678	28,358	179,874	233	665,505

(1) Composed of mostly MSW plus small amounts of C&D, horticulture, and shredded tires.

(2) Excludes ash from the Waste-to-Energy Facility, Includes processible waste diverted from the WTE Facility.

(3) Due to an outage in FY1999, an estimated 15,000 tons of processible waste normally received at the WTE Facility was diverted to the landfill.

(4) Data for this category not available, not reported separately at that time.

(5) Only horticultural waste mulched at the landfill. Does not include Cape Coral and City of Fort Myers.

(6) C&D landfilled. Does not include C&D exported from the Country.

(7) Residue from MRF included under WTE column.

(8) Private recycling, as reported in the Joint Application for Recycling & Education Grant less ferrous recovered (included in WTE).

(9) 1999 estimated, based on a 2% increase over the previous year.

TABLE 2-4
HISTORICAL HENDRY COUNTY SOLID WASTE STREAM
(in tons, excluding recyclables)

FISCAL YEAR	WASTE TO ENERGY (1)	MSW LANDFILLED (2)	TOTAL TIRES (3)	HORTICULTURE	CONSTRUCTION & DEMOLITION	TOTAL WASTE GENERATED
1995	25,020	-	-	-	3,080	28,100
1996	26,364	163	521	1,105	7,677	35,830
1997	26,977	-	496	1,518	7,280	36,271
1998	28,120	14	491	1,665	6,343	36,633
1999	26,104	5,223	330	1,533	5,572	38,762

Notes:

(1) Includes small amounts of C&D and horticultural waste. Some tires are processed at the WTE Facility, however, quantities included under Total Tires.

(2) Due to an outage in FY1999, an estimated 5,000 tons of processible waste, normally processed by the WTE Facility was diverted to the landfill.

(3) Only includes waste from Hendry County that enters the Lee County system. Does not include recyclable materials.

15,000
+ 5,000

20,000 tons diverted from the WTE

TABLE 2-5
PROCESSIBLE SOLID WASTE PROJECTIONS
(in tons)

YEAR	LEE COUNTY	HENDRY COUNTY	TOTAL
1995	296,870	25,020	321,890
1996	301,600	26,364	327,964
1997	316,563	26,977	343,540
1998	342,233	28,120	370,353
1999	364,637	31,104	395,741
2000	380,400	31,700	412,100
2001	393,500	32,300	425,800
2002	406,600	32,900	439,500
2003	419,600	33,600	453,200
2004	432,700	34,300	467,000
2005	445,700	35,000	480,700
2006	458,200	35,700	493,900
2007	470,700	36,400	507,100
2008	483,200	37,100	520,300
2009	495,600	37,800	533,400
2010	508,100	38,600	546,700

TABLE 2-6
C&D WASTE PROJECTIONS
(in tons)

YEAR	LEE COUNTY	HENDRY COUNTY	TOTAL
1995	55,000	3,080	58,080
1996	34,507	7,677	42,184
1997	41,074	7,280	48,354
1998	42,124	6,343	48,467
1999	45,678	5,572	51,250
2000	49,246	5,683	54,929
2001	50,936	5,797	56,733
2002	52,626	5,913	58,539
2003	54,316	6,031	60,348
2004	56,007	6,152	62,158
2005	57,697	6,275	63,972
2006	59,311	6,400	65,712
2007	60,925	6,528	67,454
2008	62,540	6,659	69,199
2009	64,154	6,792	70,947
2010	65,769	6,928	72,697

TABLE 2-7
HORTICULTURAL WASTE PROJECTIONS
(in tons)

YEAR	LEE COUNTY	HENDRY COUNTY	TOTAL
1997	31,008	-	31,008
1998	30,822	-	30,822
1999	33,660	1,533	35,193
2000	33,997	1,564	35,560
2001	34,337	1,595	35,931
2002	34,680	1,627	36,307
2003	35,027	1,659	36,686
2004	35,377	1,693	37,070
2005	35,731	1,726	37,457
2006	36,088	1,761	37,849
2007	36,449	1,796	38,245
2008	36,813	1,832	38,646
2009	37,182	1,869	39,050
2010	37,553	1,906	39,459

TABLE 2-8
RESIDENTIAL MRF RECYCLABLES
PROJECTIONS
(tons)

YEAR	QUANTITY
1995	-
1996	23,680
1997	26,015
1998	26,502
1999	28,358
2000	30,899
2001	31,960
2002	33,020
2003	34,081
2004	35,141
2005	36,202
2006	37,215
2007	38,228
2008	39,241
2009	40,254
2010	41,267

**TABLE 2-9
COMMERCIAL RECYCLABLES
PROJECTIONS
(tons)**

YEAR	QUANTITY*
1995	-
1996	126,429
1997	129,049
1998	176,335
1999	179,874
2000	188,868
2001	198,311
2002	208,227
2003	218,638
2004	229,570
2005	241,048
2006	253,101
2007	265,756
2008	279,044
2009	292,996
2010	307,646

** Increased 5% per year after 1999.*

TABLE 2-10
WHITE GOODS PROJECTIONS
(tons)

YEAR	QUANTITY*
1995	(4)
1996	-
1997	387
1998	6,542
1999	6,673
2000	6,806
2001	6,943
2002	7,081
2003	7,223
2004	7,368
2005	7,515
2006	7,665
2007	7,818
2008	7,975
2009	8,134
2010	8,297

**Increased 2% per year after 1999.*

TABLE 2-11
HOUSEHOLD HAZARDOUS WASTE
PROJECTIONS
(in tons)

YEAR	QUANTITY*
1995	-
1996	204
1997	215
1998	156
1999	233
2000	242
2001	252
2002	262
2003	273
2004	283
2005	295
2006	307
2007	319
2008	332
2009	345
2010	359

** Increases at 4% per year after 1999.*

**EXCERPTS FROM SECTION 4:
ALTERNATIVES REVIEW AND ECONOMIC ANALYSIS**

4.1 EXPANSION OF PROCESSIBLE WASTE DISPOSAL CAPACITY

In accordance with the processible waste projections, as shown on Table 2-5, the County's existing waste-to-energy facility will reach its designed capacity during the year 2000. The difference between the available capacity and the estimated required capacity is the shortfall in capacity which the County must address since the facility will continue to process waste up to its available capacity through the planning period. As illustrated by Table 3-1 the shortfall is projected to increase from approximately 27,900 tpy in the year 2000 to 172,200 tpy by the year 2010. This translates to a shortfall ranging from 76 tpd to about 472 tpd. Several alternatives have been developed to address this shortfall in processible waste capacity.

4.1.1 Expansion of the Existing Waste to Energy Facility

The existing waste-to-energy facility was designed to be capable of processing a total of 1,200 tpd of waste, but prior to pursuing an aggressive recycling program, the County had intended for the facility to have a capacity of 1,800 tpd. As previously stated, there will be an anticipated ~~shortfall in required~~ processing capacity beginning in the year 2000, as shown on Table 3-1 in Section 3.3, which will need to be met. Malcolm Pirnie investigated the expansion of the waste-to-energy facility by installing an additional 600 tpd unit along with its associated equipment, increasing the total facility capacity to 1,800 tpd in accordance with the original development plan for the facility. In addition, a second option of increasing the Facility's capacity to 1,950 tpd by installing an additional 750 tpd unit was also examined. Malcolm Pirnie believes that sufficient space is available to accommodate either unit size.

4.1.1.1 Economic Analysis

Malcolm Pirnie performed a review of the existing equipment design and condition to determine the various portions of the existing equipment which would require expansion, refurbishment or a new installation under each scenario. Equipment vendors were contacted to determine current pricing for various components of the

expanded facility and pricing of other components was determined by using the drawdown schedule and the original Facility Price (\$126,933,174; November 1992 dollars) from the Construction Agreement between Lee County and OMSL.

The following assumptions have been utilized in this analysis:

- Construction costs are based upon a qualified vendor completing the expansion.
- The estimated construction costs, excluding bonding, insurance or financing are:

600 tpd expansion	\$65,000,000
750 tpd expansion	\$78,000,000
- Energy revenues from the sale of electricity to the County at \$0.026 per kwh in the year 2000.
- Revenues from ferrous and non-ferrous materials similar to current per ton revenues.
- Incremental O&M costs for additional capacity assumed to be \$20.07. (Current O&M is approximately \$23.40/ton.)
- Incremental pass-through and ash hauling costs would be similar to costs currently encumbered.
- Levelized annual debt service costs over a 20-year bond period, and 6 percent interest rate for a 600 tpd unit.

Based upon these assumptions, and keeping in mind that per ton annual debt service costs would be dependent upon the capacity utilization of the third unit, with lower per ton costs anticipated as the unit is more utilized, costs would range from about \$74 per ton in 2004 to about \$41 per ton in 2010, all in FY 2000 dollars, as shown in the base case projections in Appendix B. These costs could be reduced if the entire construction cost need not be financed, or if the revenues brought to the County through its new power purchase agreement with Seminole Electric Cooperative, Inc. are considerably higher than what was assumed in this analysis.

4.1.1.2 Schedule

Malcolm Pirnie performed a preliminary analysis of the work effort associated with the expansion of the Lee County waste-to-energy facility from the existing 1,200 tpd to 1,800 tpd or 1,950 tpd. Based upon previous experience with procurement projects, the permitting process is usually the limiting timing factor prior to actual construction.

According to the Florida Department of Environmental Protection, the two permits which would require the longest lead of time for preparation and approval would be the Air Permit (including the PSD permit) and the Power Plant Siting Certification Modification (PPSC). These permits may be worked on in parallel however, and since this modification would involve the expansion of an existing facility, a full siting process would not be required. It is estimated that a total of 16.5 months would be required for permit preparation to approval. During this time frame, procurement documents would be prepared, vendors would prepare their proposals, and vendor selection and negotiations would be completed. Financing of the facility could also occur in conjunction with the permitting process. An additional 3 months may be required for a 1,950 tpd facility, since the original permitting effort was undertaken when the facility was sized at 1,800 tpd prior to its downsizing to 1,200 tpd.

Once a contract is awarded, it would take approximately 24 months to complete construction and pass acceptance testing. Therefore, the entire process could be expected to take 3.5 to 4 years, including contingencies.

Malcolm Pirnie also analyzed the available waste processing capacity and the required waste processing capacity to determine the point at which a new unit should ideally be in service. Malcolm Pirnie understands that the facility can be operated at a 70 percent capacity, but based on technical experience, it is believed that the facility should ideally be operated at a minimum of 80 to 85 percent capacity in order to maintain steady state conditions and prevent unbalanced or excessive wear and maintenance between the units. Historical facility operating time was examined for the existing 1,200 tpd facility, and facility operating time has averaged 92.57 percent. However, the timing for the installation of a third unit should also be dependent on how quickly the ideal capacity of

the unit is achieved, since it would not be practical to install a unit which would exceed its ideal capacity within a few years. Based upon the estimated time frame required for facility expansion, the earliest time when a new unit could be operational would be the year 2004. At that time, the facility would be utilized at about 75 percent of the operating capacity for all three units. In the year 2006, the facility would be operating at almost 80 percent of its guaranteed capacity which would be a more preferable utilization. If waste is generated at a rate higher than shown by the projections, however, the third unit would need to be on-line at an earlier date. Should the County decide to expand the facility, Malcolm Pirnie analyzed the time required for the entire Facility to be off-line to complete various construction work related to expansion, for such things as piping and electrical tie-ins. At this time, Malcolm Pirnie believes that one full facility outage, with a maximum duration of two weeks, would be required for various system interconnections related to Facility expansion. In addition, a need for an additional shorter outage would probably be required for testing and other miscellaneous reasons.

4.1.2 Export of Processible Waste

As an alternative to expansion of the Facility, the County could enter into an agreement for the export of its excess processible waste. This agreement could be competitively procured as a contract with a disposal facility operator. In surveying disposal facilities in neighboring communities, it appears that most other County or municipally-owned sites have a policy against accepting out-of-county waste, therefore this alternative focuses on the export of excess processible waste to a privately-operated disposal facility. The Okeechobee Landfill has been identified as the most likely potential competing disposal facility due to its relative proximity to the County, and its relatively low tips fees.

As mentioned in the previous section, the shortfall in processible waste disposal capacity which would need to be met by this alternative ranges from about 28,000 tpy in 2000 to 172,200 by the year 2010. The current spot market disposal fee at the Okeechobee Landfill is reported to be \$32.80 per ton. If the County enters into a disposal contract with the operator of the landfill, however, this disposal fee can be significantly

reduced. For the purposes of this analysis, a negotiated disposal fee of \$25 per ton has been assumed.

The exportation of waste from Lee and/or Hendry County would require processible waste to be long-hauled to a designated disposal facility. Depending on the distance of the designated disposal facility, it may be more economical for the waste to be transported in transfer trailers as opposed to packer trucks. An analysis of transfer trailer haul costs versus packer haul costs indicates that transfer trailer operations would be more economical for hauling distances in excess of about 30 round-trip miles (15 miles one-way). This analysis assumes an estimated transfer station cost of \$8 per ton, transfer trailer haul cost of \$0.11 per round-trip ton-mile, and a packer truck hauling cost of \$.40 per round-trip ton-mile.

The Okeechobee Landfill is located northeast of Lee County, approximately 95 miles from the waste-to-energy facility. It is also located approximately 73 miles from the two transfer stations located in Hendry County, and 113 miles from the privately-owned transfer station on Pine Island Road. As such, under an export scenario, the long-haul of waste in transfer trailers would be preferred from an economic standpoint. The combined capacity of the existing transfer stations is approximately 250 tpd, and this level of capacity would service the County's export capacity needs through the year 2004. However, it would not be practical to deliver waste from the County to the transfer stations in Hendry. Therefore, additional transfer station capacity would need to be developed to service the projected excess capacity needs of the County through the entire planning period.

4.1.2.1 Economic Analysis

An economic assessment of costs associated with the export of waste was undertaken for comparative purposes, and taking into account the availability of existing County-owned and private facilities, new facility requirements and current operation and disposal agreements. The following assumptions have been utilized in this analysis:

- Of the current annual costs to the County for the development and operation of the two existing transfer stations in Hendry County, approximately \$13 per ton of capacity are fixed costs associated with the development and administration of the facilities, and about \$3.20 per ton of waste processed are variable costs related to the operation and maintenance of the facilities.
- Due to the closer proximity of Hendry County to the Okeechobee Landfill, it is assumed that the export of waste generated in Hendry County would take priority over the export of waste generated in Lee County.
- Since the fixed costs associated with the development of the two transfer stations in Hendry County as well as the incremental operating costs associated with the transfer of Hendry County would remain part of the County's budget regardless of the alternative selected, these costs are excluded from this analysis.
- The costs for transfer station capacity in excess of the 200 tpd available from two County owned transfer stations is estimated to be \$8 per ton. This unit cost is based on the assumption that this capacity will be secured via use of the existing private transfer station owned by Waste Management and/or development of a new transfer station to be constructed at the waste-to-energy facility site. Use of the Facility should serve to reduce development costs associated with property acquisition, permitting, truck scale operations, etc. In addition, transfer station operations at the Facility could also provide emergency back-up for the Facility.
- Hauling costs are based on a unit transfer trailer haul cost of \$0.11 per roundtrip ton-mile. Mileage is based on a distance of an average of approximately 73 miles for waste transferred from the two transfer stations in Hendry County and approximately 100 miles for waste transferred from a privately owned transfer station or new transfer station to be constructed at the Facility site.
- Disposal costs are based on the disposal of processible waste at the Okeechobee Landfill at an estimated disposal fee to the County of \$25 per ton.

Based upon these assumptions, the County's cost to export Hendry County's processible waste would be approximately \$41 per ton. The cost to export waste in excess of what Hendry County generates would be approximately \$55/ton, all in year 2000 dollars.

4.1.2.2 Schedule

Hendry County's waste should be the first to be exported since it would be most economical to do so, and the existing transfer stations are capable of handling Hendry County's waste through the planning period. Transfer station capacity for Lee County's waste, however, would be required. It is estimated that the County could develop procurement documents to provide for the exportation of waste to Okeechobee or to another landfill, within a 3 to 4 month time period for Hendry County waste.

Procurement documents could specifically request costs utilizing the existing transfer stations as well as costs for the private hauler to utilize their own transfer station. Should the County determine that it might wish to construct its own transfer station, most likely at the site of the waste-to-energy facility, it is estimated that approximately 6 to 9 months would be required for permitting and construction of such a facility.

4.1.3 Landfilling of Processible Waste at the Regional Landfill

The Regional Landfill located in neighboring Hendry County was developed for the disposal of ash, C&D, and by-passed waste from the waste-to-energy facility. Although the first cell of the landfill has been developed for ash disposal, to date it has not been utilized. On June 23, 1993, prior to development of the first cell, the County entered into an agreement with A. Duda & Sons, Inc., Cooperative Producers, Inc., and Turner Foods Corporation, whose properties lie adjacent to the landfill site. This agreement presents limited options for the future use of this landfill. In almost all situations under this agreement, Lee County must gain approvals of each of the parties to the agreement prior to changing the agreed upon alternative uses of the Regional Landfill.

The Duda Agreement specifically prohibits the use of the Regional Landfill as a long-term disposal option. Section E of the Agreement requires the County to look everywhere but the Regional Landfill for its solid waste management needs over time. However, the landfill may be used as an interim measure during the construction of waste management facilities elsewhere. Permissible uses of the Regional Landfill for solid waste disposal for a limited period of time during maintenance activities of the waste-to-energy facility or at other facilities used by Lee County are described within the Agreement. Solid waste disposal is also acceptable during certain narrowly defined “emergency” situations. In addition, Lee County may use the Regional Landfill for solid waste disposal when “...the volume of such waste exceed the capacity of Lee County resource recovery facility and all other available solid waste management facilities then in use by the Board.”

In summary, it would seem that the County must make a good faith effort to identify alternative available solid waste management capacity, and utilize these available alternatives, prior to being able to utilize the Regional Landfill for the long-term disposal of processible solid waste. Therefore, this alternate is not considered to be a viable long-term option for the County. The Regional Landfill may be utilized as a short-term interim disposal facility once the Gulf Coast Landfill reaches its permitted capacity, however, and until such time that the long-term plan is implemented.

4.1.4 Additional Recycling Initiatives

As stated in earlier sections of this report, the County recycles approximately 37 percent of the materials generated by County residences and commercial establishments. In 1998, the County was ranked the third highest recycling county in the State of Florida. The County estimates that about 69 percent of the permanent single-family residents regularly recycle, and within the commercial sector, about 35 percent of businesses recycle some portion of their waste stream. Both residential and commercial recycling programs are voluntary in nature, and it is the County’s desire to maintain these programs on a voluntary basis.

Given the high percentage participation in the County's programs, at this time it would appear to be unrealistic to count on meeting the County's shortfall in processing capability through additional recycling initiatives. Those materials which are highly recyclable, such as steel cans, ferrous and non-ferrous metals are currently recycled at rates exceeding 80 percent. The County implemented a non-ferrous recovery system at the waste-to-energy facility which is anticipated to boost recovery of this material, but even if all non-ferrous materials were recovered, this would amount to only about 1,500 additional tons of material recovered on an annual basis. Given that recycling rates, particularly in the commercial sector are tied to market conditions, and rates for recyclable materials can vary from year to year, it is unlikely to realistically be able to depend on increased recycling to meet the needs of the processible waste shortfall.

Nevertheless, based upon an analysis of recyclable materials in the waste stream undertaken in 1997, considerable quantities of certain recyclable materials remain in the waste stream, particularly from commercial establishments.

While the County estimates that approximately 94 percent of corrugated cardboard generated in the County is currently recycled, only 29 percent of office paper, and approximately 15 percent of other paper is currently recycled. By boosting these levels to 50% of office paper, and 30% of other paper recycled, and additional 5,900 tons of material would be diverted from the waste-to-energy facility in the year 2000 and an estimated 8,800 tons in the year 2010. These reductions in processible waste would not be sufficient to meet the County's needs in the future. However, such recycling programs should be implemented to reduce the amount of waste disposed, and to delay the need for additional disposal capacity. Therefore this alternative is not considered further, in terms of meeting the County's needs for processible waste disposal capacity.

4.1.5 Conclusions

In summary, the County has two viable options for handling its processible waste quantities over the long-term, if the Cities continue to participate in the regional system developed by the County. Expansion of the existing waste-to-energy facility would have the advantage of the County being able to process its own waste in an environmentally

sound manner. The County, however would need to obtain long-term (10-year), firm commitments from the Cities, so that the proper timing and sizing of the facility would be taken into account.

Long-term exportation of waste, on the other hand, would be less dependent on timing or waste flow issues, but the County would be subject to outside factors such as unanticipated landfill closures, increased tipping fees, increased hauling costs, or other influences which are beyond the County's control. Long-term exportation of waste would also require the construction of a transfer station, at the waste-to-energy facility site. It is estimated that construction of a transfer facility would have a capital cost amortized over a 20-year period of approximately \$3 to \$5/ton. Operation and maintenance costs would add about \$2 to \$5/ton.

APPENDIX E

**RESPONSE TO COMMENTS TO THE PRELIMINARY DRAFT
MATERIALS SEPARATION PLAN**

The following is in response to the October 26, 2001 letter provided as Attachment 1 to Appendix E, regarding comments to the Preliminary Draft Materials Separation Plan:

- The comments regarding preventative maintenance and protective coatings for shingled roofs are noted. The County supports the concept of sustainable growth practices to extend roof life and reduce waste. However, shingled roof waste material is considered a construction and demolition debris type of waste material and would ultimately be handled as described in the Plan, and as such would not impact the Facility.
- The comments regarding carpet waste material recovery and re-use are noted. Components of carpet waste material (e.g., carpet padding) have not been recycled with much success. Carpet waste material recovery and re-use operations and other types of commercial recycling operations are considered to be private enterprise commercial recycling operations within the County's System as described in the Plan.

**APPENDIX E
ATTACHMENT 1**

DATE;OCTOBER 26,2001

PROPOSAL TO LEE COUNTY COMMISSIONERS AND SOLID WASTE DIVISION
RE:FIBERGLASS SHINGLE WASTE AND USED CARPET WASTE, IN CONJUNCTION WITH
P.R.A.I.R.

I have lived in Lee county for 10 years.I pressure clean roofs and homes for a living.Fiberglass shingle roofs get dirty and moldy like most things,and most people replace a dirty roof at a great expense, Far before the warranty has accrued,creating needless waste for the county.My experience has shown me an opportunity for a tremendously profitable business,with an ancillary benefit to the county.

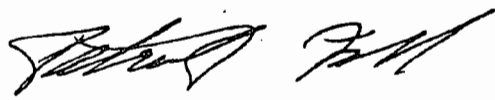
- 1.Bleach and pressure clean the roof.
- 2.Spray/Seal the roof which will protect it for 5 years.At that point do it again.The cost for this is 15-20% of the cost of a new roof.
- 3.The 80-85% saved put into a savings account accrues interest in the 5 years in the bank,and offsets and pays for the cleaning and sealing,thereby costing nothing for the consumer,and creating no waste for the county.

I have done this and know that I am right.A large building owner like Benson's who owns large apartment/condo buildings,could save a fortune with this program,and could be approached with this opportunity.

Regarding used carpet,it typically is hauled away from the backs of carpet stores,with them paying for its removal.Why cant Lee co.get the money to remove it,or adopt an ordinance to have carpet installers take it to the waste facility at the end of a work day.There it can be bleached and pressure cleaned,vacuumed with an industrial vacuum and be ready for fabrication.The carpet then can be cut,stenciled and used as decorated doormats,and sold at a profit.

If interested in more details please contact:

PATRICK FARRELL
15821 COUNTRY CT.
FT.MYERS,FL.33912
437-6564



CC:JOHN ALBION, RAY JUDAH, DOUGLAS ST.CERNY, BOB JANES, ANDY COY,
LEE CO.SOLID WASTE DIVISION