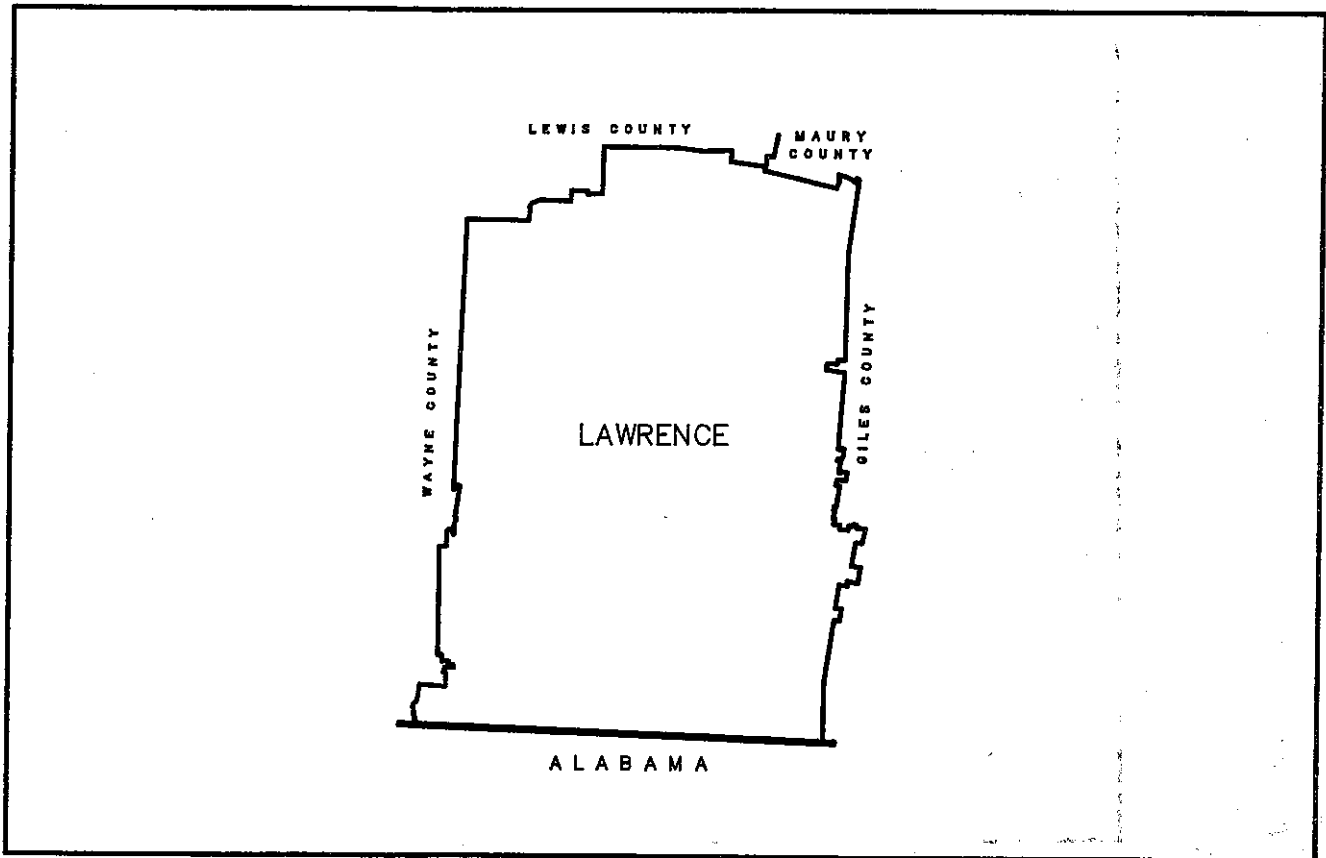


# LAWRENCE COUNTY

## SOLID WASTE MANAGEMENT PLAN



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**1994 - 2003 Solid Waste Management Plan**

**Lawrence County Tennessee Region**

We the undersigned, as members of the Lawrence County Tennessee Solid Waste Planning Board approved and adopted this document as the 1994 - 2003 Solid Waste Management Plan for the Lawrence County Tennessee Region. This document was approved by a majority vote of the board which was conducted on 7/11/94.

Respectfully Submitted,

Jerry Henson, Chairman Jerry Henson

Wayne Richardson, Secretary Wayne Richardson

Jerry Gray (ABSENT)

Bryson Keeter Bryson Keeter

Roy Powell Roy Powell

# **Lawrence County Tennessee Solid Waste Plan**

## **Preamble**

This plan is the culmination of many hours of hard work by the Lawrence County Tennessee Solid Waste Planning Board. Through the planning process, the Board reviewed in detail many options and heard detailed analyses of many issues concerning solid waste management. Not all of these options and issues were incorporated into the plan.

It is the feeling of the Board that, for the plan to be useful as a long-range planning tool, it must include analyses of not only the options chosen but also of those options which were not chosen. The purpose behind this being to allow future Board members and decision-makers clear access to all of the information which was utilized to make these decisions. This will also allow future decision-makers the ability to review the assumptions made in not choosing those options and to verify in the future that those assumptions were correct.

# Central Tennessee Regional Solid Waste Plan

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## **Executive Summary**

### **Definition of the Region and Rationale for Formation**

The Lawrence County Solid Waste Planning Region is a single county region covering Lawrence County, Tennessee. The municipalities within the county which have populations greater than 1,000 are Lawrenceburg (pop. 10,412) and Loretto (pop. 1,515). It should be noted that the City of Lawrenceburg has contested this population figure as being too low. Other incorporated towns within the county include Ethridge (pop. 565), Iron City (pop. 402), and St. Joseph (pop. 789). According to the 1990 census, the county had a population of 35,303 and an area of 617 square miles. The county stretches about 32 miles north to south and 21 miles east to west.

Lawrence County remained a single county region after being approached by Hickman, Lewis, and Perry Counties prior to the resolution due to internal political decisions. During the planning process, those decisions were revised and the Solid Waste Planning Board working with the County Executive unsuccessfully attempted to open a dialogue with several neighboring counties. As a result, Lawrence County has remained a single county.

### **Summary of Regional Needs**

- The existing county recycling/diversion program needs little modification to meet the 25% reduction requirement
- Lawrence County needs a minimum level of service waste collection program to come into compliance with the Solid Waste Act of 1991
- Lawrence County needs additional landfill volume to guarantee 10 years of volume

### **Statement of Regional Goals and Objectives**

Lawrence County intends to comply with all requirements of the Solid Waste Act of 1991 in a manner which is economical, environmentally sensitive, and in the best interests of Lawrence County in the long-term.

In order to meet this goal, the county will look into a long-term solution for disposal, create a workable collection program which fits the needs of the citizens of the county, expand the existing recycling program, and work with the schools and industries of the

county to provide a team approach to educating the county about solid waste issues and reduce waste at the source as much as is practical.

### **List of System Elements**

In order to meet the requirements of "The Solid Waste Management Act of 1991" Lawrence County needs to implement or upgrade the following components to provide an integrated solid waste management system to meet its solid waste demands in the next ten years:

#### **Waste Reduction (Chapter IV)**

Lawrence County must reduce or divert 6,584 tons beginning in 1995 being disposed of at the landfill by utilization of the Class III/IV landfill, continuing the current recycling program, implementing educational programs at all county schools, providing white goods and scrap metal collection and through industrial source reduction.

#### **Collection and Transportation (Chapter V)**

The Lawrenceburg - Lawrence County Solid Waste System will provide curbside collection to all households within Lawrence County. This will be done through a series of private contracts.

#### **Recycling (Chapter VI)**

The Lawrenceburg - Lawrence County Solid Waste System will continue the existing "blue-bag" collection program and in addition will increase the school recycling collection program to include all of the schools in Lawrence County.

#### **Disposal (Chapter VIII)**

Lawrence County's current landfill has approximately 6 years of capacity remaining. Lawrence County will continue to dispose of solid waste in its current cell until October 1996. In October, 1996, the Solid Waste System will contract with an out-of-county private disposal facility for the purpose of waste disposal.

#### **Education (Chapter IX)**

Institute education programs for fifth and eleventh grade students as per curriculum

provided. Also education programs will be established for area industries, civic groups, offices and ministerial alliances.

#### Problem Waste (Chapter X)

Provide once a year collection through 1995 using the state collection program for household hazardous waste (HHW) and provide a permanent drop of site in the county in 1996.

#### Description of Coordination Between New and Existing Programs

With the exception of the collection and disposal programs, all other programs are expansions on programs which are presently in place.

The collection program using franchise zones will allow all of the existing private haulers that are presently serving the county to have an opportunity to bid on the new zones. It is the intent of this document that those haulers do not lose any business through this process and it is hoped that they might increase business while simultaneously making their operations more cost-effective. A savings which can be passed to the citizens of the county.

The disposal program will begin by utilizing the existing site to process the waste and act as a transfer station. After one year, an analysis will be made to determine if it would be more cost-effective to direct haul the waste to the landfill.

#### Implementation Schedule

<u>Activity</u>	<u>Date</u>
Solid Waste Plan Submitted	June 1994
LLCSWS Begins Operation of Class III/IV Landfill	Summer 1994
Begin White Good/Scrap Metal Collection	Summer 1994
Solid Waste Plan Approved	October 1994
Designate Diversion Manager, Recycling Manager, and Problem Waste Manager	October 1994
Begin School Recycling and Education Program	August 1995



LLCSWS Implement County-wide Curbside Waste Collection

Fall 1995

All Planned Programs Associated With  
Diversion and Collection Operating at 100%

December 1995

25% Diversion Goal Met

January 1, 1996

**Proposed Allocation of Responsibilities**

After implementation of the plan, the Lawrenceburg - Lawrence County Solid Waste System will be responsible for all aspects of the solid waste program.

**Estimated 10-Year System Costs**

**LAWRENCEBURG - LAWRENCE COUNTY SOLID WASTE SYSTEM**

**COST ESTIMATE FOR INTEGRATED SOLID WASTE MANAGEMENT SYSTEM**

	1994	1995	1996	1997	1998	1999	2000	2001	2002	2003
Waste Reduction	0 <sup>1</sup>	50,793	52,972	55,259	57,662	62,204	64,853	67,634	70,553	73,619
Collection <sup>4</sup>	0 <sup>2</sup>	50,000	171,329	179,895	188,890	198,334	208,251	218,663	229,597	241,076
Recycling	224,651	237,269	260,571	273,844	287,514	303,510	318,024	332,974	348,398	364,453
Disposal/Transportation <sup>4</sup>	453,391 <sup>3</sup>	464,726 <sup>3</sup>	476,344 <sup>3</sup>	771,209	816,837	865,331	916,648	970,714	1,028,232	1,086,434
Education	0	2,800	2,940	3,087	3,241	3,403	3,574	3,752	3,940	4,137
Problem Waste	0	2,000	2,000	10,000	10,000	15,000	15,000	15,000	20,000	20,000
<b>Total</b>	<b>678,042</b>	<b>807,588</b>	<b>966,156</b>	<b>1,293,294</b>	<b>1,364,144</b>	<b>1,447,782</b>	<b>1,526,350</b>	<b>1,608,737</b>	<b>1,700,720</b>	<b>1,789,719</b>

City of Lawrenceburg Cost

<sup>2</sup> Costs by Lawrenceburg, Ethridge, St. Joseph, and Loretto

<sup>3</sup> Bolefill Operation

<sup>4</sup> Paid by User Fees after 1995.

Chapter I  
Description of Municipal Solid Waste Region

## Chapter I

### A. General Description

The Lawrence County Solid Waste Planning Region is a single county region covering Lawrence County, Tennessee. The municipalities within the county which have populations greater than 1,000 are Lawrenceburg (pop. 10,412) and Loretto (pop. 1,515). It should be noted that the City of Lawrenceburg has contested this population figure as being too low. Other incorporated towns within the county include Ethridge (pop. 565), Iron City (pop. 402), and St. Joseph (pop. 789). According to the 1990 census, the county had a population of 35,303 and an area of 617 square miles. The county stretches about 32 miles north to south and 21 miles east to west.

Geographically, Lawrence County is located on the Tennessee/Alabama state line with the southwest county corner being about 34 miles east of the tri-state area of Alabama/Mississippi/Tennessee. The Buffalo River runs through the northern portion of the county and generally drains those portions of the county north of U.S. Highway 64. The area of the county south of Highway 64 drains generally south towards the Tennessee River which is located in North Alabama.

Geologically, the majority of Lawrence County falls in the Fort Payne formation. The Fort Payne formation generally consists of low permeability clays with a high chert content. In terms of solid waste disposal facilities, the primary positive aspects of Fort Payne formation are that the soil available is deep and low permeability. The primary negative aspect is the large amount of chert material in the soil which requires processing to maintain the low permeability of the surrounding soils.

For transportation, the region is well served by federal and state highways. U.S. Highway 43 enters the county from the north from Maury County and runs south connecting the towns of Ethridge, Lawrenceburg, Loretto, and St. Joseph before crossing the southern county line into Alabama. U.S. Highway 64 enters the county from Wayne County to the west and runs east through Lawrenceburg before exiting the east county line into Giles County. In Giles County, Highway 64 junctions with Interstate I-65. State Highway 98 intersects Highway 43 at Leoma (south of Lawrenceburg) and runs south through Centerpoint, Five Points, Appleton, and Bonnertown before exiting the south county line into Alabama.

For rail transportation, a CSX mainline runs from Lewis County to the north and exits the county at the Lawrence County/Wayne County/Alabama line junction. This rail line connects Ethridge, Lawrenceburg, Loretto, St. Joseph, and Iron City.

**B. Rationale for Single County Region**

The Solid Waste Management Act of 1991 strongly recommends and provides incentives for contiguous counties to work together and form regions for solid waste planning. In the course of preparing for the region, Lawrence County contacted the Hickman /Lewis /Perry /Humphreys Region; the Chester /McNairy /Hardin /Wayne Region; the Maury /Marshall Region; and the Inter-Local Solid Waste Planning Region (Giles /Lincoln /Franklin /Tulahoma). Negotiations were entered into with each region and, in each case, insufficient cause was determined for joining the region. Lawrence County has continued to work with other regions through the planning process.

**C. Institutional Structure**

The Lawrence County Solid Waste Planning Board consists of five members each appointed for a six-year term. Meetings are scheduled for the first Tuesday of each month and are held at the Lawrenceburg Municipal Building. The elected officers of the board include a chairman and a secretary/treasurer.

The first members of the Solid Waste Planning Board are listed below:

<u>Member</u>	<u>Office</u>	<u>Representing</u>
Jerry Henson	Chairman	Lawrence County
Wayne Richardson	Secretary/Treas.	Lawrence County
Bryson Keeter		Ethridge
Jerry Gray		Iron City
Roy Powell		Lawrenceburg

**D. Demographics**

The regional population from the 1990 census was 35,303 persons. The population projections prepared in the Needs Assessment indicate a yearly growth of about .51 percent per year. As stated earlier, the 1990 census data had been questioned by the City of Lawrenceburg. Lawrenceburg feeling that the figures for the city population were low. However, the overall county figures and growth rate appear reasonable accurate based upon past years and surrounding counties. It should be noted that the growth rates could be dramatically impacted by the location of movement of a major industry.

Tables I-1 through I-6 give a summary of the demographics of the region:

**A. REGIONAL SUMMARY: DEMOGRAPHICS**

1. Name of Region: Lawrence County
2. Regional Population: 35,849 (1993) 35,303 (1990)
3. Regional Area 617 square miles
4. Population and Population Density

**Table I-1**

County	Area (Sq. Miles)	Population	Avg. Density Population/sq. miles
Lawrence	617	35,849	58.1
<b>Regional Total</b>	617	35,849	58.1

Comments:  
1993 data

5. Distribution of the Total Regional Population, by urban and rural areas:

**Table I-2**

County	URBAN		RURAL	
	Population	%	Population	%
Lawrence	12,003	34	23,300	66
<b>Regional Total</b>	12,003	34	23,300	66

Comments:  
1990 data from the needs assessment.

6. Distribution of the Total Regional Population by Sex and Age

**Table I-3**

Age	Total	Male	%	Female	%
0-4	2553	1313	51.4	1240	48.6
5-17	6662	3407	51.1	3255	48.9
18-44	13,565	6744	49.7	6821	50.3
45-64	7317	3484	47.6	3833	52.4
65+	5206	2001	38.4	3205	61.6
<b>Regional Total</b>	<b>35,303</b>	<b>16,949</b>	<b>48.0</b>	<b>18,354</b>	<b>52.0</b>

Comments:

1990 data from the needs assessment

7. Distribution of Regional Population by Education (Age  $\geq$  25)

**Table I-4**

	Number	%
Less than 9th Grade	6379	40.6
High School	7211	45.9
College	1473	9.5
Post Graduate/Professional	641	4.0
<b>Regional Total</b>	<b>15,704</b>	<b>100.0</b>

Comments:

1990 data from the needs assessment

8. Total Number of Households in Region 14,229 (1990)

9. Distribution by Type of Housing and Occupancy

**Table I-5**

	<b>Total Units (Persons)</b>	<b>Occupied</b>	<b>Owner</b>	<b>Rented</b>
<b>Single Family</b>				
1, Detached	28,862	28,862	23,935	4,927
1, Attached	387	387	227	160
<b>Multi-Family</b>				
2	889	889	118	771
3-4	336	336	17	319
5-9	559	559	20	539
10-19	124	124	8	116
20-49	55	55	0	55
50 or more	0	0	0	0
Institutional	302	302	0	0
Mobile Home/Trailer	3,440	3,440	2,620	820
Other	340	340	200	140
<b>Regional Total</b>	<b>35,294</b>	<b>35,294</b>	<b>27,145</b>	<b>7,847</b>

**Comments:**

1990 data from the needs assessment



10. Regional Population Projections 1994-2003

Table I-6

Regional Population 1993: 35,849

Projection Year

County	1994	1995	1996	1997	1998	1999	2000	2001	2002	2003
Lawrence	36,032	36,217	36,402	36,588	36,775	36,963	37,150	37,274	37,464	37,655
<b>Regional Total</b>	36,032	36,217	36,402	36,588	36,775	36,963	37,150	37,274	37,464	37,655

Comments:

1994-2001 from needs assessment

2002-2003 extrapolated @ .51% growth

## E. Economic Activity

Economic activity has a direct relationship with population and waste generation. As the economy grows, so will population and waste generation. The type of economic growth does have a bearing on waste generation. An example being that a new industry will probably create more waste per capita than a new service organization. Economic growth has been steady in Lawrence County for the past few years but is very difficult to forecast over the next ten years.

The largest single waste generator in the region is Graphics Packaging, Inc. (GPI) which is located in the Lawrenceburg Industrial Park. The primary client of this industry is the Coors Company and therefore this industry may be referred to as "Coors" in some places in this report. This single industry accounts for about 30% of the waste generation for the county. Economic impacts which strongly impact this industry will therefore have immediate and major impacts on the waste generation of the county.

Tables I-7 through I-14 provide a summary of the economic activity of Lawrence County

Table I-7

County	Population	MSA County (yes/no)	Total Employment	Total Earnings	Per Capita Income	% Population Below the Poverty Line
Lawrence	35,485	no	16,534	431,518,000	12,221	15.3
<b>Regional Total</b>	35,485		16,534	431,518,000	12,221	15.3

**Comments:**

Information from needs assessment

Non-Agricultural Employment, by Sector, 14,562

**Table I-8**

**% of Total Employment**

County	Manufacturing	Construction	Trade	Finance	Service	Gov't	Transportation Pub. Utilities
Lawrence	5464	885	2767	601	2627	1646	572
<b>Regional Total</b>	5464	885	2767	601	2627	1646	572
<i>%</i>	37.5	6.1	19.0	4.1	18.0	11.3	3.9

Comments:

Information from needs assessment

3. Total Agricultural Employment in 1991 1860

**Table I-9**

**Agricultural Employees**

County	Employment
Lawrence	1860
<b>Regional Total</b>	1860

Comments and Calculations:

Information from needs assessment

4. Prepare a regional summary of major generators of commercial and non-hazardous industrial waste in 1991. Use data from Table II-2 in the County Economic Activity Profiles, in District Needs Assessment, or data collected subsequently for the regional plan. State size criteria applied in each county (i.e., all generators > 100 employees, all generators > 50 employees, etc.)

**Table I-10**

County	Screening Criteria* Applied	Number of Generators	Estimated Total Quantity of Waste
Lawrence	> 50 employees	26	9666 tons/year (1246 w/out GPI)

Comments:  
Information from needs assessment

5. Prepare a Regional summary of institutions housing more than 100 persons.

**Table I-11**

County	Total Number of Institutions	Total Number of Students - Prisoners/Residents	Estimated Quantity of Waste Generated
Lawrence	0		

Comments:  
Information from needs assessment

**Table I-12**

**Infectious Waste Management**

County	No. of Facilities	No. of Beds	OnSite/Offsite	Type Treatment	Est. Quantity of Solid Waste Generated
Lawrence	3	354	1-onsite 2-offsite	Infrared**	

\* indicates onsite medical waste disposal

\*\*Medifor-X Corporation / Dispoz-All 2000

**Comments:**

Information on beds and facilities from needs assessment

Information on InfraRed Medical Waste Disposal provided by Lawrenceburg/Lawrence County Solid Waste Management System

**Table I-13**

County	Property Tax	Local Sales Tax	Wheel Tax	Local Waste Collection Fee	User Fee/ Tipping Fee	Other*
Lawrence	6,152,765	3,994,392	650,000			1,161,892

Comments:

\*other - City of Lawrenceburg revenues \$1,136,560  
 City of Loretto revenues \$25,332

**Table I-14**

County	Total Assessed Property Value <sup>1</sup>	Total Property Tax Revenue <sup>1</sup>	Total Sales Subject to Sales Tax <sup>2</sup>	Total Local Sales Tax Revenue <sup>2</sup>	# Registered Vehicles <sup>3</sup>	Total Wheel Tax Revenue <sup>4</sup>
Lawrence	238,063,553	6,418,211	190,144,356	4,278,248	31,871	690,387
<b>Regional Total</b>	238,063,553	6,418,211	190,144,356	4,278,248	31,871	690,387

Comments:

<sup>1</sup>County Trustee

<sup>2</sup>TN Dept of Revenue

<sup>3</sup>TN Dept of Safety-Motor Vehicle Division

<sup>4</sup>County Clerk

Chapter II  
Analysis of the Current  
Solid Waste Management System  
for the Region

## Chapter II

### A. Waste Stream Characterization

The waste stream characterization for Lawrence County was revised from the national average presented in the needs assessment based upon the following assumptions:

1. The county population is about 70.5% rural. Therefore, the amount of yard waste generated will be substantially less than the 17.6% listed in the needs assessment. Yard waste number was arbitrarily set at 5% of the non-GPI waste stream based upon the generation in other similar counties.
2. Graphics Packaging, Inc. is primarily paper and paperboard waste and comprises about 30% of the county waste stream. The numbers generated from assumption #1 above were further revised based upon this fact.

The waste stream characterization assumed for this report is listed in Table II-4.

Tables II-1 through II-5 provide a summary of the waste stream characterization.

#### 1. Quantity of Solid Waste Received for Disposal/Incineration in Calendar 1991

Table II-1

County	Tons Disposed	Population (1991)	Waste Disposed Per Capita
Lawrence	28,097 <sup>1</sup>	35,485	0.79
<b>Regional Total</b>	28,097 <sup>1</sup>	35,485	0.79

#### Comments:

Information from needs assessment.

<sup>1</sup>Does not include demolition, brush or tires which go to the city's Class IV landfill.



2. Origin of Regional Solid Waste in 1991

Table II-2

County	Residential	Institutional / Commercial	Non-Hazardous Industrial	Special	Other
Lawrence	9272	7024	11,767	----	----
<b>Regional Total</b>	9272	7024	11,767	----	----

Comments:  
Information from needs assessment.

3. Acceptance of Certain Categories of Solid Waste for Disposal or Incineration

Table II-3

County/Facility	Yard Waste (Clippings-leaves-grass)		Sewage Sludge		Construction Demolition		Tires		White Goods <sup>1</sup>	
	Y/N	Qty <sup>2</sup>	Y/N	Qty <sup>2</sup>	Y/N	Qty <sup>2</sup>	Y/N	Qty <sup>2</sup>	Y/N	Qty <sup>2</sup>
Lawrence Balefill	n	?	n	?	n	?	n	?	n	?
Lawrenceburg Class IV	y	?	n	?	y	?	y	?	n	?
<b>Regional Total</b>	y	?	n	?	y	?	y	?	n	?

Comments:

<sup>1</sup> White Goods - discarded major appliances, such as refrigerators, ranges, etc. accepted at landfill but segregated for recycling.

<sup>2</sup> Insufficient information available to determine quantities.

4. Description of the Waste Stream By Materials

Table II-4

<u>Waste Category</u>	<u>National %</u>	<u>Calculated*</u> <u>Regional Percentage</u>	
		w/ GPI	w/out GPI
Paper & paperboard	40.0	62	45
Glass	7.0	6	8
Ferrous Metals	6.5	6	8
Aluminum	1.4	1	2
Other Non-Ferrous Metals	0.6	1	1
Plastics	8.0	7	9
Rubber & Leather	2.5	2	3
Textiles	2.1	1	3
Wood	3.6	2	4
Food Waste	7.4	7	9
Yard Waste	17.6	3	5
Misc. Inorganic Waste	1.5	1	1
Other	<u>1.7</u>	1	2
TOTAL MUNICIPAL SOLID WASTE		100.0	

\* Numbers estimated from knowledge of area



5. Unmanaged Waste\*

Table II-5

County	Potential Waste Generation 1991 tpy	Actual Waste Disposed 1991 tpy	Unmanaged Waste 1991 (potential/actual ) tpy	Percent of Potential Total
Lawrence	38,856	28,097 <sup>1</sup>	10,759	27.69
<b>Regional Total</b>	38,856	28,097 <sup>1</sup>	10,759	27.69

Comments:

\* Waste that are "outside" the collection system such as materials in roadside dumps, litter, etc.

<sup>1</sup>Waste disposed at the balefill, no estimate available for quantity of waste disposed at the City's Class IV.

## **B. Waste Collection and Transportation**

The towns of Lawrenceburg, Loretto, and Ethridge presently operate public door-to-door collection services. The Lawrenceburg/Lawrence County Solid Waste System presently services county schools. All other collection within the county is provided by private haulers. There are no convenience centers within the county.

The Tennessee Division of Solid Waste Management Guidelines require that two criteria be met in order for door-to-door collection to meet the minimum requirements for collection service. They are as follows:

1. A minimum of 90% of the households in the county must be served;
2. All households within the service region must pay the same price.

At present, these criteria are not being met in Lawrence County.

## **C. Source Reduction and Recycling Systems**

In 1993, the Lawrenceburg/Lawrence County Solid Waste Management System constructed a materials recovery facility at the balefill site and implemented a county-wide "blue bag" recycling collection program. The System has contracted with Greentree Recycling, Inc. out of Florence, Alabama to broker the recyclable materials collected. This system began operation in August 1993. A copy of the original proposal for this system is included at the end of the chapter.

## **D. Waste Processing, Composting, and Waste-to-Energy/Incineration Systems**

Waste Processing:

The materials recovery facility referenced in Section C. consists of the following:

1. A tipping floor at the baler building to separated the color-coded bags
2. A second tipping floor in the MRF to open the bags
3. A conveyor/hand sorting system with picking stations
4. A vertical baler
5. A glass crusher
6. A gaylord box storage/shipping system
7. A loading dock
8. 70' x 100' prefabricated metal building

This facility is manned by four part-time personnel and a supervisor is shared between this facility and the balefill facility. The facility was constructed for a contract price of \$126,547.00 in 1993. A preliminary sketch plan of the facility is included at the end of the chapter.

### Composting:

No large-scale composting programs have begun as yet in Lawrence County. Problems with the disposal of industrial sawdust and sewage sludge have prompted the City of Lawrenceburg to explore a potential composting program for these two items. *Ecology Systems and Design, Inc.* out of McMinnville, Tennessee has given Lawrenceburg two proposals for composting systems:

1. Composting Proposal #1

System to include:

Sludge Hopper  
Bulk (Sawdust) Hopper  
Mixing Conveyor  
Discharge Conveyor

System Capital Cost: \$55,652.00

2. Composting Proposal #2

System to include:

Knuckle Boom Loader  
Shredder  
Magnetic Conveyor  
High Speed Grinder  
Bulk Feed Hopper  
Discharge Conveyor

System Capital Cost: \$313,920.00

Lawrenceburg is presently waiting for the results of this study before proceeding with implementation. These proposals are included at the end of this chapter.

Waste-to-Energy/Incineration:

In 1993, a proposal was made to the City of Lawrenceburg for implementing a TIGR system waste-to-energy facility for the city. The proposal was reviewed and several of the assumptions made in its preparation were questioned. The two primary concerns were an assumption for revenues from sale of electricity which did not match the TVA avoided cost rates and the assumption that sale of electricity would be possible directly from the facility to area industries without any demand or standby charges from TVA. Based upon these questions, the proposal was returned and no follow-up was given.

Tables II-6 through II-11 give a synopsis of existing and proposed facilities in Lawrence County.

Table II-6

6. Operating and Planned Composting Facilities in the Region

Existing:

County	Facility Location	Tons of Waste Processed/Yr	Composted Materials		
			Yard Waste	Sewage Sludge	Solid Waste
Lawrence	none				

Planned:

County	Facility Location	Tons of Waste Processed/Yr	Composted Materials		
			Yard Waste	Sewage Sludge	Solid Waste
Lawrence	none				

7. Municipal Solid Waste Incinerators or Waste-to-Energy Facilities in the Region

Table II-7

Operating Facilities:

County	Facility Location	Design Capacity tons/year	Current Use tons/year	Anticipated Operating Life of Facility
Lawrence	none			

Planned Facilities: *Will be evaluated as part of 10 year plan*

County	Facility Location	Design Capacity tons/year	Current Use tons/year	Anticipated Operating Life of Facility
Lawrence	none		NA	

8. Existing Municipal Solid Waste Landfills in the Region

Table II-8

County	Name of Landfill	Location	Permitted Capacity (years)	Current Rate of Waste Accepted (tons/day)	Remaining Capacity (tons)
Lawrence	Lawrenceburg/ Lawrence County	2126 Baler Drive Lawrenceburg	5 years	86.0	7.65 acres 3-5 years
Lawrenceburg Class IV	Lawrenceburg Balefill	2 miles sw of Lawrenceburg on Big Springs Rd	25 years	unknown - estimate 10- 15 yd/day	unknown estimate 100,000+ yd <sup>3</sup>
<b>Regional Total</b>				86.0+	

Comments:

Information from Solid Waste Director and operating plans for the landfill.

9. Existing Landfills Expected to Close Before 2003

Table II-9

County	Location	Current Use Tons/Day	Current Annual Use (Tons/Year)	Anticipated Date of Closure
Lawrence	2126 Baler Drive Lawrenceburg	86.0	27,000	1998

Comments:

Information from solid waste director.

10. Planned Expansions and Planned New Facilities Which Will Operate for Ten Years or More

Table II-10

County	Proposed Facility ExpanNew	Location	When Will Capacity be Available	Permitted Capacity Sought (acre)	Design Rate of Waste (tpd) Disposed	Potential Expansion Yes/No
Lawrence	unknown					
<b>Planned New Regional Capacity</b>	0					



11. Total Existing and Planned Capacity in the Region at the Close of the Next Ten Years

Table II-11

TONS

Year	Existing	Planned	Total
FY 1993	131,282		131,282
FY 1994	112,116		112,116
FY 1995	92,835		92,835
FY 1996	73,438		73,438
FY 1997	53,924		53,924
FY 1998	34,292		34,292
FY 1999	14,540		14,540
FY 2000	<5,331>		<5,331>
FY 2001			
FY 2002			
FY 2003			

\* Capacity estimate as of Spring 1993 includes existing 5 acre footprint as well as 5 acre permitted area to be upgraded to Subtitle D (10/96)

## **E. Disposal Facilities**

There are currently two solid waste disposal facilities within the region. The only Class I facility is the Lawrenceburg/Lawrence County Solid Waste System Balefill and the City of Lawrenceburg Class III/IV landfill.

### **City of Lawrenceburg/Lawrence County (CLLC) Solid Waste System Balefill**

#### **Background:**

The CLLC balefill began operations in 1988 under permit number SNL 501-02-0221. Total permitted site acreage consists of approximately 40 acres used for sanitary operations. Under the original permit, all waste must be baled prior to placement unless the baler is not functioning. A permit modification has been requested from the Division of Solid Waste Management to allow for the direct landfilling of materials which are inappropriate for baling. The contact person for the balefill is Mr. Roy Powell at 766-0400.

#### **Waste Capacity Information:**

Scales have been in operation at this facility from its inception. It is presently estimated that about 86 tons of waste per day are being disposed of at this facility. The balefill is currently operating on a footprint which was established prior to October 9, 1993 and is expected to last into 1995 and possibly to 1996. There is an additional five± acres available in the permitted area which could be constructed as a composite-lined facility if that is deemed the best alternative.

#### **Tipping Fee:**

The CLLC balefill does not charge a tipping fee and is funded at a rate of 60% by the City of Lawrenceburg and 40% by Lawrence County.

#### **Existing Condition:**

The majority of the site is filled with a thick intermediate cover placed over it. This cover has not been compacted nor has it been placed subject to an approved closure plan or approved quality assurance controls. About 4 to 5 acres of the site is currently being utilized for the placement of bales. An additional five± acres has yet to be developed.

#### **Future Operations:**

The CLLC balefill will operate in the present cell as long as possible (through 1995). The CLLC Solid Waste System is awaiting the results of the 10-year planning process to determine if the construction of the last five acres is advisable.

## City of Lawrenceburg Class III/IV Landfill

### Background:

The City of Lawrenceburg Class III/IV Landfill began operations in 1989 under permit number DML 501-02-0024. The contact person for the landfill is City of Lawrenceburg Superintendent of Streets and Sanitation at 762-3255.

### Waste Capacity Information:

The design plan estimates a disposal volume of 125,000 cubic yards and assumes an average waste generation rate of 10 to 15 cubic yards per day, five days per week. From this it is estimated that the site has about 20 more years of operational life.

### Tipping Fee:

There is no tipping fee. All fees are covered by the City of Lawrenceburg.

**F. Costs of the Current System**

Expenditures FY 1993

	Collection	Transport	Disposal	Recycling	Total
Lawrence County					
Lawrenceburg					
Loretto	69,100			\$0.17/bag	69,100
Ethridge	14,000			\$0.17/bag	14,000
<b>TOTAL</b>					

Revenues FY 1993

	Collection	General Fund	Grants	Recycling	Total
Lawrence County					
Lawrenceburg					
Loretto	4,300±	64,800±			69,100
Ethridge	5,000	9,000			14,000
<b>TOTAL</b>					

LEWIS COUNTY

MAURY COUNTY

LAWRENCE

ALABAMA

20

SUMMERTOWN

HENRYVILLE

240

CENTER

241

242

43

BONNERTOWN



GRAPHIC SCALE

**REGIONAL BASE MAP**  
**LAWRENCE COUNTY SOLID WASTE**  
**PLANNING REGION**

**Draper Aden Associates**  
**CONSULTING ENGINEERS**



Blackburg, Va. - Richmond, Va. - Nashville, Tenn.

Chapter III  
Growth Trends, Waste Projection,  
and Preliminary System Structure

**A. & B. Items A and B are covered within the following tables:**

**CHAPTER III: FORMS**

1. Complete the following Table, summarizing calculations of annual per capita solid waste generation rates, for each county in the region.

**Table III-1\***

County	Total Waste Disposed in FY 1993	Projected Population 1993	Annual Per Capita Generation Tons/Persons/Year
Lawrence	28,385	35,849	0.79
<b>Total</b>	28,385	35,849	0.79

\* Aggregate from Items 2, 3 and 4 in Chapter IV.A of the District Needs Assessment County Profiles

2. Summarize the projected quantity of solid waste requiring disposal (generation) in the region in each projected year, adjusted for population changes.

**Table III-2\***

**Quantity of Solid Waste Requiring Disposal (tons)**

County	1994	1995	1996	1997	1998	1999	2000	2001	2002	2003
Lawrence	28,530	28,676	28,823	28,970	29,118	29,267	29,415	29,513	29,597	29,748
<b>Total</b>	28,530	28,675	28,823	28,970	29,118	29,267	29,415	29,513	29,597	29,748

\* Aggregate from Tables IV-1 in District Needs Assessment County Profiles, as extended.

3. Summarize the projected quantity of solid waste requiring disposal in the region for each projection year, adjusted for population growth and economic growth.

**Table III-3\***

**Quantity of Solid Waste Requiring Disposal (in tons)  
Adjusted for Population and Economic Growth**

County	1994	1995	1996	1997	1998	1999	2000	2001	2002	2003
Lawrence	29,140	29,313	29,487	29,664	29,842	30,022	30,204	30,388	30,572	30,707
<b>Total</b>	29,140	29,313	29,487	29,664	29,842	30,022	30,204	30,388	30,572	30,707

\* Aggregate from Table IV-3 in District Needs Assessment County Profiles, as extended.

4. Summarize the projected quantities of solid waste requiring disposal (=generation) for each projection year, adjusted for population growth, economic growth, and source reduction, recycling and industrial process change.

**Table III-4\***

**Quantity of Waste Requiring Disposal (in tons) Adjusted for Population Changes,  
Economic Growth, and Waste Reduction and Recycling**

County	1994	1995	1996	1997	1998	1999	2000	2001	2002	2003
Lawrence	18,677	18,839	19,003	19,170	19,338	19,507	19,679	19,851	20,024	20,149
<b>Total</b>	18,677	18,839	19,003	19,170	19,338	19,507	19,679	19,851	20,024	20,149

\* See Table IV-6 for Estimated Diversions.

Tables III-5 through III-7 omitted as they were not applicable.



8. Prepare a Summary Table indicating projected quantities of solid waste which will require collection and disposal in each projection year, after adjustment for all applicable factors.

Table III-8

Annual Projections of Solid Waste Requiring Disposal Adjusted  
for All Applicable Factors (in tons/year)

County	1994	1995	1996	1997	1998	1999	2000	2001	2002	2003
Lawrence	18,677	18,839	19,003	19,170	19,338	19,507	19,679	19,851	20,024	20,149
<b>Total</b>	18,677	18,839	19,003	19,170	19,338	19,507	19,679	19,851	20,024	20,149

### C. Preliminary System Design

**Primary Handling Method** Three options were reviewed as a portion of this program:

Waste-to-Energy  
MSW Composting  
Landfilling

The Waste-to-Energy option is based upon a study performed by Draper Aden Associates which included Lawrence County as a watershed for a waste-to-energy facility to be located at the Colbert TVA Power Plant in North Alabama. This system would include the ash and residuals landfill as well as a front end processor. It would handle about 100% of the waste stream

The MSW Composting option is based upon the Bedminster Process and would handle about 100% of the waste stream.

The Landfilling is looked at both the regional and single county levels and would handle about 75% of the waste stream.

**Yard Waste** A yard waste composting facility in Lawrenceburg will be studied and would handle between 1 and 5% of the waste stream.

**Class III/IV** The preliminary recommendation was for a Class III/IV landfill to handle between 5% and 10% of the waste stream.

**Collection** The preliminary recommendation was for the construction of convenience centers. The planning board requested that county-wide door-to-door be included in the study.

**Source Reduction** Variable rates will be studied to promote source reduction and recycling.

**Drop-Off** Drop-Off Recycling Collection will be studied for specific schools and industries. Recycling This will account for between 1% and 10% of the waste stream.

**Curbside** Continuation of the county-wide "blue bag" collection system. This will account Recycling for between 3% and 5% of the waste stream.

#### **D. Evaluation Criteria for the Region**

The following is a listing of the evaluation criteria for the regional solid waste plan in order of importance:

##### **1. Regulatory Compliance**

Must meet the regulatory requirements for 10 year disposal capacity and 25% reduction goals.

##### **2. Improvement**

Any new or revised system must be an improvement on the existing system.

##### **3. Environmental Impacts**

The system chosen must meet all applicable environmental regulations and must be a generally positive solution in regards to environmental impact

##### **4. Lowest System Cost per Ton**

Of the options which meet criteria 1 through 3, the lowest cost on a per ton basis will be deemed to be the most cost-effective solution. This cost per ton is a system cost and must include waste collection, transportation, diversion, and disposal.

##### **5. Realistic Evaluation**

Options must be reviewed with realistic or conservative expectations for availability or market, market price, participation rates, capture rates, etc.

##### **6. Public Acceptance**

The options and the funding mechanism must be acceptable to the individual county commissions, the individual city planning commission, and the public at large.

##### **7. Industrial Compatibility**

The system must be compatible with industry and the industrial waste stream. Present and future industries must be considered as a partner in the solid waste management process.

Chapter IV  
Waste Reduction

## Chapter IV. Waste Reduction

### A. Establish a Base Year Quantity

#### 1.& 2. 1989 Data

The following data table is compiled of information taken from "Managing Our Waste: Solid Waste Planning in Tennessee," published February, 1990 by the University of Tennessee.

County	1989 Population	1989 Total Waste Disposed (Tons)
Lawrence	35,400	25,740

#### 3. Regional Per Capita Waste Disposal Rate

County	1989 Population	1989 Total Waste Disposed (Tons)	Per Capita Waste Disposal
Lawrence	35,400	25,740	0.7271

#### 4. Adjustment to Base Year Data

None Requested

#### 5. Alternate Base Year

None Requested

## B. Target Waste Reduction Goals

### 1. Waste Reduction Goals

The following represents the waste generation in tons per capita per year which is required to meet the waste reduction goal (1989 waste generation per capita \* 0.25 \* Population = Yearly Waste Reduction Goal).

$$0.7271 \times .25 = 0.1818$$

### 2. Yearly Diversion Goals

The following are based upon the above multiplier and the population projections from Table I-6:

Year	Population	Multiplier	Diversion Goal (Tons)
1995	36,217	.1818	6,584
1996	36,402	.1818	6,618
1997	36,588	.1818	6,652
1998	36,775	.1818	6,686
1999	36,963	.1818	6,720
2000	37,150	.1818	6,754
2001	37,274	.1818	6,788
2002	37,464	.1818	6,823
2003	37,655	.1818	6,858

## **C. Methodology for Meeting Reduction Goal**

### **1. Goals and Objectives**

#### **Short Term:**

The short term recommendations for the 25% reduction are based around the continuance of the county-wide recycling program and the industrial recycling program which was begun in 1993 in Lawrence County. This program consists of three parts as follows:

#### **County-Wide Recycling Collection**

Lawrence County constructed a 7,000 square foot materials recovery facility adjacent to the baler building at the existing balefill. This facility was constructed for \$124,985 and was completed in August 1993 (see attached sketch). Color-coded bags (yellow) are being distributed county-wide through the network of public and private haulers. These bags are also being distributed at the landfill for direct users. Approximately 75,000 bags are being given out each month. Instructions are included with the bags as to what materials are being collected in Lawrence County. These recyclable materials are then being placed in the bags by the consumer and placed at the curd with the regular garbage. The bags are then separated from the remainder of the waste stream and processed in the materials recovery facility for transport. The system is presently utilizing a broker (Greentree Recycling out of Florence, Alabama). It is projected that revenues from the sale of the materials will cover the cost of transportation. The funding for the materials recovery facility was provided as 60% by the City of Lawrenceburg and 40% by Lawrence County.

It is estimated that this program will divert approximately 2,600 tons per year from Class I disposal in 1996.

#### **Graphics Packaging, Inc. Industrial Recycling**

Graphics Packaging, Incorporated is the single largest solid waste generator in Lawrence County. They manufacture a composite cardboard packaging material for Coors Beverage Company. The scraps from this process will account for approximately 8,600 tons of waste in 1996.

In 1993, Greentree Recycling found a recyclable market for these scraps and entered into negotiations to take the waste from GPI. The contract was signed in 1993 and the process began at that time. It is therefore estimated that this process will account for 8,600 tons being diverted in 1996.

### **City of Lawrenceburg Demolition Debris Landfill**

The City of Lawrenceburg currently operates a Class III/IV landfill southwest of the city limits. Although precise volume calculations cannot be made with the available information, there is little doubt that the facility will be operating after the ten-year study period.

It is estimated that this process will account for about 300 tons of waste in 1996.

### Costs and Budgets Associated with Class III/IV Landfilling

This plan calls for the operation of a Class III/IV landfill within the region. The City of Lawrenceburg is presently operating this facility. It is recommended that the CLLC Solid Waste System take over operations of the facility.

### Estimate Diversion Through Demolition Landfilling:

From *WastePlan Default Data Report*, Tellus Institute, Inc., 1989. The wood waste portion of the waste stream can be broken down further into stumps and general woodwaste. Assuming that 50% of the general wood waste is treated in some way as to make it ineligible for demolition landfilling yields the following table:



**Table IV-1**  
**Percent of Waste Stream Eligible for Demolition Landfilling**  
**Based on Total Waste Stream (with GPI)**

Waste Subcategory	Total Wood Waste % of Total Waste Stream	% Subcategory of Wood Waste	% Subcategory of Total Waste Stream
Wood Waste Ineligible For Demolition Landfill	2	8.6	0.2
Wood Waste Eligible for Demolition Landfill	2	45.7	0.9
Stumps	2	45.7	0.9
Yard Waste	3	100	3
Total Waste Eligible for Demolition Landfill			4.1

**Table IV-2**  
**1993 Annual Tonnage Available for Demolition Landfilling**  
 (Based Upon What Entered Class I Landfills in 1993)

County	Total Tonnage	% Eligible	Tonnage Eligible
Lawrence	28,385	4.1	1,164

Due to the difficulties of sorting this material from the overall waste stream, the participation rate is assumed to be relatively low at about 40% although the capture rate is 100% due to the fact that, if the material is separated, it will be acceptable. The following table yields tonnages diverted in this manner:

**Table IV-3**  
**Estimated 1993 Tonnages Diverted Through Demolition Landfilling**

County	Total Eligible Tonnage	Participation/Capture Rate	Estimated Tonnage Diverted
Lawrence	1,164	40	466

**Table VI-4**  
**Annual Diversion Estimates to Class III/IV Landfill**

Year	Diversion
1994	469
1995	472
1996	475
1997	477
1998	480
1999	483
2000	486
2001	489
2002	492
2003	495

Estimate Annual Costs For Facilities:

**Table IV-5a**  
**Capital Costs of Operating the Lawrence County Demolition Landfill**  
 Assume 1993 cost of heavy equipment at \$125,000  
 Assume Replacement Cost of Same Equipment in 1998 at \$160,000 (5% Inflation)

Item	Capital Cost	Annualized Cost
Land	0 <sup>1</sup>	0
Full-Time Equipment 1994-1998	31,250 <sup>2</sup>	7,218
Full-Time Equipment 1999-2004	40,000 <sup>2</sup>	9,239

<sup>1</sup> County has previously purchased land.

<sup>2</sup> Assume that equipment costs are shared with Road Department.

**Table IV-5b**  
**Estimated Operations and Maintenance Costs (1993)**

Item	Unit Cost	Quantity	Total
Operator/ Attendant	24,000	1	24,000
Maintenance	5,000	1	5,000
Fuel	5,000	1	5,000
Groundwater Monitoring	5,000	1	7,500
<b>Total</b>			<b>41,500</b>

**Table IV-5c**  
**Estimated Annual Costs Demolition Landfill**  
 Assumed 5% Inflation

Year	Annualized Capital	O & M	Total
1994	7,218	41,500.00	48,718.00
1995	7,218	43,575.00	50,793.00
1996	7,218	45,753.75	52,971.75
1997	7,218	48,041.44	55,259.44
1998	7,218	50,443.51	57,661.51
1999	9,239	52,965.69	62,204.69
2000	9,239	55,613.97	64,852.97
2001	9,239	58,394.67	67,633.67
2002	9,239	61,314.40	70,553.40
2003	9,239	64,380.12	73,619.12

## Long-Term:

A long-term recommendation for Lawrence County would be to explore the option of Co-composting. A co-composting plan for the county would include the following waste materials:

City of Lawrenceburg Yard Waste  
Industrial Wood Waste and Sawdust  
City of Lawrenceburg Food Wastes (primarily Grocery Stores)  
City of Lawrenceburg Sewage Sludge (Class A only)\*

- \* Note: The sewage sludge from the City of Lawrenceburg wastewater treatment plant is presently high in molybdenum. Although there is no proof of a relationship, molybdenum is utilized in the construction of bicycle frames. It is recommended that the City of Lawrenceburg open talks with the Murray Ohio plant in order to determine if that facility is the reason for the molybdenum and to determine means of reducing the amount of molybdenum in the wastewater sludge.

## 2. Quantitative Allocation of the 1995 Waste Reduction Target

A large percentage of the diversion performed in Lawrence County is due to a contract between GPI and Greentree Recycling, Inc. wherein Greentree has agreed to broker all of GPI's waste stream. The following is an estimate of the diversion per year through this source reduction:

**Table IV-6  
Total Estimated Waste Reduction by Year**

Year	GPI Source Reduction	Blue Bag Recycling	School Recycling	Demolition Landfill	Total
1994	8,740	1,160	94	469	10,463
1995	8,740	1,167	95	472	10,474
1996	8,740	1,174	95	475	10,484
1997	8,740	1,181	96	477	10,494
1998	8,740	1,188	96	480	10,504
1999	8,740	1,195	97	483	10,515
2000	8,740	1,202	97	486	10,525
2001	8,740	1,210	98	489	10,537
2002	8,740	1,217	99	492	10,548
2003	8,740	1,224	99	495	10,558

**Table IV-7  
Allocation of 1995 Waste Reduction Target by Material**

Material	GPI	Blue Bag Recycling	School Recycling	Demolition Landfill	Total
GPI Paperboard	8,740				8,740.00
Newsprint		185.67			185.67
White Paper		120.55	61.29		181.84
Cardboard		373.21	33.71		406.92
Clear Glass		118.80			118.80
Green Glass		63.37			63.37
Brown Glass		39.33			39.33
Steel Cans		94.64			94.64
Alum. Cans		48.20			48.20
HDPE/ PET		123.24			123.24
Class III and IV Waste				472	
<b>Total</b>	<b>8,740</b>	<b>1,167</b>	<b>95</b>	<b>472</b>	<b>10,474.00</b>

**Table IV-8**  
**Allocation of 1995 Waste Reduction by Economic Sector**

Sector	Tonnage
Commercial/Industrial	9,150
Residential	1,229
Institutional	95
<b>Total</b>	<b>10,474</b>

**3. Strategy Used to Meet Target Amounts**

a. Draper Aden Associates researched the region in an effort to determine significant recycling efforts which were in place between 1985 and 1989. None were found which were of sufficient significance to request this credit. Therefore, no cause was found within the region to file for a previous waste reduction credit.

b. Quantities of Materials Diverted Per Year

See Table IV-6

c. Regulatory Bans

In the event that the region has sufficient control of the disposal site to enforce such bans, the following items will be banned from acceptance at any Class I landfill facility:

Yard Waste

Wood Waste

Construction/Demolition Debris

Sewage Sludge (unless dewatered sufficiently to pass the Paint Filter Test)

All Liquid Wastes (defined by the Paint Filter Test)



d. Economic Incentives and Disincentives

Variable rates are proposed such that the following items can be disposed of at the County Solid Waste Facility at reduced rates:

Wood Waste  
Construction/Demolition Debris

In the long-term, variable rates should be studied for the following items based upon the marketability:

White Goods  
Scrap Metal

No economic disincentives are proposed due to the negative impacts such programs have on roadside littering and illegal dumping.

e. Other Waste reduction Strategies

Source reduction and reuse methods are detailed in Chapter IX *Public Information and Education*.

**D. Calculations Concerning Demolition Landfilling**

See Table IV-1 through IV-5.

**E. 10-Year Implementation Schedule**

October, 1994	Hire Reduction and Education Manager.
December 1995	All Planned Programs Associated With Diversion Operating at 100%.
January 1, 1996	25% Diversion Goal Met.
January 1996	Evaluate Potential Co-Composting Program.

## **F. Allocation of Responsibility**

The Lawrenceburg/Lawrence County Solid Waste System will be responsible for all aspects of the program with the exception of the City of Lawrenceburg Demolition Landfill which is presently existing. The system may negotiate with the City of Lawrenceburg concerning the ownership and operation of the demolition landfill facility at the discretion of both.

## **G. Data Collection System Narrative**

As stated above, the Reduction and Education Manager is responsible for all data collection and report preparation.

All recyclable and compost materials will be run across the scales at the landfill and a record will be kept of all materials, tonnages, markets, and dates. These files will be utilized in the preparation of the quarterly reports to the State Division of Solid Waste Assistance.

**Chapter V**  
**Waste Collection and Transportation**



## Chapter V-- Waste Collection and Transportation

### A. Compare Existing System to Minimum Service Requirement

The "Solid Waste Management Act of 1991" requires counties to provide an adequate collection system to all residents within the county. An adequate collection system is defined as convenience centers or house to house pick up. Requirements for the minimum number of convenience centers are one per 12,000 population or one per 180 square miles (excluding government owned land) of the service area.

The following table indicates the number of convenience centers required by each county:

**Table V-I**

County	Area Sq. Mile	Centers Required	2003 Population <sup>1</sup>	Centers Required	Minimum Required	Existing
Lawrence	617	4	37,655	4	4	0

Alternatives are allowed to convenience centers if they meet the following criteria:

1. At least 90% of the households in the region are served.
2. All households in the service area pay the same rate.

At the present time, with the majority of the county served by private haulers, this is not met.

### B. Regional Needs to Provide Minimum Level of Service

The minimum level of service could be provided by the existing private haulers in the county through a franchise system. This would require no additional equipment on the part of the county and would even relieve some municipalities of the need for operating collection if they chose not to bid on the franchise zones. The county would need a system for billing the households within the county and for coordinating the private haulers.

## C. Description of Proposed Collection Program

### Overview

The proposed program consists of dividing the county into five franchise zones (see attached map). Each of these zones has a population of about 7,000 persons by the 1990 census. The zones are centered around the City of Lawrenceburg or one of the U.S. Highways running through the county. A brief description of each zone is as follows:

North County	This zone is centered on U.S. Highway 43, north of Lawrenceburg. It has a population of 5,704.
East County	This zone is centered on U.S. Highway 64, east of Lawrenceburg. It has a population of 6,957.
South County	This zone is centered on U.S. Highway 43, south of Lawrenceburg. It has a population of 4,884.
West County	This zone is centered on U.S. Highway 64, west of Lawrenceburg. It has a population of 6,954.
Lawrenceburg	This includes a portion of the City of Lawrenceburg. It has a population of 7,533
Loretto	This includes the area within the municipal limits of Loretto. It has a population of 1,515
Ethridge	This includes the area within the municipal limits of Ethridge. It has a population of 565.
St. Joseph	This includes the area within the municipal limits of St. Joseph. It has a population of 789.
Iron City	This includes the area within the municipal limits of Iron City. It has a population of 402.

In order to obtain the best overall pricing for the county, each franchise zone would be bid out on a regular basis (to be decided by the planning board) and would be awarded to the low bidder. After all zones had been awarded. The costs associated with each zone would be totalled for a total county-wide cost. This cost would then be evenly divided among all of the households within the county.

## 1. Goals and Objectives

The primary goal of the collection system is to provide door-to-door collection to every household in the region. This will simultaneously provide a high level of collection service and will maximize the existing blue bag recyclable collection program.

The objectives to be met along the way to this goal are as follows:

- a. Establish a fair bidding procedure for the different franchise zones within the county.
- b. Establish a fair and workable billing system for the households throughout the county.
- c. Provide a system of oversight for the private haulers.

## 2. Expanding Existing Service Areas

The franchising system is designed to expand the service area of collection to include all of the households within the county. If billing and fee collections can be made to work, a very satisfactory participation rate (well over 90%) can be expected.

## 4. Timetable and Milestones for Purchase of Collection Vehicles

No such purchases are necessary.

## 5. Description of Proposed Transfer Stations

## 6. Integration of Collection System with Recycling and problem Waste Collection Storage and Transportation

This system is designed to work with the blue bag recyclable collection system as the more people that are on door-to-door pick-up, the more people can participate in the blue bag program.

Problem waste collection is proposed to be at drop-off centers and will not be assisted or impeded by this collection program.

#### D. Staffing and Training Needs

This program will need a full-time staff of at least two in addition to the other solid waste staff. A collection manager will be needed to oversee the private haulers and to respond to questions and assist the public. In addition, a clerical staff member will be needed in order to coordinate billings and payments. One of these two staff members should have a background in accounting. It is also recommended to hire a consulting CPA to audit the books at regular intervals.

#### E. Ten-Year Budget

**Table V-1  
Breakdown Administrative Costs for Franchise Collection (1993\$)**

Item	Annual Cost
Salary and Benefits	50,000
Overhead	5,000
Supplies	5,000
Office Equipment	2,000
Postage	75,000
Printing	10,000
Advertising	1,000
<b>TOTAL</b>	<b>148,000</b>

**Table V-2**  
**10-Year Budget for Franchise Collection**  
 This Represents the Administrative Costs Only and  
 Does Not Include the Actual Collection

Year	Annual Cost	Number of Households	Cost Per Household Per Month
1994	155,400.00	14,574	0.89
1995	163,170.00	14,661	0.93
1996	171,328.50	14,749	0.97
1997	179,894.93	14,837	1.01
1998	188,889.68	14,927	1.05
1999	198,334.16	15,016	1.10
2000	208,250.87	15,106	1.15
2001	218,663.41	15,197	1.20
2002	229,596.58	15,288	1.25
2003	241,076.41	15,380	1.31

Funding will be done by adding the cost listed above onto the collection costs which are billed to the individual households.



**Chapter VI**  
**Recycling**

## **Chapter VI. Recycling**

### **A. Regional Needs**

Until 1993, the City of Lawrenceburg was operating a curbside collection program within the city limits as well as at materials recovery facility. The city was then marketing the materials via brokers in north Alabama. The annual cost of this program was \$238,724 (this is the 1993 budget number and includes revenues from the sale of recyclables). The annual diversion through this program was about 530 tons (from needs assessment). Thus the cost for the programs was about \$450 per ton diverted. In addition, this program was only within the city limits and did not serve the county residents.

In 1993, the City of Lawrenceburg shut down this system and transferred the capital equipment to the City of Lawrenceburg - Lawrence County (CLLC) Solid Waste System. The CLLC Solid Waste System constructed a MRF and began a "blue-bag" collection system. The estimated costs for that system are listed later in this section. The primary need for Lawrence County has been to develop a program which maintains the level of service which the Lawrenceburg residents were accustomed to under the \$50 per ton system, add the county residents into the service, and reduce the costs associated with the system.

### **B. Description of Specific Actions**

#### **1. Regional Goals and Objectives**

The primary goal of the recycling program is to augment the waste diversion program. Therefore many of the goals and objectives are shared between recycling and waste diversion.

The following goals and objectives are given as a means to accomplishing this increase (for clarity, the definition of a goal is a basic target of the program and the objectives are the steps toward the goal):

#### **Goal 1: Make Recycling Easily Available to All Residences in the Region**

**Objective a:** Provide facilities where drop-off customers can bring their commingled recyclables. This is to be accomplished utilizing the blue bag collection system.

**Objective b** Provide a system for residents within the urban areas of the county. This is to be accomplished through the blue bag curbside collection system.

**Goal 2: Make Recycling Available to Business Customers**

Objective a: Adapt the collection and processing system to allow business participation.

**Goal 3: Make Recycling Available for Industrial Customers**

Objective a: Adapt a recyclable collection program to any industry which generates more than 100 tons of recyclables per year.

Objective b: Provide a Roll-Off or Dumpster service for cardboard at the above industries.

Objective c: Set up a program to research industrial waste products within the region for potential markets

**2. Expansion of Recycling Collection to Unserved Areas**

The blue bag collection system serves the entire county. By utilizing these facilities, service should be provided to all citizens.

**3. Description of Planned Programs**

- a. System is a "blue-bag" system. With the blue bag collection system, the resident places all of the designated recyclables in a color-coded plastic bag. This bag is then placed with the household's waste and is either picked-up with the waste or picked-up separately from the waste. By collecting the blue bags separately, less chance of material damage or contamination occurs. These blue bags of commingled recyclables are then received at a "clean" MRF where the bags are opened and the recyclables undergo individual separation.

Lawrence County constructed a 7,000 square foot materials recovery facility adjacent to the baler building at the existing balefill. The balefill is located in the industrial park in north Lawrenceburg. This facility was constructed for \$124,985 and was completed in August 1993. Color-coded bags (yellow) are being distributed county-wide through the network of public and private haulers. These bags are also being distributed at the landfill for direct users. Approximately 75,000 bags are being given out each month. Instructions are included with the bags as to what materials are being collected in Lawrence County. These recyclable materials are then being placed in the bags by the consumer and placed at the curb with the regular garbage. The bags are then separated from the remainder of the waste stream and processed in the

materials recovery facility for transport. The system is presently utilizing a broker (Greentree Recycling out of Florence, Alabama). It is projected that revenues from the sale of the materials will cover the cost of transportation. The funding for the materials recovery facility was provided as 60% by the City of Lawrenceburg and 40% by Lawrence County.

The MRF will serve other community needs with regard to recycling. It can serve as a drop-off center for the public. Storage containers can be provided in a designated area to accommodate any recycling efforts beyond the MRF system. It will also provide a centralized point for business and industrial recycling programs. It is the intent of this facility to handle the entire waste stream-- residential, commercial, and industrial. The items collected from industry, business, and drop-off collection sites will be combined with the blue bag process separated items.

The long-range plans for this facility could include changing the blue bag system into a "wet-dry" system at some time in the future in order to process compostables as well as recyclables. The collection process for this type of system is simply to add another color-coded bag into the system. This new bag would contain those items which are compostable (food wastes, etc.). As can be seen from the drawing of the facility in this chapter, the facility is designed to have a composting facility adding on to the tipping building. The "blue bag" system is a logical first step towards a "wet-dry" system. This is not recommended at this time as the composting is not necessary to meet the 25% reduction requirement. But as such requirements are increased in future years, it will be a logical step in increasing the diversion of the solid waste system.

Based on a "clean" MRF/blue bag system, the following list comprises the recyclables which will be targeted for recycling:

- 1) Newspapers
- 2) PET Plastic
- 3) HDPE Plastic
- 4) Aluminum (UBC's)
- 5) Clear Glass Containers
- 6) Amber/Brown Glass Containers
- 7) Green Glass Containers
- 8) Bi-metal (Tin) Cans
- 9) Corrugated Cardboard (Pulled from waste stream - not practical to be put in blue bags)

Depending upon the reliability/strength of the bags being used, the recycling of newsprint should be successful.

The capacity of a clean MRF system is very dependent upon the public participation rate. If a small number of households participates, then the quantity of recyclables recovered can be extremely low. Beyond that, even for the participating households, not all recyclables in the waste stream will be separated into the blue bags, and by the time the items make it to the MRF and go through the process, some damage or contamination will occur. Accounting for all of these variables makes it extremely difficult to accurately predict the amount of recyclables which can be recovered from this type of system. However, based on historical records of existing programs, total recoveries normally fall between 2 or 3% and 10%. As additional processing capacity is needed, a second shift can be manned and operated. Once again, this percentage is very volatile and can vary depending upon the actual participation rates seen and the other factors discussed.

- b. The program will serve all of the households and businesses in Lawrence County. For estimates of numbers of households, see Table VI-18a.
- c. For quantity of materials diverted see Table VI-9 and VI-10. The method of calculating the diversion is given below:

As stated earlier, the materials recovery facility will service not only the residences which have door-to-door pickup but is also planned to provide service to businesses and industries (see Chapter IX for a listing of programs to bring business and industry into the program). Participation rates and capture rates in a facility such as this vary on an item by item basis. In order to prepare an estimation of materials recovered, the existing waste stream characterization must be broken down into different components based upon these varying rates. As stated in Chapter II, the waste stream characterization was derived from the characterization given in the needs assessment revised based upon knowledge of the area. The results of this characterization study are listed in the following tables.

**Table VI-1a**  
**Waste Stream Characterization**  
**Total Wastestream with Graphics Packaging, Inc.**  
**(From Table II-4)**

Waste Category	Percentage by Weight
Paper and Paperboard	62
Glass	6
Ferrous Metals	6
Aluminum	1
Non-Ferrous Metals	1
Plastics	7
Rubber and Leather	2
Textiles	1
Wood	2
Food Waste	7
Yard Waste	3
Inorganic Waste	1
Other	1
<b>Total</b>	<b>100.0</b>

As stated in Chapter IV, the recycling program of Graphics Packaging, Inc. is being considered as a source reduction in the terms of this study in that it is not being financed or operated by any government agency. Therefore, it is not appropriate to use the above table in these calculations. The characterization used for these calculations is listed on the following page as Table VI-1b.

**Table VI-1b**  
**Waste Stream Characterization**  
**Wastestream without Graphics Packaging, Inc.**  
**(From Table II-4)**

Waste Category	Percentage by Weight
Paper and Paperboard	45
Glass	8
Ferrous Metals	8
Aluminum	2
Non-Ferrous Metals	1
Plastics	9
Rubber and Leather	3
Textiles	3
Wood	4
Food Waste	9
Yard Waste	5
Inorganic Waste	1
Other	2
<b>Total</b>	<b>100.0</b>

In order to break these numbers down into the components needed, two sources were used to estimate the more detailed breakdown of the waste types needed. The first source was the nationwide waste stream characterization study published in *Solid Waste Management in the United States: An Overview* U.S. EPA, prepared by Franklin Associates, 1988. The second source was a compilation of eight studies from Michigan published in *WastePlan Default Data Report*, prepared by the Tellus Institute, Inc., 1988, 1989. The following tables give the breakdowns for waste categories in question:

**Table VI-2a**  
**Breakdown of Paper and Paperboard Category**  
 Category: Paper and Paperboard  
 Subcategories: Newspaper, White Paper, Mixed Paper, Cardboard

Subcategory	Category % of Total Wastestream (See Table VI-17)	Subcategory % of Category <sup>1</sup>	Subcategory % of Total Waste Stream
Newspaper	45	17.7	8.0
White Paper	45	10.1	4.5
Mixed Paper	45	46.4	20.9
Cardboard	45	25.8	11.6
<b>Total</b>		<b>100.0</b>	<b>45</b>

<sup>1</sup> From Franklin Associates Study.

**Table VI-2b**  
**Breakdown of Glass**  
 Category: Glass  
 Subcategories: Clear, Green, Brown, and Miscellaneous

Subcategory	Category % of Total Waste Stream	Subcategory % of Category <sup>2</sup>	Subcategory % of Total Waste Stream
Clear Glass	8	48.2	3.9
Green Glass	8	25.9	2.1
Brown Glass	8	16.7	1.3
Miscellaneous	8	9.2	0.7
<b>Totals</b>		<b>100.0</b>	<b>8</b>

<sup>2</sup> From Tellus Institute Study.



**Table VI-2c**  
**Breakdown of Ferrous Metals**  
 Category: Ferrous Metals  
 Subcategories: Steel Cans, Major Appliances, Miscellaneous Ferrous

Subcategory	Category % of Total Waste Stream	Subcategory % of Category <sup>2</sup>	Subcategory % of Total Waste Stream
Steel Cans	8	27.2	2.2
Major Appliances	8	30.4	2.4
Miscellaneous	8	42.4	3.4
<b>Totals</b>		100.0	8

<sup>2</sup> From Tellus Institute Study.

**Table VI-2d**  
**Breakdown of Aluminum**  
 Category: Aluminum  
 Subcategories: Aluminum Cans, Scrap Aluminum

Subcategory	Category % of Total Waste Stream	Subcategory % of Category <sup>2</sup>	Subcategory % of Total Waste Stream
Aluminum Cans	2	62.6	1.3
Scrap Aluminum	2	37.4	0.2
<b>Totals</b>		100.0	2

<sup>2</sup> From Tellus Institute Study.

**Table VI-2e**  
**Breakdown of Plastics**  
 Category: Plastics  
 Subcategories: HDPE & PET, Other Plastic

Subcategory	Category % of Total Waste Stream	Subcategory % of Category <sup>2</sup>	Subcategory % of Total Waste Stream
HDPE & PET	9	54.9	4.9
Other Plastics	9	45.1	4.1
Totals		100.0	9

<sup>2</sup> From Tellus Institute Study.

With the above information, it is necessary to break down the waste stream coming into the MRF into residential and commercial/industrial. The following table is generated from estimations from *Guidelines for Decision Makers: Solid Waste Management*, University of Tennessee County Technical Advisory Service, November, 1991.

**Table VI-3a**  
**Residential 1993 Waste Generation Estimates**

County	Number of Households	Annual Tonnage per Household <sup>1</sup>	Total Annual Tonnage
Lawrence	14,229	1.235	17,572

<sup>1</sup> From CTAS Guidelines for Decision Makers.

**Table VI-3b**  
**Breakdown of Residential and Commercial/Industrial Waste (1993)**

County	Total Waste Generated (Tons)	Residential (Tons) From Table VI-3	Commercial/Industrial (Tons)
Lawrence	19,870 <sup>2</sup>	17,572	2,298

<sup>2</sup> Total Waste Stream of 28,385 tons less GPI waste estimated at 8,515 tons.

**Table VI-4**  
**Comparison of Results of Table VI-3b with Table I-10**  
**Industrial Generation Rates Per County**

County	1991 Industrial Waste Generation as Per Table I-10	1993 Industrial Waste Generation Estimates as Per Table VI-3b
Lawrence (with GPI)	9,666	10,813
Lawrence (wihtout GPI)	1,246	2,298

Residential participation rates for a blue bag collection program are around 60% as per the California case studies cited earlier. The capture rates, however, vary with the material. A listing of the capture rates by material utilized for this study are as follows:

**Table VI-5  
Estimated Residential Participation and Capture Rates**

Category	% of Total Waste Stream	Participation %	Capture %	% of Total Waste Stream Diverted
Newsprint	8.0	60	10	0.48
White Paper	4.5	60	10	0.27
Cardboard	11.6	60	10	0.70
Clear Glass	3.9	60	50	1.17
Green Glass	2.1	60	50	0.63
Brown Glass	1.3	60	50	0.39
Steel Cans	2.2	60	40	0.53
Alum. Cans	1.3	60	30	0.23
HDPE/PET	4.9	60	40	1.18
<b>Totals</b>	<b>39.8</b>			<b>5.58</b>

**Table VI-6  
Estimated Commercial/Industrial Participation and Capture Rates**

Category	% of Total Waste Stream	Participation %	Capture %	% of Total Waste Stream Diverted
Newsprint	8.0	40	50	1.60
White Paper	4.5	60	40	1.08
Cardboard	11.6	60	50	3.48
Clear Glass	3.9	10	40	0.16
Green Glass	2.1	10	40	0.08
Brown Glass	1.3	10	40	0.05
Steel Cans	2.2	60	40	0.53
Alum. Cans	1.3	60	40	0.31
HDPE/PET	4.9	10	40	0.20
<b>Totals</b>	<b>39.8</b>			<b>7.49</b>

**Table VI-7**  
**Estimated Diversion From Residential Waste Stream at MRF**  
**1993 Tonnages**

County	Total Waste (Tons)		Estimated Diversion (Tons)
Lawrence	17,572		981

**Table VI-8**  
**Estimated Diversion From Commercial/Industrial Waste Stream at MRF**  
**1993 Tonnages**

County	Total Waste (Tons)		Estimated Diversion (Tons)
Lawrence	2,298		172

**Table VI-9  
Total Estimated Diversion From Blue Bag/MRF (1983 Tons)**

County	Residential Diversion (Tons)	Commercial/Industrial Diversion (Tons)	Total Diversion (Tons)
Lawrence	981	172	1,153

**Table VI-10  
Extrapolation of Diversion Through 2003  
Assume Recyclables Increase with Waste Stream**

Year	Estimated Diversion (Tons)
1994	1,160
1995	1,167
1996	1,174
1997	1,181
1998	1,188
1999	1,195
2000	1,202
2001	1,210
2002	1,217
2003	1,224

**Table VI-11  
School Drop-Off Recycling Program Estimated Quantities**

Estimated Number of Students	Tons Per Year Per Student <sup>1</sup>	Total Wastestream Tons Per Year
7,500	.08	600

<sup>1</sup> Source was a compilation of eight studies from Michigan published in *WastePlan Default Data Report*, prepared by the Tellus Institute, Inc., 1988, 1989.

**Table VI-12  
Breakdown of School Waste Stream Constituents**

Item	Percentage of Waste Stream	Total Tons
White Paper	20 <sup>1</sup>	120
Cardboard	11 <sup>1</sup>	66
Other Materials	69	414
<b>Total</b>	<b>100</b>	<b>600</b>

<sup>1</sup> Source was a compilation of eight studies from Michigan published in *WastePlan Default Data Report*, prepared by the Tellus Institute, Inc., 1988, 1989.

**Table VI-13  
Estimated Tons Diverted (1993 Tons)**

Item	Total Tons	Capture Rate	Tons Diverted
White Paper	120	50 <sup>2</sup>	60
Cardboard	66	50 <sup>2</sup>	33
<b>Total</b>	<b>186</b>		<b>93</b>

<sup>2</sup> Assumed.



**Table VI-14**  
**Ten Year Extrapolation of Tons Diverted**

Year	Estimated Tons Diverted
1994	94
1995	94.56
1996	95.13
1997	95.70
1998	96.27
1999	96.85
2000	97.43
2001	98.01
2002	98.60
2003	99.19

**Table VI-15  
Total Recycling Diversion**

Year	Blue Bag/MRF Diversion	School Drop-Off Diversion	Total Diversion
1994	1,160	94	1,254
1995	1,167	95	1,262
1996	1,174	95	1,269
1997	1,181	96	1,277
1998	1,188	96	1,284
1999	1,195	97	1,292
2000	1,202	97	1,299
2001	1,210	98	1,308
2002	1,217	99	1,316
2003	1,224	99	1,323

d. The service area is all of Lawrence County--617 square miles.

#### 4. Description and Approximate Location of Collection Sites

In addition to the "blue-bag" collection. Individual drop-off sites will be located at each school within the region. These drop-offs will collect white paper and cardboard.

#### 5. Location of Regional Materials Recovery Facility

As stated in Chapter II, the materials recovery facility was an add-on onto the existing baler building at the CLLC Solid Waste System Balefill in the Lawrenceburg Industrial Park.

#### 6. Assembling Economically Viable Quantities

The system brings all recyclables to a central point, the materials recovery facility.

This is presently functioning and the materials are being marketed. All recyclable materials will be processed and marketed through the Reduction and Education Manager (See Chapter 4). Marketing will be coordinated by the Reduction and Education Manager. It is the responsibility of the Reduction and Education Manager to work with surrounding counties for cooperative marketing.

#### 7. Interaction with the Office of Cooperative Marketing

The Reduction and Education Manager will be responsible for coordinating with the Tennessee Office of Cooperative Marketing (TOCM). The following information will be provided to the TOCM on at least a quarterly basis:

1. Tonnage and Type of Materials Recycled and Marketed
2. Tonnage and Type of Materials Backlogged On Site
3. Age and Type of Materials Backlogged On Site
4. New and Available Markets in the Region
5. Prices Obtained for Recycled Materials
6. Potential Materials Being Planned for Collection/Separation

#### 8. Actions to Expand/Create Markets

In this plan, this program falls under the purview of the Reduction and Education Manager. The goals and objectives associated with it are detailed as Goal 3 in Chapter IX *Public Information and Education*. A recommended purchasing policy for area governments and industry is included in Chapter IX, as well.

## 9. Education Programs

In this plan, educational programs fall under the purview of the Reduction and Education Manager. The goals and objectives associated with it are detailed in Chapter IX *Public Information and Education*.

## 10. Ten-Year Staffing Plan

### Administration:

The Reduction and Education Manager (called Reduction Manager) will be a full-time position. The Reduction Manager will be responsible for coordinating and providing the paperwork for the county-operated systems such as the demolition landfills and yard waste composting facilities. The Reduction Manager will also be responsible for recycling and education programs.

### Staff:

Administrative staff will be shared with the baler facility.

MRF staff will include four pickers beginning at part-time in 1993 and working up to full-time as need arises.

## 11. Ten-Year Budget

For a copy of the estimated costs associated with operating this system, see Table VI-19. The calculations for determining the ten-year budget are listed below:

**Table VI-16  
Costs Associated with Materials Recovery Facility**

Year	Labor <sup>1</sup>	Utilities	Eq/Fuel	Maint.	Debt	Total
1994	100,000	7,500	2,500	4,000	16,900	130,900
1995	105,000.00	7,875.00	2,625.00	4,200.00	16,900.00	136,600
1996	110,250.00	8,268.75	2,756.25	4,410.00	16,900.00	142,585
1997	115,762.50	8,682.19	2,894.06	4,630.50	16,900.00	148,869
1998	121,550.63	9,116.30	3,038.76	4,862.03	16,900.00	155,468
1999	127,628.16	9,572.12	3,190.70	5,105.13	16,900.00	162,396
2000	134,009.57	10,050.73	3,350.24	5,360.39	16,900.00	169,671
2001	140,710.05	10,553.27	3,517.75	5,628.41	16,900.00	177,309
2002	147,745.55	11,080.93	3,693.64	5,909.83	16,900.00	185,330
2003	155,132.83	11,634.98	3,878.32	6,205.32	16,900.00	193,751

**Table VI-17  
Breakdown of Commodities Diverted (1993 Tons)**

Category	Tons Diverted From Residential	Tons Diverted From Commercial/Industrial	Total Tons Diverted
Newsprint	84.37	36.74	121.11
White Paper	47.48	24.80	72.28
Cardboard	123.02	79.91	202.93
Clear Glass	205.72	3.68	209.40
Green Glass	110.75	1.84	112.59
Brown Glass	68.57	1.15	69.72
Steel Cans	93.20	12.18	105.38
Alum. Cans	40.42	7.12	47.54
HDPE/PET	207.47	4.58	212.05
<b>Total</b>	<b>981</b>	<b>172</b>	<b>1,153</b>

In order to estimate revenues from the sale of recycled materials, it was necessary to plot trends in the recycling markets and extrapolate the trends out throughout the study period. For this purpose, the *Recycling Times* monthly average recyclable prices for the southeast was plotted for a three year period from 1990 through 1993. A brief synopsis of these values is listed in the following table:

**Table VI-18**  
**Southeastern Recyclable Prices 1990-1993**  
 (All prices in \$/Ton)

Date	Clear Glass	Green Glass	Brown Glass	Alum	Newsprint	Card-board
1/90	25.80	25.00	25.40	---	20.30	37.00
7/90	23.40	22.50	22.50	1,022.00	13.00	29.00
1/91	10.60	7.90	5.90	920.00	19.40	45.40
7/91	6.70	4.20	1.70	816.00	22.50	35.50
1/92	6.40	4.50	0.00	802.00	17.20	33.20
7/92	5.30	2.80	2.80	800.00	14.30	30.90
1/93	10.00	5.00	5.00	610.00	17.50	37.50
7/93	10.00	5.00	5.00	700.00	17.50	40.00

In order to estimate the revenues to be derived from recyclables in 1996 and thereafter, a two-step process was utilized. The first step was to utilize a rough straight line extrapolation of the above numbers to generate the best guess of the market values of the materials at that time. Please take note that the "rough" straight line extrapolations were in some cases difficult and notes are listed below the table in explanation of the derivation of some numbers. The second step was to divide the numbers given from the first step in half in order to model a glut on the market localized around Tennessee due to all of the counties attempting to meet the reduction goal. The following table shows a synopsis of this method:

**Table VI-19**  
**Calculation of 1996 Market Values of Recyclables**  
 (All Prices in \$/Ton)

Commodity	Market Extrapolation (\$/Ton)	Glut Model Multiplier	Value Assumed
Clear Glass	9.10 <sup>1</sup>	.5	4.55
Green Glass	0.00 <sup>2</sup>	.5	0.00
Brown Glass	3.65 <sup>3</sup>	.5	0.00
Aluminum	370.00	.5	185.00
Newsprint	14.70	.5	7.35
Cardboard	35.00 <sup>4</sup>	.5	17.50

<sup>1</sup> Market for clear glass has remained relatively stable since 1991. Therefore the 1990 figures were disregarded in the calculation of this figure.

<sup>2</sup> Disregarding the 1990 figures as above, the extrapolation gave a figure of \$0.65/ton. Based upon existing markets for green glass, this number was made \$0.00.

<sup>3</sup> Disregarding the 1990 figures as above, the extrapolation gave a figure of \$3.65/ton. Based upon existing markets for green glass, this number was made \$0.00.

<sup>4</sup> The cardboard market has remained very stable and should continue to do so.



**Table VI-20a**  
**Estimated Revenues From Sale of Recyclables (1993\$)**

Category	Total Tons Diverted	Estimated Value Per Ton (\$)	Estimated Annual Revenue (\$)
Newsprint	121	7.35	889.35
White Paper	72	10.00	720.00
Cardboard	203	17.50	3,552.50
Clear Glass	209	4.55	950.95
Green Glass	113	0.00	0.00
Brown Glass	70	0.00	0.00
Steel Cans	105	20.00	2,100.00
Alum. Cans	48	185.00	8,880.00
HDPE/PET	212	0.00	0.00
<b>Total</b>	<b>1,153</b>		<b>17,092.80</b>

**Table VI-20b**  
**Extrapolation of Estimated Revenues**  
 Assumes that after 1996, Revenues Will Rise With Inflation (5%)

Year	Estimated Tons Diverted	Average Revenue Per Ton (\$)	Total Estimated Revenue (\$/Year)
1993	1,153	14.82	17,093
1994	1,254	14.82	18,584.28
1995	1,262	14.82	18,702.84
1996	1,269	14.82	18,806.58
1997	1,277	15.56	19,870.12
1998	1,284	16.34	20,980.56
1999	1,292	17.16	22,170.72
2000	1,299	18.02	23,407.98
2001	1,308	18.92	24,747.36
2002	1,316	19.87	26,148.92
2003	1,323	20.86	27,597.78

An additional cost which will have to be handled by the MRF will be the hauling of the processed materials to market. It is assumed that the Florence, Alabama area will provide sufficient market for the quantities of recyclables being generated. For the purposes of determining these costs, the UT CTAS study on solid waste transportation costs was again used. It was assumed that compacted materials were placed on a tractor-trailer for hauling to Nashville and that the average one-way distance to market from the MRF was 30 miles.

**Table VI-21  
Transportation Costs Associated with the MRF**

Year	Tonnage Hauled <sup>1</sup>	One-Way Miles Per Haul	Tonnage x Miles	Unit Cost (\$/ton-mile)	Total Cost
1994	1,254	30	37,620.00	0.31	11,662.20
1995	1,262	30	37,860.00	0.31	11,736.60
1996	1,269	30	38,070.00	0.31	11,801.70
1997	1,277	30	38,310.00	0.31	11,876.10
1998	1,284	30	38,520.00	0.31	11,941.20
1999	1,292	30	38,760.00	0.31	12,015.60
2000	1,299	30	38,970.00	0.31	12,080.70
2001	1,308	30	39,240.00	0.31	12,164.40
2002	1,316	30	39,480.00	0.31	12,238.80
2003	1,323	30	39,690.00	0.31	12,303.90

<sup>1</sup> Includes School Drop-Off Recyclables

**Table VI-22  
Net Costs Associated with MRF Operations**

Year	Facility Cost	Revenues	Transportation	Total
1994	130,900	18,584	11,662	123,978.00
1995	136,600	18,703	11,737	129,634.00
1996	142,585	18,807	11,802	135,580.00
1997	148,869	19,870	11,876	140,875.00
1998	155,468	20,981	11,941	146,428.00
1999	162,396	22,170	12,016	152,242.00
2000	169,671	23,408	12,081	158,344.00
2001	177,309	24,747	12,164	164,726.00
2002	185,330	26,149	12,239	171,420.00
2003	193,751	27,598	12,304	178,457.00

A cost easily overlooked in this system is the cost of the color-coded bags. It is recommended that cost be born by the region in an effort to maintain the high levels of participation needed to reach the reduction goals. Bags with printed logos on the side are running about \$0.13 each. Each bag will average about 10 pounds of recycled material. About 75,000 bags are being distributed each month. It is recommended that this number be dropped to conform with the following chart:

**Table VI-23a  
Recommended Color-Coded Bag Distribution**

Year	Estimated Number of Households	Bags Needed Per Household Per Month <sup>1</sup>	Bag Distribution Per Month	Bag Distribution Per Year
1994	14,574	3	43,722	524,664
1995	14,661	3	43,983	527,796
1996	14,749	3	44,247	530,964
1997	14,837	3	44,511	534,132
1998	14,927	3	44,781	537,372
1999	15,016	3	45,048	540,576
2000	15,106	3	45,318	543,816
2001	15,197	3	45,591	547,092
2002	15,288	3	45,864	550,368
2003	15,380	3	46,140	553,680

<sup>1</sup> Based on each household generating 370 tons of recyclables per year and each bag holding ten pounds.

**Table VI-23b**  
**Costs Associated with the Purchase of the Color-Coded Bags**

Year	Tons Captured Through Blue Bag System <sup>1</sup>	Total Bags To Be Distributed	Cost/Bag	Total Cost
1994	987	524,664	0.13	68,206.32
1995	993	527,796	0.14	73,891.44
1996	999	599,400.00	0.15	89,910.00
1997	1,005	603,000.00	0.16	96,480.00
1998	1,011	606,600.00	0.17	103,122.00
1999	1,017	610,200.00	0.18	109,836.00
2000	1,023	613,800.00	0.19	116,622.00
2001	1,029	617,400.00	0.20	123,480.00
2002	1,035	621,000.00	0.21	130,410.00
2003	1,042	625,200.00	0.22	137,544.00

<sup>1</sup> Only the tonnage captured through the residential waste stream will utilize the color-coded bags. Refer to Table VI-9.

**Table VI-24  
Total Budget Costs for Blue Bag/MRF System**

Year	Net Facility Cost From Table VI-17	Bag Cost From Table VI-18b	Total System Cost
1994	123,978	68,206	192,184.00
1995	129,634	73,891	203,525.00
1996	135,580	89,910	225,490.00
1997	140,875	96,480	237,355.00
1998	146,428	103,122	249,550.00
1999	152,242	109,836	262,078.00
2000	158,344	116,622	274,966.00
2001	164,726	123,480	288,206.00
2002	171,420	130,410	301,830.00
2003	178,457	137,544	316,001.00



**Table VI-25  
Annual Costs Per Ton for Blue Bag/MRF System**

Year	Annual Costs	Tons Diverted	Cost Per Ton
1992-1993 <sup>1</sup>	238,724 <sup>1</sup>	530 <sup>1</sup>	450 <sup>1</sup>
1994	192,703	1,160	166.12
1995	204,049	1,167	174.85
1996	226,014	1,174	192.52
1997	238,063	1,181	201.58
1998	250,456	1,188	210.82
1999	263,204	1,195	220.25
2000	276,323	1,202	229.89
2001	289,836	1,210	239.53
2002	303,742	1,217	249.58
2003	318,196	1,224	259.96

<sup>1</sup> 1992-1993 presented as prior City of Lawrenceburg Curbside Program for comparison.

**Table VI-26a**  
**Transportation Costs Associated With School Drop-Off Recycling**  
 Assumes 10 mile average one-way trip to MRF

Year	Total Tonnage	Total Number of Trips <sup>1</sup>	Total Mileage	Cost Per Mile <sup>2</sup>	Total Cost
1994	94	40	800	1.80	1,440.00
1995	95	40	800	1.89	1,512.00
1996	95	40	800	1.98	1,584.00
1997	96	40	800	2.08	1,664.00
1998	96	40	800	2.18	1,744.00
1999	97	40	800	2.29	1,832.00
2000	97	40	800	2.40	1,920.00
2001	98	40	800	2.52	2,016.00
2002	99	40	800	2.65	2,120.00
2003	99	40	800	2.78	2,224.00

<sup>1</sup> Most trips made when containers are not full due to age of paper materials.

<sup>2</sup> Assumes truck costs can be shared with other programs.

**Table VI-26b**  
**Total Costs Associated with School Drop-Off Program**

Year	Transportation Costs (See Table VI-26a)	Capital Costs	Total Costs
1994	1,440	6,929	8,369
1995	1,512	6,929	8,441
1996	1,584	6,929	8,513
1997	1,664	6,929	8,593
1998	1,744	6,929	8,673
1999	1,832	8,844 <sup>1</sup>	10,676
2000	1,920	8,844	10,764
2001	2,016	8,844	10,860
2002	2,120	8,844	10,964
2003	2,224	8,844	11,068

<sup>1</sup> At this point, new containers would be needed.

**Table VI-27a  
Breakdown Administrative Costs for Recycling (1993\$)**

Item	Annual Cost
Salary and Benefits <sup>1</sup>	18,750
Overhead <sup>1</sup>	1,000
Supplies	500
Office Equipment <sup>1</sup>	500
Travel	200
Printing	1,000
Advertising	1,000
<b>TOTAL</b>	<b>22,950</b>

<sup>1</sup>These costs shared with the Education section. See budget in Chapter IX.

**Table VI-27b  
Annual Administrative Costs for Recycling**

Year	Annual Cost
1994	24,098
1995	25,303
1996	26,568
1997	27,896
1998	29,291
1999	30,756
2000	32,294
2001	33,908
2002	35,604
2003	37,384

**Table VI-28  
Total 10-Year Budget for Recycling**

Year	MRF/Blue Bag	School Drop-off	Administration	Total Budget
1994	192,184	8,369	24,098	224,651.00
1995	203,525	8,441	25,303	237,269.00
1996	225,490	8,513	26,568	260,571.00
1997	237,355	8,593	27,896	273,844.00
1998	249,550	8,673	29,291	287,514.00
1999	262,078	10,676	30,756	303,510.00
2000	274,966	10,764	32,294	318,024.00
2001	288,206	10,860	33,908	332,974.00
2002	301,830	10,964	35,604	348,398.00
2003	316,001	11,068	37,384	364,453.00

12. Funding Plan

13. Data Collection Plan

The Reduction and Education Manager is responsible for all data collection and is charged with collecting sufficient data to make the quarterly reports to the state as required by regulations and by this plan.

**C. Coordination of Public and Private Sector Programs**

The Materials Recovery Facility will accept waste which has been source separated at no tipping fee. therefore, private recycling programs will be givenm the benefit of this support.

**Chapter VII**  
**Composting, Solid Waste Processing, Waste-to-Energy, and Incineration Capacity**

## **Chapter VII - Composting, Solid Waste Processing, Waste-to-Energy, and Incineration Capacity**

### **A. Quantitative Needs**

A following is a listing and a brief description of the needs and waste types which would require the above-listed facilities:

#### Yard Waste Composting

Yard waste composting can be utilized to process and divert grass, leaves, brush, and untreated wood wastes. In addition, given appropriate conditions, certain sanitary sewage sludges can be mixed into the yard waste compost to make a compost product which has higher nitrogen content and is thus a higher quality soil conditioner. The handling of sewage sludges is not within the scope of this plan and will be noted only to the point that if Lawrence County desires to add sewage sludge into the composting process, the EPA 503 regulations would have to be addressed through the Tennessee Department of the Environment and Conservation, Division of Water Quality as well as the Solid Waste Regulations and the Division of Solid Waste Management.

Lawrence County's waste stream is approximately 3% yard waste and 2% wood waste which represents about 1,000 tons of waste per year. The vast majority of this waste that can be diverted from the waste stream is planned to be diverted into an authority-operated Class III/IV landfill (This plan recommends that the City of Lawrenceburg Class III/IV landfill be transferred to the solid waste authority).

#### Solid Waste Composting

Solid waste composting is a capital-intensive process which requires large-scale processing of the entire waste stream to separate and compost those items which are compostable. Approximately 67% of Lawrence County's waste stream appears to be compostable which represents about 12,500 tons per year. This option was reviewed as a part of this plan and costs associated with the development of such a facility for Lawrence County were about \$100 per ton. As it does not appear that this system will be required to meet the 25% reduction requirement within the ten year time frame of the plan, large-scale solid waste composting was not recommended.

### Solid Waste Processing (Baling)

The Lawrenceburg - Lawrence County Solid Waste System Landfill presently utilizes a Harris Baler for landfill operations. Approximately 90% (17,000 tons per year) of the waste stream can be processed through the horizontal baler. Baling increases waste densities from about 800 pounds per cubic yard to about 1,250 pounds per cubic yard. This results in a waste volume reduction of over 30%. In addition, variances are available for daily cover requirements which reduce the amount of soil needed in the landfill. This increases the available volume of a landfill by about 35% to 40%.

### Solid Waste Processing (Shredding)

Shredding of solid waste prior to landfilling is utilized to reduce the volume of the material and thereby preserve land and landfill volume. Approximately 92% (17,000 tons per year) of the waste stream could be processed through a shredder. Shredding is most effective with container type wastes and wastes which contain a large amount of air and do not compress well (plastics, cans, bottles, brush). Although shredding can reduce the volume of waste in the landfill by as much as 25%, the existence of the baler would dramatically reduce the incremental rate of return on the additional costs associated with the purchase of the shredding equipment.

### Yard Waste Incineration

Incineration of yard and untreated wood waste can be performed through the use of a pit burner or air curtain destructor. Lawrence County's waste stream is approximately 3% yard waste and 2% wood waste which represents about 1,000 tons of waste per year. The vast majority of this waste that can be diverted from the waste stream is planned to be diverted into a authority-operated Class III/IV landfill. Pit burning and air curtain destruction are allowable as a portion of the 25% reduction program. They were not recommended due to the fact that they were not needed to meet the reduction goals and that air quality regulations may remove them from approved waste disposal methodologies in the near future.



## Waste-to-Energy

Lawrence County was a portion of an eight-county planning effort concerning the construction of a companion boiler waste-to-energy facility at the TVA Colbert Steam Plant in Northern Alabama. The costs associated with the transportation, processing, and incineration of the waste less the estimated revenues came to about \$48 per ton. This was considered as not being a cost-effective disposal system for Lawrence County.

### **B. Implementation Steps**

#### Existing Baler

##### 1. Goals and Objectives

The goal of this facility is to continue with its present operation in order to provide the most cost-effective means of transportation of waste for Lawrence County.

##### 2. Type, Capacity, and Location

The baler is a Harris HRB with a throughout of up to 30 tons per hour which is easily able to handle the Lawrence County waste stream.

##### 3. Materials Processed

All balable waste generated in Lawrence County.

##### 4. Siting, Designing, Permitting, Constructing, and Operation

The facility is presently sited, designed, constructed, and in operation.

5. Market

Not applicable.

6. Quantities of Residuals to be Disposed

Not applicable.

7. Staffing and Training

The facility is presently staffed. No additional training should be necessary.

8. Estimated Capital Costs and Financing

As the facility is existing, no such costs will be forthcoming.

9. 10-Year Operating and Maintenance Budget

10. Integration with Other Elements of the Regional Solid Waste System

The baler will continue in use after 1996 only if baling the waste proves to be the most cost-effective means of transporting the waste out-of-county.

Materials Recovery Facility

For detailed information concerning the processing of the recyclable materials, please see Chapter VI, Recycling.

**C. Implementation Schedule**

October 10, 1996                      Begin records for cost comparison

The solid waste management system operation will continue to operate as a transfer station and materials recovery facility after the Lawrenceburg - Lawrence County Solid Waste System Landfill has ceased accepting wastes. It will function as the transfer station and MRF for the county. Records will be kept for six months of the costs associated with processing the waste in this manner for shipment. After the six month period, an analysis will be performed (which may include operating the solid waste collection and disposal on a direct haul basis). From the results of this analysis, the decision will be made concerning the continued operation of the facility.

**D. Implementation Responsibility**

Single-county region. The Lawrenceburg - Lawrence County Solid Waste System is responsible for waste processing.

## Chapter VIII Disposal Capacity

## Chapter VIII-- Disposal Capacity

### A. Compare Existing Supply Versus Demand

**Table VIII-1**  
**Lawrence County Disposal Capacity**  
**Tons Per Year**

Year	Demand (Tons of Waste Requiring Disposal) <sup>1</sup>	Supply (Existing and Planned Capacity)	Surplus (+)	Shortfall (-)
1994	18,677	112,116 <sup>2</sup>	93,439.00	
1995	18,839	93,439	74,600.00	
1996	19,003	74,600	55,597.00	
1997	19,170	55,597	36,427.00	
1998	19,338	36,427	17,089.00	
1999	19,507	17,089		2,418
2000	19,679			19,679
2001	19,851			19,851
2002	20,024			20,024
2003	20,149			20,149

<sup>1</sup> See Table III-8

<sup>2</sup> See Table II-11

### B. Excess Capacity

This section not applicable.

### C. Planning for Shortfall

Overview:

Many options have been reviewed for the purpose of determining future landfill capacity for Lawrence County. The following is a tabulation of the various options:

**Table VIII-2  
Options for Disposal (1993\$)**

Option	Disposal Cost (\$/Ton)	Transportation Cost (\$/Ton)	Total Cost (\$/Ton)
Public Landfill Lawrence Co. Alone	46	0	46
Public Landfill Region with Maury Co.	37	3	40
Public Landfill Region with Hickman, Lewis, and Perry Co.	35	3	38
Public Landfill Region with Maury, Hickman, Lewis, Perry	32	3	35
Private Landfill Sanifill/Quail Hollow	23.85	16.25	40.10
Private Landfill Sanifill/Cedar Ridge	23.85	9.25	33.10
Private Landfill Waste Management West Camden	25	25.50	50.50
Private Landfill BFI Middlepoint	28 to 30	22.50	52.50

**Table VIII-3a  
Regional Public Landfill Costs  
Lawrence, Maury, Hickman, Lewis, Perry**

Year	Capital Costs	Operational Costs	Transportation	Total
1996	197,801	474,766	65,995	738,562.00
1997	197,801	502,891.14	69,904.54	770,596.68
1998	197,801	532,682.41	74,045.68	804,529.09
1999	197,801	564,238.52	78,432.15	840,471.67
2000	197,801	597,664.01	83,078.47	878,543.48
2001	197,801	633,069.63	88,000.04	918,870.67
2002	197,801	670,572.67	93,213.16	961,586.83
2003	197,801	710,297.40	98,735.11	1,006,833.51
<b>Total</b>				<b>6,919,993.93</b>

**Table VIII-3b  
Annual Costs Per Ton  
Lawrence, Maury, Hickman, Lewis, Perry**

Year	Annual Cost	Tons Disposed	Cost Per Ton
1996	738,562	19,003	38.87
1997	770,597	19,170	40.20
1998	804,529	19,338	41.60
1999	840,472	19,507	43.09
2000	878,543	19,679	44.64
2001	918,871	19,851	46.29
2002	961,587	20,024	48.02
2003	1,006,834	20,149	49.97

**Table VIII-4a**  
**Annual Costs/Ton of Transportation and Disposal to Sanifill Cedar Ridge**

Year	Disposal	Transportation	Total
1993	23.85	9.25	33.10
1994	25.04	9.71	34.75
1995	26.29	10.20	36.49
1996	27.60	10.71	38.31
1997	28.98	11.25	40.23
1997	30.43	11.81	42.24
1999	31.95	12.40	44.35
2000	33.55	13.02	46.57
2001	35.23	13.67	48.90
2002	36.99	14.35	51.34
2003	38.84	15.07	53.91



**Table VIII-4b  
Sanifill Cedar Ridge Annual Costs  
1996-2003**

Year	Tonnage Disposed	Cost/Ton	Annual Cost
1996	19,003	38.31	728,004.93
1997	19,170	40.23	771,209.10
1998	19,338	42.24	816,837.12
1999	19,507	44.35	865,135.45
2000	19,679	46.57	916,451.03
2001	19,851	48.90	970,713.90
2002	20,024	51.34	1,028,032.16
2003	20,149	53.91	1,086,232.59
<b>Total</b>			<b>7,182,616.28</b>

## **Recommendations**

The Lawrence County Solid Waste Planning Board took the above calculations and estimates into account. Then evaluated the consultant's recommendations of opening publicly operated regional landfill (see Appendix VIII-1). After a careful evaluation of the referenced information, the Lawrence County Solid Waste Planning Board is recommending that Lawrence County contract with a private landfill and haul their waste from the county to the Sanifill Cedar Ridge Class I disposal facility.

**Chapter IX**  
**Public Information and Education**

Introduction

Note: The following publications were utilized liberally in the preparation of this section:

*Getting the Word Out!*  
*A Guide to Publicity*  
New Jersey Department of Environmental Protection  
Office of Recycling  
101 Commerce Street  
Newark, New Jersey 07102  
(201)648-6295

*Let's Reduce and Recycle:*  
*Curriculum for Solid Waste Awareness*  
EPA/530-SW-90-005  
August 1990  
United States Environmental Protection Agency

The central focus of both public information (publicity) and education is to help the public understand the various solid waste programs ongoing in the region and to motivate participation in such programs as source reduction, recycling, backyard composting, household hazardous waste collection, special waste collection (e.g. waste oil, batteries, tires), and litter abatement. While some overlap does exist between them, *Publicity* is generally considered a means of capturing an audience's attention through the use of mass media and promotional techniques. *Education* sustains public interest and involvement and refers to formal classroom instruction, seminars, workshops, as well as informal presentations. The ultimate goal of the publicity and education program is to change attitudes and behavior towards the handling of household, office, commercial, and industrial waste such that recycling and other forms of environmental stewardship become routine. For this to happen, the program must become a part of a comprehensive plan.

Regional Needs for Education

Governmental education programs have been offered by the Lawrenceburg/Lawrence County Solid Waste System.

In addition, the region needs an expansion of the existing educational and promotional programs into the rural area of the county in an organized approach to prepare and motivate the community concerning all of the programs available under the comprehensive solid waste plan.

## Goals and Objectives

For clarification, goals are defined as the primary targets of the education and publicity program and objectives are the stepping stones to the goals. In the listing below, the goals are shown in **bold** and the objectives associated with each goal are listed beneath it.

**Goal 1-- Increase Source Reduction and Program Involvement Through Education**

- a. Educational Programs in the Schools
- b. Backyard Composting Programs
- c. Education in the Area Offices
- d. Education in Area Stores
- e. Education in Area Industries
- f. Seminars for Civic Groups
- g. Increased Mass Media Involvement

**Goal 2-- Increase Rural Interest and Participation in Programs**

- a. Increase Area Yard Sales and Garage Sales
- b. Work with Area Churches and Pastor's Organizations

**Goal 3-- Develop Markets for Recyclables and Recycled Materials**

- a. Recommended Governmental and School Purchasing Policy
- b. Coordinate Area Business for Mass Buys of Recycled Products
- c. Work with the Farm and local nurseries for Compost Market

**Target Groups and Audiences, Amount and Kind of Information, Specific Methods to Be Used**

**Goal 1, Objective a-- Increase Source Reduction and Program Involvement Through Education-- Educational Programs in the Schools**

This program is best divided into two subprograms based upon age and grade level of the participants.

**Subprogram 1-- Basic Family Information**

This educational program is to be developed for younger students and is primarily geared toward providing the student with stimulating topics to take home and discuss with the family. The primary focus will be not to fill the child's head with facts and figures but instead to provide colorful and exciting material which will motivate the child to begin discussions at home.

**Target Groups and Audiences:**

Elementary School Students, 5th Grade.

**Amount and Kind of Information and Specific Methods to be Utilized:**

Presented here is a five unit study with 28 associated activities. A seminar should be hosted by the solid waste region to which the 5th grade teachers from the above-listed schools are invited. The purpose of this seminar is to go through the units and activities in detail.

It should be noted that many of the activities included within the program are publicity programs for the community-at-large and the family which are prepared and performed by the students. It must be left up to the individual teacher as to which of the activities are appropriate for the class.

**Subprogram 2-- Environmental and Waste Education**

This educational program is more involved and gives details concerning waste, waste processing, and waste disposal. The purpose of this section is to give the older student the information needed to vote and make decisions concerning solid waste as an adult.

### **Target Groups and Audiences:**

High School Level Students, 10th Grade

### **Amount and Kind of Information and Specific Methods to be Utilized:**

Presented here is a five unit study with 36 associated activities. A seminar should be hosted by the solid waste region to which the 10th grade science teachers from the above-listed schools are invited. The purpose of this seminar is to go through the units and activities in detail. The amount of effort which the individual teachers must exert to prepare to teach this program must be minimal.

It is recommended although not essential that the above program be presented within a science curriculum. As can be seen, the curriculum is intended to last about one week although it can be utilized in a variety of fashions to last five weeks or throughout the school year as individual projects. The program is not intended to be a curriculum in itself.

This program is much more detailed than subprogram 1 and therefore lends itself more readily to providing examination material.

### **Method For Evaluation and Reporting of Program**

The following two pages constitute a form with which the individual teachers can evaluate the provided program. It will be the responsibility of the region to provide a method for gathering the completed forms through the school systems and utilizing the provided information to revise and improve the curriculum.

### **Goal 1, Objective b-- Increase Source Reduction and Program Involvement Through Education-- Backyard Composting Programs**

#### **Target Groups and Audiences:**

For a backyard composting program to be successful a subdivision-type housing environment is required. In other words, large amounts of single-family housing located on lots of one acre or less. The primary areas in the region which would have sufficient amounts of this environment are Lawrenceburg and Etheridge.

In addition, garden clubs are an excellent source for master composters.

## **Amount and Kind of Information and Specific Methods to be Utilized:**

The information utilized must be very brief and very simple. The primary factor that must be overcome in a backyard composting program is the fallacy that composting is difficult. A brief flyer similar to the one on the following page should be printed for the region and utilized within a "master composter" program.

The "Master Composter" program is a pyramid style organization in which the solid waste region trains interested persons from the target areas identified above in backyard composting. These persons should be from different neighborhoods. These people become the master composters. The region then supplies them with the flyers and materials they need to interest others in their neighborhood in composting. It is important that the majority of the information pass directly from person to person that the flyers do not attempt to be overly comprehensive or complex.

The region may choose to provide composting bins either free or at cost to interested residents or may choose to construct a composting demonstration project in an area park. The purpose behind this project is to have various composting bins in-use and on display. The park should be staffed at certain hours (preferably by master composters on a volunteer basis). If such a park is desired, it would be recommended that it be constructed in the Lawrenceburg area.

## **Method For Evaluation and Reporting of Program**

The evaluation of the program must come through the master composters. It is virtually impossible to determine a percent diversion through this method (or any source reduction method). At the end of each year, the master composters should fill out a form which answers the following questions:

1. How many new household have begun composting this year? \_\_\_\_
2. How many households continued composting this year? \_\_\_\_
3. How many households have attempted composting since the beginning of the program and have quit? \_\_\_\_\_



## **Goal 1, Objective c & d-- Increase Source Reduction and Program Involvement Through Education-- Education in the Area Offices and Stores**

### **Target Groups and Audiences:**

The primary target for this program are those establishments which generate large amounts of paper. This includes governments offices, insurance offices, legal firms, professional firms, etc.

### **Amount and Kind of Information and Specific Methods to be Utilized:**

This program must be very simple and not time consuming. The primary purpose of the program is to overcome the fallacy that paper recycling is difficult. As such, an brochure must be simple and preferably on a single page. The brochure should include an offer for a region representative to come to the office and assist them in setting up the recycling collection program.

Some simple points which should be added to the educational package are:

1. Always have a paper recycling box at the copy machine.
2. Another good location for a paper collection box is at the coffee machine.
3. A system which does not work well is the use of desk-top "in" boxes for recycling. Such a box on someone's desk is usually being used for something else within a week.
4. Individual boxes next to each employee's desk work only when someone in the office is designated to take the recyclables to a central point on at least a weekly basis.

### **Method For Evaluation and Reporting of Program**

The region must keep records of all offices which have requested assistance in setting up in-office recycling programs. In addition, each of these offices should be contacted on an annual basis to determine if they have continued their recycling efforts. In the event that an office has discontinued, the region should make a personal call on the business to determine if there is any way to reinstate the program.

**Goal 1, Objective e-- Increase Source Reduction and Program Involvement Through Education-- Education in Area Industries**

The primary purpose of this program is to get industries working with one another to identify problem wastes and potential solutions within the region. The stories are getting less rare of situations where one industry was throwing away large quantities of a material which a nearby industry purchases as a raw material.

The offices associated with industry would be handled under the office program.

**Target Groups and Audiences:**

The target group for this program is those industries identified in this report as being major waste generators.

**Amount and Kind of Information and Specific Methods to be Utilized:**

The region should perform an inventory of the manufacturers in the region which includes the raw materials and waste products associated with their process. All other materials which are disposed of in bulk should be cataloged. This listing should then be made available to the industries in the region. Regular meetings between area industries should be sponsored by the Solid Waste Region in order to motivate communication among the industries.

**Method For Evaluation and Reporting of Program**

Area industries should be contacted on an annual basis and questioned concerning recycling programs and any programs which have been worked out in coordination with other area industries. Multi-industry programs should be charted for progress. In the event that one of these programs is cancelled, the region representative should meet personally with the industries involved to determine if the arrangement can be continued.

**Goal 1, Objective f-- Increase Source Reduction and Program Involvement Through Education-- Seminars for Civic Groups**

**Target Groups and Audiences:**

Target groups for this program include the organized and active civic, professional, and service groups within the region.

### **Amount and Kind of Information and Specific Methods to be Utilized:**

The amount and kind of information utilized will vary with the type of organization. The primary methods of publicity will be through personal presentations given before these groups or the boards of directors of these groups. In some instances, volunteer support will be requested. However, in most instances the presentation will be concerning the programs available through the region and source reduction strategies.

### **Method For Evaluation and Reporting of Program**

Follow-up questionnaires should be mailed to each group after a presentation to determine if the information was presented was informative to them and if they had any use for it.

### **Goal 1, Objective g-- Increase Source Reduction and Program Involvement Through Education--Increased Mass Media Involvement**

#### **Target Groups and Audiences:**

The target group and audience for this objective is the overall population of the region. Radio, television, and newspaper advertisements and public service announcements should be regularly distributed throughout the area media.

#### **Amount and Kind of Information and Specific Methods to be Utilized:**

**Television:** Public Service Announcements should be brief and visual. Voice-only announcements should be avoided if possible.

**Radio:** Public service Announcements should be bright and include either music or upbeat phrasing. Dry schedules and announcements should be avoided.

**Newspaper:** Newspaper should be approached about including information on solid waste programs in a thematic portion of the newspaper. For example, an environmental section coinciding with Earth Day could include a large amount of information about the overall program. Small single articles concerning solid waste go largely unread.

## **Method For Evaluation and Reporting of Program**

Statistics should be maintained which allow for charting various programs. This charting should be done on a small enough interval that increases and decreases in participation due to these advertisements can be noted.

## **Goal 2, Objective a-- Increase Rural Interest and Participation in Programs-- Increase Area Yard Sales and Garage Sales**

### **Target Groups and Audiences:**

The target group of this program will be that portion of the population which lives in a rural environment and therefore does not have easy access to the more modern forms of recycling. The purpose of this program is to build on and increase existing forms of source reduction and reuse through expanding the opportunities for large-scale yard sales and garage sales. It is hoped that those persons already actively participating in yard sales will invite and assist others who otherwise would not participate if the yard sale is made into a neighborhood event.

### **Amount and Kind of Information and Specific Methods to be Utilized:**

This method will be to work through local neighborhoods, civic groups, community centers, and churches to coordinate large-scale neighborhood yard sales utilizing publicly accessible parking lots. The region will contact and create a network of "block leaders" to coordinate the yard sales throughout the rural areas of the region. This block leader will be responsible establishing a location and a date for the sale and for providing participants from the area and advertising. The block leader must be allowed charge a percentage of sales in order to cover costs including a personal stipend. Maximum allowable percentages and stipends, as well as recommended budgets for advertising and other associated costs.

**Method For Evaluation and Reporting of Program**

The block leader must file the following information with the recycling and education coordinator:

Location of Yard Sale: \_\_\_\_\_

Dates of Yard Sale: \_\_\_\_\_

Number of Participants: \_\_\_\_\_

Approximate Number of Households Represented: \_\_\_\_\_

Approximate Number of Shoppers: \_\_\_\_\_

**Goal 2, Objective b-- Increase Rural Interest and Participation in Programs-- Work with Area Churches and Pastor's Organizations**

**Target Groups and Audiences:**

The target group of this program will be that portion of the population which lives in a rural environment and therefore does not have easy access to the more modern forms of recycling. The ministerial alliances in the four counties should be contacted in an effort to inform the church community of the available programs which might be used for fundraising activities as well as to request the assistance of the pastors and congregation in source reduction and recycling.

**Amount and Kind of Information and Specific Methods to be Utilized:**

The primary means of publicity and education for this objective will be through the passing out of simple flyers and personal speaking engagements.

**Method For Evaluation and Reporting of Program**

A record of speaking engagements should be maintained.

### **Goal 3, Objective a-- Develop Markets for Recyclables and Recycled Materials, Recommended Governmental and School Purchasing Policy**

A purchasing policy should be prepared and then presented to all governmental bodies within the region. The policy may be similar to the one included as an appendix to this document (Note-- not yet prepared as of 10/6/93) but should include as a minimum the following:

1. Plan for gradually working the governmental body up to 100% purchase of recycled paper. The policy should work gradually toward that goal with no more than 15% increase in recycled material purchase per year.
2. Definition of recycled paper by post-consumer content. A 30% post-consumer content is recommended as a minimum definition of recycled paper.
3. A bid multiplier for nonrecycled materials when bidding against recycled materials. For example, when bidding buckets made of virgin plastics against buckets made of recycled plastics, multiply all costs associated with the virgin plastics buckets by 1.05 for comparative purposes.
4. A plan for phasing out disposable products where reusable products are available.
5. A plan for requiring written reasons for utilizing toxic chemicals and materials where less toxic chemicals and materials are available.

#### **Target Groups and Audiences:**

Local municipal and county governments.

#### **Amount and Kind of Information and Specific Methods to be Utilized:**

The purchasing policy itself will be utilized along with personal presentations to governing bodies. It is recommended that a pilot program be developed for one year with one municipality within the region and the cost increases due to the policy be charted before presenting the policy to other governmental bodies.

### **Method For Evaluation and Reporting of Program**

A listing of the governmental bodies which have adopted the policy along with the revisions and changes which each made to it should be kept on file. Annual checks should be made with the purchasing officers to follow-up on progress made towards the percentage goals presented within the policy.

### **Goal 3, Objective b-- Develop Markets for Recyclables and Recycled Materials, Coordinate Area Business for Mass Buys of Recycled Products**

#### **Target Groups and Audiences:**

Local business and industry.

#### **Amount and Kind of Information and Specific Methods to be Utilized:**

All local distributors of recycled products should be kept on file. Special prices for bulk purchases should be worked out. These special prices would then be presented to a grouping of businesses and industries as a mass purchase. This would obviously only be applicable on universally used items such as copy paper. In addition, local businesses should be encouraged to join the Buy Recycled Business Alliance which is a no cost organization which assists businesses in buying recycled materials.

### **Method For Evaluation and Reporting of Program**

A listing of businesses that have participated in this program as well as those that have expressed an interest should be maintained along with the materials that each would be interested in purchasing.

### **Goal 3, Objective b-- Develop Markets for Recyclables and Recycled Materials, Work with The Farm and Local Nurseries for Compost Market**

#### **Target Groups and Audiences:**

The Farm and Local Nurserymen

#### **Amount and Kind of Information and Specific Methods to be Utilized:**

The information presented would consist of samples and analyses of available compost materials. These materials would be generated both within and without the region although those generated within the region would be given precedence. This program would acquaint the nurserymen with the local compost quality and markets and would establish lines of communication between the two.

A regular newsletter for the nurserymen updating them on the compost "crop" in the region and the availability of compost materials.

Sewage sludge could also be featured with articles on how to become approved as a land disposal location.

#### **Method For Evaluation and Reporting of Program**

Quantities of compost material utilized by nurserymen in Lawrence County would be recorded and maintained.



## Staffing and Budget Needs

For Lawrence County, it is assumed that one full-time Public Education, Publicity, Recycling, and Waste Diversion Manager will be required. The budgeting for his program will be about 50% applied to the education program and 50% applied to the recycling program. It is assumed that the administrative assistance would be provided by the Solid waste System and office space would be provided within the existing MRF.

A budget for this group would be as follows:

Salary and Benefits:	\$18,750*
Overhead:	1,000*
Supplies:	500
Office Equipment:	500*
Travel:	200
Printing:	1,000
Advertising:	1,000
	<hr/>
TOTAL	\$22,950

\* Denotes expense shared with another department.

## Funding Options and Allocation of Responsibility

Two options exist for the funding of this program. The first is funding through the tipping fee and the second is direct government line item.

Utilizing the tipping fee to fund this program would result in an additional **\$0.82** being added per ton.

Another funding option includes having the City of Lawrenceburg and Lawrence County provide the funds to the region for this position.

## 10-Year Implementation Schedule

January 1, 1995	Hire Personnel Required
Ongoing	Prepare Press Releases and Provide Photo Ops at the Beginnings of All Programs. Prepare Monthly Press Releases. Goal 1, Objective g
February 1995	Begin Work with Block Leaders for Community Yard Sales Goal 2, Objective a
February 1995	Work with Pilot Community for Implementing Purchasing Policy Goal 3, Objective a
March 1995	Backyard Composting Program Kick-off Goal 1, Objective b
March 1995	Begin Seminars for Civic Groups Goal 1, Objective f Schedule one presentation per month
April 1995	Begin Education in Area Industries Goal 1, Objective e
May 1995	Schedule Meetings with Ministerial Alliances in the Region Goal 2, Objective b
August 1995	Begin Educational Programs in Schools Goal 1, Objective a
September 1995	Begin Work with The Farm and Local Nurseries Goal 3, Objective c
October 1995	Begin Education in Area Offices Target Three Offices Per Month Goal 1, Objective c

February 1996

Begin Education in Area Stores  
Target Two Stores per Month  
Goal 1, Objective d

February 1996

First Mass Purchase of Recycled Products  
Goal 3, Objective b

# Home Compost Demonstration Facility

## Master Composter Program

### Cost Estimate

#### Construction:

Parking Spaces	\$3,000	
Water Service	500	
Sidewalk	120	
Clearing	1,000	
Path Construction	500	
Seed & Straw	800	
Landscaping	3,000	Annualized
	<hr/>	
Subtotal	\$8,920	\$1,150

#### Equipment and Materials:

Bins for Demo Site	\$ 500	
Chipper	NA (Already Available)	
Handtools	300	
Brochures (10,000)	2,500	
	<hr/>	
Subtotal	\$3,300	\$ 500

#### Operation:

Labor	\$10,000	
	<hr/>	
Subtotal	\$10,000	\$10,000

**TOTAL ANNUALIZED COSTS** **\$11,650**

**Additional Cost per Ton Tipping Fee** **\$0.42**

**Chapter X  
Problem Wastes**

## Chapter X. Problem Wastes

### Household Hazardous Waste

**BACKGROUND.** Household hazardous waste (HHW) are wastes discarded from homes, apartments, motels, and hotels that if generated by an industry would be regulated under Subtitle "C" of the Resource Conservation and Recovery Act as hazardous waste. The waste can either be a listed hazardous waste or hazardous by characteristic: ignitable, corrosive, reactive, or toxic. HHW may pose a threat to sanitation workers or the environment when improperly handled or disposed. Managing this waste in the municipal solid waste stream presents obvious problems. Disposing of this waste in municipal solid waste landfills results in a more toxic leachate. In uncontained landfills leachate has the potential of moving into and contaminating the groundwater. In contained landfills, particularly aggressive chemicals may affect the containment system. HHW discarded with other trash may react or explode in waste compactors, or burn personnel handling these wastes. Improper dumping down the drain may damage septic systems, sewage treatment plants, or drinking water supplies; corrode plumbing or cause treatment plant sludge to be hazardous. Illegal dumping of this waste may directly impact the environment, in particular surface water when dumped into storm sewers.

Household hazardous wastes include: paint thinners, solvents, paints and varnishes, cleaners, cosmetics (nail polish remover), pesticides, fertilizers, bleach, automobile fluids, photo and hobby chemicals, swimming pool chemicals, batteries, wood preservatives, motor oil, air conditioning refrigerants, adhesives, herbicides, fungicides, etc. The benefits of HHW collection programs go beyond the collection and disposal of these potentially dangerous chemicals. The programs can include public education elements that identify HHW, outline proper ways to store the wastes, and suggest alternative products. Collection programs increase the public's awareness of HHW in the home and encourage safer use and proper disposal.

The Solid Waste Management Act of 1991 outlines a program to manage household hazardous waste. The program relies on permanent collection centers for the major population centers, Shelby, Davidson, Knox, and Hamilton Counties. The remainder of the 91 counties in the state will be serviced by mobile collection units. The law requires that each county have at least one collection center by January 1, 1995 for automotive fluids, tires and lead acid batteries.

Liability is often a concern related to the collection of HHW. If the collection event accepts wastes **only** from households, it is exempt from RCRA (Resource Conservation and Recovery Act) Subtitle "C" liability. RCRA Subtitle "C" is the federal law that governs the safe storage, treatment, and disposal of hazardous wastes. The superfund law, or CERCLA (Comprehensive Environmental Response, Compensation, and Liability Act) is another liability concern. This law allows the federal government to collect cleanup costs for sites

that release hazardous constituents from anyone who ever deposited wastes on that site. CERCLA does not contain an exclusion from liability for household waste or an exclusion based on the amount of waste generated. Any waste that qualifies as a hazardous substance under CERCLA is subject to the appropriate liability provisions. Hazardous substances are defined and/or listed under CERCLA. HHW may qualify as a hazardous substance if it contains any substance regulated under CERCLA. If a HHW contains a substance that is covered under CERCLA (whether or not it is a RCRA hazardous waste) potential CERCLA liability exists. It is important to note that potential liability under CERCLA applies regardless of whether the HHW was picked up as part of a community's routine waste collection service and disposed of in a municipal landfill or in a special collection event. The additional safeguards provided by a specific HHW collection and management event may reduce the likelihood of environmental and human health impacts, and therefore may also reduce potential CERCLA liability.

In the State of Tennessee contracted collection program, the Contractor is required to accept all legal responsibility for the safety and well being of all persons and property on site during the collection event. The contractor is required to carry certain types and amounts of insurance to cover this liability.

**GOALS.** The specific goals for the Region in developing a HHW management program include:

**DISPOSAL.** Provide proper disposal, minimizing the impact on the environment due to potentially dangerous chemicals.

**HOME SAFETY.** Remove chemicals from homes, reducing exposure and potential injury.

**EXPOSURE.** Minimizing the amount of dangerous chemicals in the collection and disposal systems will reduce danger to sanitation workers.

**EDUCATION.** Educate consumers regarding the best methods of management of HHW; alternative product options with less potential hazards; proper storage and use of chemicals; better home management practices such as purchasing only the amount of chemicals needed.

**IMPLEMENTATION.** Acknowledging the importance of properly managing HHW, the State of Tennessee has allocated resources to implement special collection programs. The State has contracted with Laidlaw, a mobile collection contractor to manage the collection event. Laidlaw will receive, sort, categorize, and prepare the waste for transporting and disposal in accordance with all applicable regulations. Each county in Tennessee has the

responsibility to provide at least one collection center by January 1, 1995. To assist the counties the State has developed the attached "Policy Guide of County Responsibilities Tennessee Household Hazardous Waste Collection Program".

The Solid Waste Management Act requires each county to provide:

a service site for the mobile collection unit to access

advertisement in the newspapers outlining the schedule and details about the collection event

at least one person assigned to the collection site who will assist in the operation

The County Executive (or the appropriate representative of the Region) needs to schedule the collection event with the Special Waste Section by contacting the section with a proposed date, and location along with the name and address of the County's representative who will be on site (see attached draft letter). The request needs to be submitted at least thirty days prior to the desired collection date. The County can request assistance with advertisement and educational programs from the state as well. The County needs to send to the Section a copy of the proposed ad, expected dates the ad will run, and the names of the papers which the ad will appear ten days prior to the ad appearing. To schedule a collection day, the contact information is:

Manager, Special Waste Section (532-0091)  
Division of Solid Waste Assistance  
14th floor, L & C Tower  
401 Church Street  
Nashville, Tennessee 37243-0455

In order to conduct an effective program a key ingredient is advertising and/or public education. The State will be liable for a set-up fee to the Contractor each time a County is serviced, regardless if participants attend. The potential users must be aware of the availability and the benefits of a program in their community. At a minimum the County needs to advertise in a newspaper of general circulation the date, hours, and location of the collection event. The ad needs to be published once at least two weeks preceding the event and once the week of the event. The ad needs to specify that only 100 pounds of waste will be accepted from each household and list the items **excluded (medical and radioactive wastes, explosives, and dioxins)**, and note that the program is funded by the state. Effective means of getting the word out include to encourage participation:

posters or handouts, distributed at existing disposal facilities (landfill, transfer station, convenience center), retail outlets, government buildings; consider distributing the information with the collection routes with municipal solid waste pick up;



special lesson units in schools, and/or notice during the school daily announcements; information presented to school age children is very effective means of reaching the entire household;

public service announcements on radio and television, coordination with local news media for press releases or articles of interest in the newspaper;

inserts in utility bills or direct mailings;

meetings with clubs, churches, civic organizations with videotape and audio-slide presentations.

The Public Information and Education Chapter (IX) provides more specific guidelines for an educational program.

**SITE PREPARATION.** The County is responsible for providing the temporary site for the Collection Event. If the site is not County owned, the County needs to provide the lease agreement in writing to the State (fifteen days prior to the collection day). Seven to fifteen days prior to the collection event, the County needs to allow the household hazardous waste collection contractor to inspect the site.

The site chosen needs to provide easy access to the State collection Contractor by paved, gravel or well maintained roads. In order to be effective, the site needs to be convenient and close to potential users. The site needs to have access to electricity (grounded 110 electrical outlet), telephones (within fifty feet), water and sanitary facilities. The site can utilize the parking lot of a cooperative retailer, fire or police station, public works facility, etc. At least fifteen parking spaces are needed. A paved surface is necessary to contain spills. A flat area of at least 100 feet by 100 feet is needed. Also, avoidance of areas near surface water, storm water and sewer drains is recommended. The County needs to provide waste containers to manage nonhazardous materials which come in to the site. Management of the solid, nonhazardous waste, will be the responsibility of the County. A roll off dumpster would provide for collection and easy transportation to the landfill for nonhazardous waste. It is the County's responsibility to inspect the waste containers for questionable waste. This is critical for the County to assure all potentially hazardous waste is removed by the Contractor.

Although Laidlaw will provide the support necessary to conduct the collection program, having certain materials on hand is recommended for the County: tables and chairs, fire extinguisher, signs for traffic control and to identify the site, traffic cones, water hose and shut off valve, duct tape and staple gun, leaflets with general information on the program, pens, camera, paper weights and survey forms. A brief survey form will help determine the effectiveness of the program. A typical form is provided (the State typically provides their own form for distribution).

The operating rules of the facility need to be conspicuously displayed with guidelines for users. The users need to be aware that if a waste is not accepted they, as the generator, are responsible for the proper disposal. Limits on the volume and source of the waste need to be displayed. The State has set a maximum of 100 pounds per household (per automobile). It is imperative that no waste from industries is accepted, only household hazardous waste. No conditionally exempt small quantity generator or small quantity generator waste can be accepted.

The County needs to provide a site representative, either an employee or a representative of the County. The site representative needs to be a responsible individual capable of assisting in the organization of the collection event, offering support to the Contractor and allocating county resources as needed. The County representative or a suitable back up, must be on site during the operation and clean up of the event. The County representative will inspect the site prior to the Contractor leaving, he will need to document any damages to the site and the removal of all hazardous materials. The County representative will be responsible for coordinating County volunteers and for properly managing the solid waste on site. It is advisable to contact local environmentally conscious groups to request volunteers to assist with the program. Three or four volunteers on site during the day will help with traffic control, survey distribution and to help the Contractor.

**COUNTY SPECIFIC ACTION.** The first household collection day in the State program was Rutherford County on September 23, 1993. Over 400 cars visited the site to utilize the services offered. Overall the day was a success. The advertisement used by Rutherford County is included with this section. At this point, Lawrence County needs to move forward to take advantage of the State program. The County Executive, or an appropriate representative of the Region needs to contact the State as soon as possible to schedule a collection event. Roy Powell, the current landfill supervisor would be a logical coordinator for the Lawrence County event due to his daily involvement in the waste management program. The County needs to identify a readily accessible location which meets the criteria for a suitable site prior to contacting the State to schedule a day. The materials recovery facility, a local merchant with a large parking area, fire station, or other County facility would provide options.

The staffing requirements for the County will primarily involve the individual on site during the collection event. This individual will likely be from the solid waste or public works department, preferably a supervisor or someone of equitable responsible nature. Roy Powell would be a logical choice for coordinator. It is recommended that the same individual be designated as the event organizer as well. The event organizer would coordinate choosing and preparing the site; setting the schedule with the State for the schedule; developing and implementing the advertising campaign; working with the State Contractor to evaluate the site and assure the availability of all needed materials; coordinating volunteers; being on site at all times during the event; providing the final

inspection and any follow up as needed.

It is estimated the time contribution for the organizer would be 20-30 hours (6-10 hours for advertising, 4-8 hours for coordinating with the State and the Contractor, 8-10 hours the day of the event, and 2 hours follow up). The County Executive would also have an investment of time from 2-6 hours depending on his/her involvement, at least communicating with the State for the initial scheduling of the event.

The overall investment for the County would be:

approximately 20 - 30 hours of staff time @ \$25/hour and the County Executives time 4 - 6 hours @ \$30/hour (including benefits) \$620 - \$930

supplies approximately \$400-\$800

utilizing county property (zero for lease or rental)

managing the solid waste collected, \$100- \$500

advertising, \$1,000 - \$2,000

**TOTAL        \$2,120 - \$4,230**

**LONG TERM PROGRAM.** The Solid Waste Management Act of 1991 has a five year sunset provision. The State has indicated that they intend to continue the State funded program for another three years. However, the contract is reevaluated annually. Given that, the County needs to take full advantage of the State funded program while it is available. The State program is set up to respond to specific requests from counties. Priority will be given to counties which have not had the services in the past. As available, the State Contractor can revisit counties previously serviced.

Once the State program has been exhausted, the individual counties need to evaluate the options to continue the program with their own resources. The data accumulated from the State program can be used to estimate cost and assist in setting up regional programs. Near the conclusion of the State funded program.

To take advantage of the economies of scale the Lawrence County Solid Waste Region can contact surrounding regions and counties to discuss options for continuing the services of a Contractor. Due to the high cost of individual programs, it is expensive for single counties to finance household hazardous waste programs. Coordinating with other regions allows for an economical option of continuing with the services of a private contractor. Preliminarily, the Region can establish collection programs, one collection day in each county once or

twice per year. Working with some adjacent regions, collection days will be set up periodically at alternating counties. Potential interaction with the Lewis, Hickman, Perry Region, Maury - Marshall Region, the Interlocal Region (Franklin, Lincoln and Giles), and Wayne, Hickman, and McNairy Region, would provide a large enough area to coordinate a rotating monthly collection program with a private collection contractor, with each county conducting only one program per year.

The advertising campaign for the collection days would be disseminated to all participating counties. This allows participants access collection programs in other counties if they could not wait until their home county's scheduled day.

The progress made by the State funded collection events needs to be maintained with a continuing educational program. The information provided to the public regarding the dangers and alternatives of HHW needs to be ongoing. Information such as the attached is a listing of typical HHW with more environmentally friendly alternative products is particularly important in avoiding the generation of household hazardous waste.

The implementation of the long term household hazardous waste management program will be under the responsibilities of the Region's educational coordinator, since the importance of proper education in this issue is paramount.

**IMPLEMENTATION SCHEDULE.** The region will take full advantage of the State funded collection program by scheduling a state funded collection event as soon as practical. The County can contact the State periodically to schedule subsequent collection event as soon as the State allows.

The costs associated with the long term program are difficult to estimate at this time due to the lack of specific information on the participation rates for future programs. Once the State funded program has operated the data accumulated can be used to assist in the development of the Region's long term budget for HHW collection and management.

## Waste Tires

**BACKGROUND.** The Solid Waste Management Act of 1991 includes the regulation of waste tire disposal and a program to assist in the proper disposal of waste tires. The law outlines operational requirements for disposal of tires at landfills, as well as directing each county to provide a site to receive and store waste tires. The law reads:

Waste tires may be disposed of in the same manner as other waste except that whole waste tires may not be disposed of in the final lift or within 10 feet of the final grade unless the tires are shredded, chipped or circumferentially sliced. Whole tires or shredded, chipped or circumferentially sliced tires may be stored on site provided that the tire storage area conforms with the following standards:

- I. The storage area shall be surrounded by an 18" high earthen berm to manage run-on and run-off and be sufficient to contain water in the event of a fire, and to provide that:
  - a. All surface run-off is diverted around the site;
  - b. All rain water collected within the berm must be directed to an appropriate release point; and
  - c. All fire control water can be contained until release is approved.
- II. Tire piles shall be restricted to the following dimensions: 200' long, 50' wide and 15' high. Whole tires shall be covered by a material sufficient to shield the tires from precipitation or an effective insect vector and rodent control program shall be established.
- III. A buffer zone of at least 50' wide shall separate tire piles from each other and from active disposal areas.
- IV. In order to reduce the risk of fires:
  - a. The storage areas and the buffer zone shall be kept free of brush and high grass;
  - b. No flammable liquids may be stored nor may equipment with an open flame be utilized in or within 50' of the storage area;
  - c. Communication equipment, capable of immediately notifying the responding fire department, shall be maintained, and;
  - d. A letter assuring response from the responding fire district must be filed with the State and the telephone number of the responding fire district must be posted at the facility. If service is not available specific fire control measures must be specified by letter to the state.
- V. The storage area may not be located:
  - a. On an active disposal area
  - b. On a closed disposal area, unless no remaining area is available and remedial closure is specified in writing to the State
  - c. On an area to be utilized for disposal within one year; and
  - d. In wetlands or the 100 year floodplain.
- VI. Tires or shredded tires may not be stored for more than one year without the written approval of the State. The operator shall maintain records sufficient to establish the date each tire pile within a storage area was begun.

The law calls for a December 31, 1994 ban on disposal of whole tires in landfills. To transition into this ban, the State has funded a private contractor (Southeastern Environmental Technologies of Tennessee) to shred waste tires at no cost to local governments. The mobile tire shredder will go to each county at least twice per year. Counties with a Class I or IV landfill may store waste tires on a permitted facility until they are shredded (up to one year). Other counties can establish a separate waste tire storage site with a state permit. Grants are available from the state to help counties with the collection and storage of waste tires until they are shredded (grant contact Joyce Dunlap 532-0075).

In order for a county to have its waste tires shredded each site must have an accessible road and work site capable of accommodating a tractor trailer truck and tire shredding equipment weighing approximately 80,000 pounds.

**GOALS.** The specific goals for the Region in developing a waste tire management program include:

- provide for environmentally sound disposal of tires

- reduce the number of illegal dumps and associated problems with old tires, this includes potential breeding ground for insects, unsightly dumping grounds, and potential for serious fires

- alleviate operational problems at landfills due to the behavior of tires in the fill

- investigate alternative disposal options, such as recycling or reuse of the tire material subsequent to shredding

**CURRENT SYSTEM.** The existing tire management program in Lawrence County is to landfill the tires at the existing Class IV landfill operated by the City of Lawrenceburg. The County has established a location and design for the tire storage area at the balefill site. To date the storage area has not been developed, the State shredder has not been to Lawrence County. The demolition landfill does not charge for tires. Since the landfill uses landfill employees and the existing landfill for disposal, it is difficult to estimate the operational costs.

The State records indicate that 54,427 tires were sold in Lawrence County between October 1991 and June 1993. It is difficult to provide a quantitative estimate regarding the extent of illegal dumping problems in the Region. In general, the extent of illegal tire dumping is an issue. Based on the number of tires sold compared to the number of tires shredded, the likelihood of problematic tire dumping is high. It is difficult to quantify the problem

since the demolition landfill still accepts whole tires without any specific accounting of the numbers. Implementation of a tire storage area with effective advertising should reduce the illegal dumping problem.

**IMPLEMENTATION.** Lawrence County does not yet meet the minimum requirements for the regulations, in that they have yet to develop a tire storage area. The Region will move forward prior to December 1994 to construct a tire storage area at the balefill site. Shredded tires will be landfilled directly, since it is difficult to bale shredded tires. The Region can move forward in proper tire management by addressing the issue of illegal dumping problems and investigating the feasibility of alternative disposal options. The Region will assign the responsibilities of an ongoing tire management program to the waste diversion/recycling coordinator.

To address the problem of illegal dumps the waste diversion/recycling coordinator needs to coordinate with the sanitation or public works departments of each participating county to establish:

- establish an inventory of illegal tire piles
- standard clean up protocol
- educational programs to attempt to discourage illegal dumping
- enforcement program to punish individuals associated with illegal dumping

The issue of developing alternatives to landfilling the tires is a matter of researching potential markets to utilize the materials.

## Waste Oil

**BACKGROUND.** Due to the common practice of individuals changing their own automobile oil, the potential for environmental impact from improper disposal is high. The EPA estimates that every year, privately owned automobiles and light trucks generate over 300 million gallons of used crankcase oils. The majority of this oil (over 200 million gallons per year) is generated by individual consumers who change their own oil. The EPA estimates only 10% of this is properly collected and sent off for recycling. The remainder is emptied into sewers, dumped directly onto the ground, thrown in the trash or into surface water. The State of Tennessee estimates that over 1,000,000 gallons of used motor oil is generated each year in the state. Of this, up to 60% is estimated ending up eventually in the state's water resources. For instance, the Coast Guard estimates that sewage treatment plants discharge twice as much oil into coastal waters as do tanker accidents (15 million gallons per year versus 7.5 million gallons from accidents).

The facts about used oil include, re-refining used oil takes only about one third the energy of refining crude oil to lubricant quality. If all the used oil improperly disposed of by do-it-yourselfers were recycled, it could produce enough energy to power 360,000 homes each year or 96 million quarts of high quality motor oil. A gallon of used oil can ruin a million gallons of fresh water.

The State of Tennessee recognized the improper management of waste oil as a problem and required the regional solid waste plans to address this issue. The Solid Waste Disposal Act bans the disposal of waste oil in landfills after January 1, 1995 and requires each county to develop an infrastructure for accepting, storing, recycling or safe disposal of these materials by the end of 1994.

**GOALS.** The Region's goals in regards to management of used oil include:

provide an opportunity for the public to properly dispose of their used oil, thereby minimizing environmental impact

maintain and support private entities who offer collection of used oil

educate the population regarding the potential impacts of mismanagement of used oil and environmentally sound disposal options

provide drop off used oil disposal and recycling facility at existing disposal facility to supplement the existing retail facilities



Different collection programs offer various benefits. Curbside collection offers the convenience and high participation rate of the users, however it is very expensive. Collection trucks would need to be retrofitted with used oil collection tanks or racks. Periodic special curbside collection of used oil are more economical to routine curbside collection. This "milk run" alternative requires substantial publicity and coordination with the collection program. This option is still more expensive and potentially problematic than a central drop off facility and is not recommended for the Region.

A central collection station is where do-it-yourselfers can drop off used oil in an appropriate tank or drum. The station needs to be well marked and preferably manned to ensure that it is used for uncontaminated lubricating oil only. Establishing this service at manned convenience centers provides an economical option for collection of used oil. This system can work well in concert with retail facilities. Many service stations, car dealerships and retail stores have collection tanks installed for their own use that their customers.

The used oil needs to be picked up in a timely manner by a responsible used oil hauler and sent to reputable recyclers. The hauler must have valid license and operate in a safe and environmentally sound fashion, maintain regular records of quantities, and deliver the oil to reputable management facilities. Haulers and recyclers are often listed in the Yellow Pages. Contact with existing private programs can provide a list of haulers in the area. The recycling facility should be evaluated prior to contracting. Visiting the site can indicate substandard practices. The recycler should have accurate records of the source of the used oil, routine laboratory checks for contaminated loads, etc. The facility should have containment measures to prevent losses and contain spills. Storage areas should be well maintained with containment in place. The facility needs to be in compliance with all applicable state and federal requirements. Inspection should be up to date and with any violations noted corrected.

An educational program will circulate information regarding the proper management of used oil. The State has information brochures which briefly outline the potential problems and ways to avoid them for individuals wanting to dispose of used oil (attached). Chapter IX, the Educational and Public Information Chapter presents more specific information regarding effective educational programs. In particular used oil program educational efforts should focus on:

- educate the public about the used oil problem, environmental impacts
- encourage more responsible oil management
- notify do-it-yourselfers how to use the program to recycle oil

Used oil programs can be somewhat seasonal, with do-it-yourselfers changing their oil more frequently in the spring and summer. Educational efforts need to concentrate on these

times of the year. The typical do-it-yourselfer is between 15 and 45. So a high school age program is particularly effective, along with a program aimed at the general public.

A valuable resource in setting up a used oil recycling program is EPA publication "How to Set Up a Local Program to Recycle Used Oil" (EPA/530-SW-89-039A). This publication provides several examples of brochures, posters, letters, press release, and collection tank design which are included in this chapter.

**CURRENT SYSTEM.** Currently the County provides a drop off program at the existing balefill for the landfill's use as well as for general citizens use. The balefill has some barrels on site used for oil storage until a private hauler removes the used oil. The County is considering a more permanent system, with an appropriate tank. Typically private entities provide the service of accepting used oil, such as service stations, auto supply stores, convenience stores, car dealerships, and instant oil changers. The Region needs to follow up to identify the public facilities for used motor oil.

**IMPLEMENTATION.** In order to comply with the requirements of the Solid Waste Management Act, each county needs to provide at least one site by January 1, 1995 to receive and store waste oil. Lawrence county has provided this level of service. The County needs to move forward with the encouraging proper coordination between government, industry and volunteer organizations working towards a more wide spread implementation.

The Region's educational coordinator can research the existence of private facilities which accept used oil to determine the adequacy of the existing system. The Region will work with the private facilities and encourage their continued involvement. The Region will coordinate with gas stations, supply stores, existing disposal facilities to circulate information. The result of the Region's research will be a listing of available private facilities in the county which will be available to potential users.

The Region needs to upgrade the existing used oil collection station to a contained more permanent tank system with appropriate secondary containment, spill prevention, etc. This will allow interested individuals to utilize a means of proper waste oil disposal. The program would be low cost due to the fact that existing landfill staff could manage the program with minimal investment.

Key issues to properly implement a used oil collection program include:

ensuring proper financing for the purchase of equipment, collection operations, publicity and staffing requirements;

managing risks, programs must prevent mixing other materials which may be

environmentally damaging or cause problems with haulers or recyclers; the oil must never be mixed with gasoline, solvents, pesticides, or other chemicals;

ensure the proper management of the oil once the contracted hauler removes it from the collection site;

effective educational program and advertising to encourage active participation;

accurate record keeping to chart the program's costs, effectiveness, problems, cycles, impact of advertising, etc.

The Region's educational coordinator can be responsible for the implementation of an effective waste oil management program, since the program relies so heavily on proper education and advertising. The costs of implementing the program will be tied directly to the popularity of the program and the volume of oil received. The cost of administration will be primarily covered by the educational coordinator's time (discussed in the educational section). The cost of collection units range from simple collection barrels to more specifically designed waste oil containers. The haulers can be contracted and negotiated based on the value of the oil to them. Lawrence County can have one storage container at the materials recovery facility specifically designed for used oil for a cost of \$1,000 to \$3,000 (200 - 400 gallons capacity).

## Litter Grant Program

The State of Tennessee Department of Transportation (Maintenance Division) provides a litter grant program to counties for their use. The system is funded through a tax on the beverages in the state with a fund of \$3.4 million for this year. The money is allocated to the 95 counties based on number of miles in the county and population. The minimum grant is \$20,211 and the maximum is \$295,000. A list of the counties and their grants is included in this section. The counties are reimbursed for money spent on approved programs. The litter grant program is used primarily for road side pick up of litter. Counties use prison labor with the cost of the guard and transportation reimbursed by the litter grant to clean up county roads. The grant can also finance educational programs, if the county fulfills four of the five categories (government, school, business, media or public). The grant program recently started a program to encourage counties to use more of the grant on educational programs. The smallest grant recipients need to spend 5% of the grant on education and the largest recipients 20%. The program increases this percentage over the next three years to a 15% and 35% level.

According to TDOT the 1993-1994 litter grant allocations for Lawrence County was \$36,127. The litter grant program is set up as a reimbursement for money spent of clean up or educational programs. This is an excellent opportunity to access funds for educational programs for the various solid waste issues addressed in this Plan. Educational/advertising programs for household hazardous waste, used oil, lead acid batteries, tires, and general recycling programs may be partially financed through this program. Note the TDOT emphasizes the money needs to be related to discouraging litter and approval from TDOT is needed prior to redirecting funds to new educational programs.

1993-1994  
LITTER GRANT ALLOCATIONS

ANDERSON	\$38,290	LAUDERDALE	\$23,911
BEDFORD	\$29,001	LAWRENCE	\$36,127
BENTON	\$21,435	LEWIS	\$20,211
BLED SOE	\$20,211	LINCOLN	\$30,102
BLOUNT	\$49,378	LOUDON	\$24,903
BRADLEY	\$42,971	MCMINN	\$35,592
CAMPBELL	\$28,524	M McNAIRY	\$28,007
CANNON	\$20,211	MACON	\$21,372
CARROLL	\$30,111	MADISON	\$46,087
CARTER	\$32,387	MARION	\$22,039
CHEATHAM	\$23,293	MARSHALL	\$23,664
CHESTER	\$20,211	MAURY	\$40,604
CLAIBORNE	\$26,124	MEIGS	\$20,211
CLAY	\$20,211	MONROE	\$32,297
COCKE	\$27,367	MONTGOMERY	\$52,500
COFFEE	\$32,332	MOORE	\$20,211
CROCKETT	\$20,211	MORGAN	\$20,211
CUMBERLAND	\$30,841	OBION	\$30,943
DAVIDSON	\$193,053	OVERTON	\$23,092
DECATUR	\$20,211	PERRY	\$20,211
DEKALB	\$20,211	PICKETT	\$20,211
DICKSON	\$32,590	POLK	\$20,871
DYER	\$29,702	PUTNAM	\$36,520
FAYETTE	\$27,993	RHEA	\$22,187
FENTRESS	\$20,211	ROANE	\$33,926
FRANKLIN	\$29,637	ROBERTSON	\$34,052
GIBSON	\$39,192	RUTHERFORD	\$62,607
GILES	\$30,724	SCOTT	\$20,211
GRAINGER	\$20,616	SEQUATCHIE	\$20,211
GREENE	\$46,049	SEVIER	\$39,515
GRUNDY	\$20,211	SHELBY	\$295,270
HAMBLEN	\$30,007	SMITH	\$20,211
HAMILTON	\$122,467	STEWART	\$20,211
HANCOCK	\$20,211	SULLIVAN	\$71,130
HARDEMAN	\$26,655	SUMNER	\$57,843
HARDIN	\$26,935	TIPTON	\$29,852
HAWKINS	\$35,082	TROUSDALE	\$20,211
HAYWOOD	\$22,982	UNICOI	\$20,211
HENDERSON	\$27,169	UNION	\$20,211
HENRY	\$30,720	VAN BUREN	\$20,211
HICKMAN	\$26,260	WARREN	\$29,448
HOUSTON	\$20,211	WASHINGTON	\$50,914
HUMPHREYS	\$22,891	WAYNE	\$24,745
JACKSON	\$20,211	WEAKLEY	\$33,637
JEFFERSON	\$28,729	WHITE	\$23,362
JOHNSON	\$20,211	WILLIAMSON	\$47,313
KNOX	\$144,080	WILSON	\$44,073
LAKE	\$20,211	TOTAL	\$3,400,000

**Chapter XI**

**Implementation: Schedule, Staffing and Funding**

## **Chapter XI - Implementation: Schedule, Staffing and Funding**

### **A. System Definition**

In order to meet the requirements of "The Solid Waste Management Act of 1991" Lawrence County needs to implement or upgrade the following components to provide an integrated solid waste management system to meet its solid waste demands in the next ten years:

#### **Waste Reduction (Chapter IV)**

Lawrence County must reduce or divert 6,584 tons beginning in 1995 being disposed of at the landfill by utilization of the Class III/IV landfill, continuing the current recycling program, implementing educational programs at all county schools, providing white goods and scrap metal collection and through industrial source reduction.

#### **Collection and Transportation (Chapter V)**

The Lawrenceburg - Lawrence County Solid Waste System will provide curbside collection to all households within Lawrence County. This will be done through a series of private contracts.

#### **Recycling (Chapter VI)**

The Lawrenceburg - Lawrence County Solid Waste System will continue the existing "blue-bag" collection program and in addition will increase the school recycling collection program to include all of the schools in Lawrence County.

#### **Disposal (Chapter VIII)**

Lawrence County's current landfill has approximately 6 years of capacity remaining. Lawrence County will continue to dispose of solid waste in its current cell until October 1996. In October, 1996, the Solid Waste System will contract with an out-of-county private disposal facility for the purpose of waste disposal.

#### **Education (Chapter IX)**

Institute education programs for fifth and eleventh grade students as per curriculum provided. Also education programs will be established for area industries, civic groups, offices and ministerial alliances.

## Problem Waste (Chapter X)

Provide once a year collection through 1995 using the state collection program for household hazardous waste (HHW) and provide a permanent drop of site in the county in 1996.



**B.****Implementation Schedule**

<u>Activity</u>	<u>Date</u>
Solid Waste Plan Submitted	June 1994
LLCSWS Begins Operation of Class III/IV Landfill	Summer 1994
Begin White Good/Scrap Metal Collection	Summer 1994
Solid Waste Plan Approved	October 1994
Designate Diversion Manager, Recycling Manager, and Problem Waste Manager	October 1994
Begin School Recycling and Education Program	August 1995
LLCSWS Implement County-wide Curbside Waste Collection	Fall 1995
All Planned Programs Associated With Diversion and Collection Operating at 100%	December 1995
25% Diversion Goal Met	January 1, 1996

### C. Staffing and Training Requirements

The following is a listing of the positions required for solid waste management after the implementation of this plan:

Position	Number Required	Certification Required
Solid Waste Manager	1 <sup>1</sup>	Yes
Collection Contract Coordinator	1 <sup>1</sup>	
Recycling Manager	1 <sup>1</sup>	
Problem Waste Coordinator	1 <sup>1</sup>	
Class III/IV Landfill Manager	1	Yes
Equipment Operator	1 (Part-time)	
Materials Recovery Facility Staff	4	

<sup>1</sup> These positions can be combined.

D. Budget

LAWRENCEBURG - LAWRENCE COUNTY SOLID WASTE SYSTEM  
 COST ESTIMATE FOR INTEGRATED SOLID WASTE MANAGEMENT SYSTEM

	1994	1995	1996	1997	1998	1999	2000	2001	2002	2003
Waste Reduction	0 <sup>1</sup>	50,793	52,972	55,259	57,662	62,204	64,853	67,634	70,553	73,619
Collection <sup>4</sup>	0 <sup>2</sup>	50,000	171,329	179,895	188,890	198,334	208,251	218,663	229,597	241,076
Recycling	224,651	237,269	260,571	273,844	287,514	303,510	318,024	332,974	348,398	364,453
Disposal/ Transportation <sup>4</sup>	453,391 <sup>3</sup>	464,726 <sup>3</sup>	476,344 <sup>3</sup>	771,209	816,837	865,331	916,648	970,714	1,028,232	1,086,434
Education	0	2,800	2,940	3,087	3,241	3,403	3,574	3,752	3,940	4,137
Problem Waste	0	2,000	2,000	10,000	10,000	15,000	15,000	15,000	20,000	20,000
Total	678,042	807,588	966,156	1,293,294	1,364,144	1,447,782	1,526,350	1,608,737	1,700,720	1,789,719

City of Lawrenceburg Cost

<sup>2</sup> Costs by Lawrenceburg, Etheridge, St. Joseph, and Loretto

<sup>3</sup> Bafefill Operation

<sup>4</sup> Paid by User Fees after 1995.

## **Chapter XII**

### **Allocation of Implementation Responsibilities: Plan Adoption and Submission**

## **Chapter XII - Allocation of Implementation Responsibilities: Plan Adoption and Submission**

The Lawrence County Solid Waste Planning Board has developed this regional plan and formally adopted it by resolution and signed by the chairman. The Board presented the plan to the Lawrence County Commission and was adopted by resolution. Implementation and funding will be the responsibility of the Lawrenceburg - Lawrence County Solid Waste System. This plan was also submitted to the Planning Commissions of Lawrence County, and the City of Lawrenceburg, and the Town of Loretto for review and comment. The resolutions and minutes of the commission meeting review of this plan are included in Appendix E.

**Chapter XIII**

**Flow Control and Permit Application Review**

## **A. Flow Control**

### **Out-of-Region Waste Bans**

The clause in the Solid Waste Act of 1991 which defines the out-of-region ban reads thusly:

(B) The region or authority may restrict access to any landfills and incinerators which dispose of municipal solid waste by excluding waste originating with persons or entities outside the region in order to effectuate the plan. If a facility within a region has accepted waste from a specific source outside the region prior to July 1, 1991, the region may not prohibit that facility from continuing to accept waste from that source, unless the facility's acceptance of that waste significantly impairs the region's ability to effectuate its plan.

The Lawrence County Solid Waste Plan proposes to handle the Lawrence County waste stream through hauling the county's waste out of the county to a private disposal facility. Therefore, an out-of-region waste ban is not necessary to effectuate the plan. However, this statement is not meant to prevent the Lawrence County Solid Waste Planning Board from having the right to reject a new landfill application within the county as detailed later in this chapter. It is also not meant to preclude Lawrence County or any city or authority, or the planning region from invoking a ban on out-of-region waste if it can demonstrated that the above definition is met at some point in the future.

### **Intra-Region Flow Control**

Intra-Region flow Control is defined as regulatory control over the destination or utilization of all of the waste generated within the geographic boundaries of Lawrence County. In order to invoke such flow control, the following points would need to be proven to direct waste away from a given landfill:

1. Said landfill is environmentally unsound or inadequate to meet the region's 10-year needs;
2. Costs for the use of said landfill facility are inconsistent with comparable facilities within the State of Tennessee;
3. Said landfill facility is operating in a manner which is inconsistent with the plan;

4. The public regional facility meets all state and federal regulations.

As it is not possible at this time to prove all of those statements, flow control directing the waste of the region completely away from any given landfill is not considered feasible. By this statement, Lawrence County is not forfeiting its right to use flow control should all of the above statements become provably true at any point during the planning period.

Limited flow control might be legally viable which did not direct solid waste away from a given landfill but instead directed it through a processing facility of some type (which was designed specifically to meet the 25% waste reduction goals as required in the Solid Waste Act of 1991) prior to ultimate disposal at the landfill.

Intra-region Flow Control is not needed to effectuate the plan. Therefore there is no flow control designed into the plan at this time. With this statement, the region (or Lawrence County or any municipalities therein) is not forfeiting the right to utilize flow control to direct solid waste through a processing facility whose primary purpose is the diversion of solid waste away from Class I landfilling should such a facility be constructed at some point in the future.



## **B. Permit Application Review**

The following is the proposed permit review process with estimated time periods:

### **1. Basis for Review**

The review of any application for a solid waste disposal facility, incinerator facility or existing facility extension within the Lawrence County Solid Waste Planning Region will be based upon compliance with the intent of the plan as written, approved, and adopted. The following criteria shall be considered in evaluating such application:

- (1) The type of waste to be disposed of at the facility;
- (2) The method of disposal to be used;
- (3) The projected impact on surrounding areas from noise and odor created by the proposed facility;
- (4) The projected impact on property values on surrounding areas created by the proposed facility;
- (5) The adequacy of existing roads and bridges to carry the increased traffic projected to result from the proposed facility;
- (6) The economic impact on the county, city, or both;
- (7) The compatibility with existing development or zoning plans;
- (8) Any other factor which may affect public health, safety, or welfare; and
- (9) Review by both the county legislative body of the county in which such proposed facility is located and the governing body of any municipality which is located within one (1) mile of such proposed facility.

A vote to reject such application by either the county legislative body or municipality will result in an automatic rejection by the Lawrence County Solid Waste Planning Board.

Judicial review of the legislative body's determination shall be a de novo review before the Chancery Court for the county in which the proposed facility is to be located.

### **2. Application and review Procedure**

- a. A copy of the Part I Solid Waste Disposal Facility Permit Application shall be submitted to the Chairman of the Lawrence County Solid Waste Planning Board prior to submittal of said document to the Division of Solid Waste Management. In addition to the DSWM Part I Application, this submittal shall include the following information:

- i. Estimated Total Volume of the Facility in Tons of Waste
  - ii. Estimated Daily Tonnage of the Facility
  - iii. Proposed Service Area of the Facility
  - iv. Map showing the location of the site suitable for advertisement.
  - v. Map showing current zoning of the site with a description of any special permits or re-zonings required and the status of same.
- b. The Chairman of the Planning Board will then place an advertisement in the local newspapers of the county in which the disposal facility is proposed as well as in the newspapers of any counties which have a portion of their land mass within 5 miles of the proposed facility. This advertisement will include the following information:
- i. Date, time, and location of public hearing (must be at least 28 days after advertisement runs).
  - ii. Road address and location relative to incorporated or unincorporated municipalities.
  - iii. Map showing the location of the site.
  - iv. Dates of public comment period.
  - v. Address for mailing of public comments.
- c. The Chairman of the Planning Board will send copies of the application to each member of the Planning Board as well as to the design consultant for the board.
- d. The Chairman of the Planning Board will call a special meeting of the board which will act as the public hearing.
- e. The public hearing will be in presentation format. The applicant will present a 15 minute discussion of the proposed project. This will be followed by a fifteen minute report from the design consultant for the solid waste planning board, this will be followed by the public comment period. Comments will be limited to 5 minutes in duration.
- f. At the end of the public hearing, the Planning Board will schedule another special meeting to be a minimum of two weeks and a maximum of four weeks after the public hearing.

- g. At the second special meeting the Planning Board will discuss the issue and then vote and render a decision to the owner(s). The vote will be decided by simple majority. In the event of a tie vote, any abstentions will be re-polled for a vote. One of two votes will be possible:
  - i. Reject the application;
  - ii. Do not reject the application.
  
- h. In the event of a tie, the abstentions will be re-polled. In the event of a tie at that point, the vote will automatically be considered to be "Reject the Application".

Appendix X-1  
Chapter X. Problem Wastes



# HOUSEHOLD HAZARDOUS WASTE COLLECTION PROGRAM LAWRENCE COUNTY SOLID WASTE MANAGEMENT REGION

DATE: \_\_\_\_\_

To determine the effectiveness of this program and improve future efforts, the user of this household hazardous waste collection service is requested to fill out this brief survey form.

1. How did you hear about this service? \_\_\_\_\_
2. Suggestions for more effective advertizing? \_\_\_\_\_
3. What is the primary reason you decided to utilize this service?
  - \_\_\_\_\_ interest in protecting the environment
  - \_\_\_\_\_ concern over health risks of having these chemicals in your home
  - \_\_\_\_\_ concern over throwing these chemicals in with solid waste and the danger to sanitation workers
  - \_\_\_\_\_ just wanted to get rid of the waste
  - \_\_\_\_\_ other: \_\_\_\_\_
4. What sort of waste did you bring today? \_\_\_\_\_
5. Approximate volume of waste? \_\_\_\_\_
6. How convenient is this location? \_\_\_\_\_
7. How far do you live from here? \_\_\_\_\_
8. Where do you live(City and County)? \_\_\_\_\_
9. Suggested alternative locations? \_\_\_\_\_
10. Please rate the service received today (1 to 5, 5 being excellent and 1 being unacceptable). \_\_\_\_\_
11. Demographic data:
  - Age group: \_\_\_ <20; \_\_\_ 20-29; \_\_\_ 30-39; \_\_\_ 40-49; \_\_\_ 50-59; \_\_\_ 60+ years old
  - Income: \_\_\_ <15,000; \_\_\_ 15,000-29,999; \_\_\_ 30,000-49,999; \_\_\_ \$50,000+ /year
  - Education: \_\_\_ grade school; \_\_\_ high school; \_\_\_ college; \_\_\_ post graduate
  - Currently a student? \_\_\_ no; \_\_\_ yes
12. The State of Tennessee is funding this program for a limited time. Should local funds finance future programs? Would you be willing to pay for this service in the future?  
\_\_\_\_\_  
\_\_\_\_\_
13. Comments: \_\_\_\_\_  
\_\_\_\_\_  
\_\_\_\_\_  
\_\_\_\_\_
14. Name and address (optional) \_\_\_\_\_  
\_\_\_\_\_  
\_\_\_\_\_

## HAZARDOUS HOUSEHOLD PRODUCTS

Products	Hazardous Ingredients	Hazard Properties	How to Dispose	Precautions and Substitutes
Abrasive cleaners	trisodium phosphate, ammonia, ethanol	corrosive, toxic, irritant	Use completely, rinse container and dispose in trash.	Rub area with half lemon dipped in borax, rinse and dry. Use baking soda instead. Try using soda water to clean stainless steel.
Aerosols	nitrous oxide, propane	toxic, carcinogen, flammable	Use completely, dispose in trash.	Use non-aerosol products.
Air fresheners & deodorizers	formaldehyde	toxic, carcinogen, irritant	Use completely, rinse container and dispose in trash.	Open a window or use an exhaust fan, sprinkle baking soda on odor areas and use in refrigerator.
Ammonia based cleaners	ammonia, ethanol	corrosive, toxic, irritant	Use completely, rinse container and dispose in trash.	Vinegar, salt and water for surfaces, baking soda and water for the bath.
Antifreeze	ethylene glycol	toxic	Dispose at wastewater treatment plant. DO NOT POUR ON GROUND.	
Auto Degreasers	petroleum products	Corrosive, Poisonous, Eye and skin irritant.	Use up according to label instructions or give away.	Choose strong detergent type over solvent type
Auto waxes and polishes	petroleum products	Fumes irritating to eyes. Harmful if swallowed. Eye and skin irritant.	Use up according to label instruction or give away.	Use outside.
Batteries	sulfuric acid, lead	corrosive, toxic	Recycle. trade in or take to reclamation center.	
Batteries: mercury button type	mercury	Swallowing one may be fatal if it leaks.	Throw in trash.	
Bleach cleaners	sodium or potassium hydroxide, hydrogen peroxide, hypochloride	corrosive, toxic	Use completely, rinse container and dispose in trash.	Use powdered bleaches or add borax.
Brake fluid	glycol ether, heavy metals	flammable, toxic	DO NOT DISPOSE. STORE FOR HAZARDOUS WASTE PROGRAM.	

## HAZARDOUS HOUSEHOLD PRODUCTS

Products	Hazardous Ingredients	Hazard Properties	How to Dispose	Precautions and Substitutes
Chlorinated hydrocarbons	DDT, aldrin, endrin, chlordane, heptachlor, lindane	toxic	DO NOT DISPOSE. STORE FOR HAZARDOUS WASTE PROGRAM.	Import predators (ladybugs, ground beetles, mantis).
Disinfectants	diethylene/methylene glycol, sodium hypochlorite, phenols	corrosive, toxic	Use completely, rinse container and dispose in trash.	Half cup borax in 1 gal. water.
Drain cleaners	sodium or potassium hydroxide, sodium hypochlorite, hydrochloric acid, petroleum distillates	corrosive, toxic	DO NOT DISPOSE. STORE FOR HAZARDOUS WASTE PROGRAM.	Mix 1 cup each baking soda, salt and white vinegar, pour in drain, wait 15 minutes, flush with boiling water, use plunger or plumber's snake.
Flea powders, sprays and shampoos	pesticides	Moderately to very poisonous.	Use up or save for hazardous waste collection day.	DO NOT USE DOG PRODUCTS ON CATS. Vacuum house regularly and thoroughly. Launder pet bedding frequently.
Floor or furniture polish	diethylene glycol, petroleum distillates, nitrobenzene	flammable, toxic	DO NOT DISPOSE. STORE FOR HAZARDOUS WASTE PROGRAM.	1 part lemon juice, 2 parts olive or vegetable oil.
Fungicides	captan, folpet, aniazine, zinc, copper compounds	toxic	DO NOT DISPOSE. STORE FOR HAZARDOUS WASTE PROGRAM.	Do not over water; keep area dry and clean.
Furniture strippers	acetone, methyl, ethyl ketone, alcohols, xylene, toluene, methylene chloride	flammable, toxic	DO NOT DISPOSE. STORE FOR HAZARDOUS WASTE PROGRAM.	Sandpaper or heat gun.
Herbicides	2,3-D, glyphosate prometon	toxic	DO NOT DISPOSE. STORE FOR HAZARDOUS WASTE PROGRAM.	Hoe or hand weed, keep grass short.
Lacquer and lacquer thinner	acetone, benzene	Extremely flammable. Very poisonous.	Use up according to label instructions or save for hazardous waste collection day.	Ventilate area very well. Do not use in room with pilot light, open flame, electric motors, spark-generating equipment, etc. DO NOT SMOKE WHILE USING. No substitutes.



## HAZARDOUS HOUSEHOLD PRODUCTS

Products	Hazardous Ingredients	Hazard Properties	How to Dispose	Precautions and Substitutes
Medicine: unneeded or expired	variety of ingredients	Frequently cause child poisonings.	Flush down sink or toilet.	Check content of medicine chest regularly. Old medications may lose their effectiveness, but not necessarily their toxicity. No substitutes.
Mothballs	naphthalene, paradichloro-benzene	toxic	Use fully, rinse container and dispose in trash.	Cedar chips, newspapers, lavender flowers.
Motor oil	hydrocarbons (benzene) heavy metals	flammable, toxic	Recycle wastes; take to reclamation center.	
Nail polish remover	acetone	toxic, flammable	Use up according to label instructions.	
Oven cleaners	potassium or sodium hydroxide ammonia	corrosive, toxic	Use fully, rinse container and dispose in trash.	Use baking soda and water or place a bowl of ammonia in 200 degree oven overnight and clean in the morning.
Paint-enamel or oil	pigments, ethylene, aliphatic, hydrocarbons, mineral spirits	flammable, toxic	DO NOT DISPOSE. STORE FOR HAZARDOUS WASTE PROGRAM.	Latex or water based paint.
Paint-Latex, water based	rosins, glycol ethers, esters, phenyl mercuric acetate	toxic.	Pour over newspaper in cardboard box, let air dry then discard in trash.	Limestone based whitewash or cassein based paint.
Paint-rust	mineral spirits, glycol ethers, ketone, petroleum	flammable, toxic	Keep in tightly closed jar and allow contaminants to settle. Strain and reuse liquid. Store contaminants for Hazardous Waste Program.	Use water with water based paints.
Paint-stains	mineral spirits, glycol ethers, ketone	flammable, toxic	DO NOT DISPOSE. STORE FOR HAZARDOUS WASTE. PROGRAM	Latex paint or natural earth pigment finishes.
Paint thinner or turpentine	N-butyl alcohol, acetone, methyl isobutyl ketone, petroleum	flammable, toxic	Keep in tightly closed jar and allow contaminants to settle. Strain and reuse liquid. Store contaminants for Hazardous Waste Program.	Use water with water based paints.
Pesticides arsenicals	lead arsenate, calcium arsenate, paris green	toxic	DO NOT DISPOSE. STORE FOR HAZARDOUS WASTE PROGRAM.	Live traps, remove food supply.

## HAZARDOUS HOUSEHOLD PRODUCTS

Products	Hazardous Ingredients	Hazard Properties	How to Dispose	Precautions and Substitutes
Pesticides botanicals	pyrethrine, rotenone, nicotine	toxic	DO NOT DISPOSE. STORE FOR HAZARDOUS WASTE PROGRAM.	Ants: use chili powder to hinder entry.
Pesticides carbamates	carbaryl (sevin) aldicarb (lemik) propoxur (baygon)	toxic	DO NOT DISPOSE. STORE FOR HAZARDOUS WASTE PROGRAM.	Keep garden weed free; use insecticidal soap.
Organo-phosphates	parathion, malathion, diazanon, dichlorvoa, chlorpyritos	toxic	DO NOT DISPOSE. STORE FOR HAZARDOUS WASTE PROGRAM.	Traps or baking soda/powder sugar mix.
Plant insecticide	methoprene, malathion, tetramethrin, carbaryl	toxic	DO NOT DISPOSE. STORE FOR HAZARDOUS WASTE PROGRAM.	Mix bar soap and water or old dishwater, spray on leaves and rinse.
Pool chemicals	muriatic (hydrochloric) acid, sodium hypochlorite (chlorine) algicide	corrosive, toxic	Use full, rinse container and dispose in trash.	Open lid and acid will evaporate.
Rat poison	broditacoum, coumerins (warfarin), strychnine	toxic	DO NOT DISPOSE. STORE FOR HAZARDOUS WASTE PROGRAM.	Live traps; remove food supply.
Rug cleaners	naphthalene, perchloroethylene, oxalic acid diethylene glycol	corrosive, toxic, irritant	DO NOT DISPOSE. STORE FOR HAZARDOUS WASTE PROGRAM.	To deodorize, sprinkle baking soda or cornstarch on dry rug. Vacuum in 30 minutes.
Silver polish	acidified thiourea, sulfuric acid	corrosive, toxic	DO NOT DISPOSE. STORE FOR HAZARDOUS WASTE PROGRAM.	Soak in boiling water with baking soda, salt and piece of aluminum.
Toilet cleaners	muriatic (hydrochloric) of oxalic acid, paradichlorraben zene, calcium hypochlorite	corrosive, toxic, irritant	DO NOT DISPOSE. STORE FOR HAZARDOUS WASTE PROGRAM.	Toilet brush and baking soda or mild detergent.
Transmission fluid	hydrocarbons, mineral oils	flammable, toxic	Recycle wastes; bring to reclamation center	
Window cleaner	ammonia	Vapor may be irritating. Slightly poisonous.	Use up according to lable instructions or give away.	Ventilate room. Instead: spray on vinegar, then wipe dry with newsprint.

# Household Hazardous Waste Collection Day

An environmentally sound solution to an everyday problem.

**Date: September 25, 1993**  
**Time: 8:00 AM to 4:00 PM**  
**Place: Old Fort Park- Agriculture Center**

Sponsored by: *Rutherford County, the Tennessee Department of Environment and Conservation and Recycle Rutherford*

Hazardous waste may be found in every household in our county. This is your opportunity to properly and safely dispose of these items.

100 pound limit per household.

Businesses and institutional entities are not included.

The collection program is free to all households in Rutherford County.

## WASTES ACCEPTED:

### HOUSEHOLD CLEANERS

Drain openers  
Oven Cleaners  
Wood and metal cleaners and polishes  
Toilet bowl cleaners  
Disinfectants

### AUTOMOTIVE PRODUCTS

Oil and fuel additives  
Grease and rust solvents  
Carburetor and fuel injector cleaners  
Air conditioning refrigerants, freon  
Starter fluids  
Body putty  
Anti-freeze/coolant  
Waste oil

### MISCELLANEOUS

Batteries  
Pool chemicals  
Photo-processing chemicals  
Medicines/ drugs  
Aerosols/ compressed gases

### HOME MAINTENANCE PRODUCTS

Paint thinners  
Paint strippers and removers  
Adhesives  
Paint

### LAWN AND GARDEN PRODUCTS

Herbicides  
Pesticides/ rodenticides  
Fungicides/ wood preservatives

## WASTES NOT ACCEPTED:

Medical Wastes  
Explosives or ordnance  
Radioactive materials  
Dioxins

**For more information call: Ms. Becky Moore, Rutherford County Landfill**

# Household Hazards

*This fact sheet was prepared with the assistance of Clean Water Action. David Zwick, Executive Director of Clean Water Action, is a member of Earth Day 1990's Board of Directors.*

## What Is Household Hazardous Waste?

Many common household products contain ingredients that are toxic, corrosive or flammable, making them hazardous when used and disposed of improperly. Such common items as fingernail polish remover, bug spray, shoe polish, cleaning products and paint can threaten a family's health and safety while in the home. When disposed of improperly, household hazardous wastes can contaminate soil, air and water. Hazardous wastes dumped in landfill may seep through the soil into groundwater, which nearly half of all Americans depend on for household use. As a result of improper disposal of household hazardous products, 20 percent of the Environmental Protection Agency's highly contaminated Superfund sites are abandoned city landfills.

Poisoning of children and pets can be an immediate result of improper use and storage of hazardous products. Fire hazards are increased and unsuspecting firefighters may be endangered.



by improperly stored flammables and poisons. Throwing out hazardous wastes with other garbage threatens the health of trash collectors. In some instances, gasoline and other flammables have been carelessly poured into sewers and have caused explosions. In addition to the more obvious problems posed by household hazardous substances, there are long-term effects that are not as well understood. Many studies have shown that common household toxics can lead to cancer and other chronic illnesses.

One of the largest sources of municipal hazardous waste is used motor oil, which becomes a major environmental hazard when poured down storm sewers. Since sewage treatment plants are not designed to deal

with such toxics, the oil is often released directly into streams, rivers or the ocean. There it pollutes water and threatens plant and animal life. Every year, do-it-yourself oil changers improperly dispose of 176 million gallons of oil — an amount equal to 16 Exxon Valdez oil spills. One quart of oil can contaminate 250,000 gallons of drinking water.

## What You Can Do

- Whenever possible, use non-hazardous alternatives to household products (see reverse for suggestions).
- If you must purchase a product that is potentially hazardous, check the label and make sure it will do exactly what you want. Buy only the amount you will use and follow directions carefully. Remember that doubling the dosage does not necessarily double the product's effectiveness.
- Store hazardous products in safe places out of the reach of children.
- Before disposing of a container, use up the entire product or give it to someone who will.
- Do not drain automotive fluids into the sewer. Oil, antifreeze and batteries can be recycled at some gas stations, and transmission fluid and brake fluid should be taken to a special disposal facility.

**"With today's climate of rising environmental awareness and activism, promoting change at the individual level makes more sense than ever before. Through our actions, our purchases and our votes, we can change corporate behavior and that of our society as a whole. The roles each one of us chooses to play add up to a better future for our families, our communities and our planet."**

*- David Zwick, Executive Director, Clean Water Action*



- If a hazardous product cannot be used up or recycled, take it to a hazardous waste disposal facility. Check with your local fire department to find out if such a service is available locally.
- Avoid disposable products whenever possible. Plastics and polystyrene (styrofoam) are manufactured using extremely hazardous chemicals, and if they are incinerated release toxics into the air.

### Alternatives

Most household cleaning needs can be met using vinegar, baking soda, borax, ammonia and soap. An effective all-purpose cleaner can be made using the following non-toxic ingredients:

- 1 gallon hot water
- 2/3 cup baking soda
- 1/4 cup ammonia
- 1/4 cup vinegar

For a stronger solution double all of the above ingredients except for the water.

For non-toxic commercial cleaning products contact:

Shaklee Corporation  
444 Market Street  
San Francisco, CA 94111  
(415) 954-3000

### For More Information

- Clean Water Action  
317 Pennsylvania Ave., SE  
Washington, DC 20003  
(202) 547-1196
- Channing L. Bete Co.  
200 State Rd.  
South Deerfield, MA 01373  
(800) 628-7733

PRODUCT	SAFE ALTERNATIVE	PRODUCT	SAFE ALTERNATIVE
Aerosol sprays	Use blions, gels or non-aerosol sprays.	Moth balls	Spread out newspapers in closets and place cedar chips around clothes.
Air fresheners	Keep houseplants to purify air. Place baking soda in your refrigerator and in garbage areas. Keep your house well ventilated.	Oven cleaner	Wash after each use with a mixture of baking soda and warm water. To soften burned spills, leave a small dish of ammonia in the oven overnight and scrub again the next day.
Batteries	Use rechargeable batteries.	Paint	Use latex and water-based paints.
Chlorine bleach	Use dry bleach or borax.	Paint remover	Peel off paint with a heat gun or scrape and sand.
Drain opener	To prevent clogging, pour boiling water down drains twice a week and always use the drain strainer. Avoid using drains for disposing of grease. Use a plumbing snake or a plunger to unclog drains.	Pet products	Use products containing de-limonene gas derived from citrus extracts. Insecticidal soaps are biodegradable and non-toxic.
Floor cleaner	Mop floor with a solution of 1 part vinegar to 32 parts water. Use club soda to polish.	Roach spray	Set out a dish of equal parts powdered sugar and baking soda. Spray roaches with soapy water.
Furniture polish	Use a solution of 1 tsp. lemon oil and 1 pint mineral oil. Toothpaste gets rid of water stains and salt helps with grease spots. Crushed raw nuts provide an oily polish.	Rug cleaner	Sprinkle on dry cornstarch and then vacuum. For red wine spills apply salt immediately.
Insecticides	Introduce predator insects, such as lady bugs and praying mantises, to your garden. Make your yard attractive to birds, amphibians, reptiles and bats to help control insects. Apply soapy water to leaves and then rinse well.	Shoe polish	Use polishes that do not contain trichloroethylene, methylene chloride or nitrobenzene. Wear suede or canvas.
Laundry cleaners	Use soap products and boost with washing soda.	Silver cleaner	Soak in warm water with 1 tsp. baking soda, 1 tsp. salt and a small piece of aluminum foil.
Metal polishes	Boil fixtures in a solution of baking soda and salt.	Toilet cleaner	Use a solution of water and baking soda. Remove stubborn rings and lime build-up with white vinegar or pumice stone.
		Window cleaner	Mix 2 tsp. vinegar with 1 qt. water and apply with newspaper.

- Citizens Clearinghouse for Hazardous Waste  
P.O. Box 926  
Arlington, VA 22216  
(703) 276-7070
- Citizens for a Better Environment  
942 Market St., Suite 505  
San Francisco, CA 94102  
(415) 788-0690
- Environmental Hazards Management Institute  
P.O. Box 932  
Durham, NH 03824  
(603) 868-1496
- Greenpeace Action  
1436 U Street, NW  
Washington, DC 20009  
(202) 462-8817
- Household Hazardous Waste Project  
901 S. National Ave.  
Box 108  
Springfield, MO 65804  
(417) 836-5777
- League of Women Voters  
8 Winter St.  
Boston, MA 02108  
(617) 523-2999
- Local Government Commission  
909 12th St., Suite 205  
Sacramento, CA 95814  
(916) 448-1198
- National Toxics Campaign  
29 Temple Place, 5th Floor  
Boston, MA 02111  
(617) 482-1477
- Seattle Metro  
821 Second Ave.  
Seattle, WA 98104  
(206) 447-5875





STATE OF TENNESSEE  
DEPARTMENT OF ENVIRONMENT AND CONSERVATION  
401 Church Street  
Nashville, Tennessee 37243

August 25, 1993

Ms. Karen Gilbert  
S.C.D.D.  
P.O. Box 1346  
Columbia, TN 38401

Re: Policy Guide on County Responsibilities  
Tennessee Household Hazardous Waste Collection Program

Dear Ms. Gilbert:

The Tennessee Division of Solid Waste Assistance has recently published the referenced policy guide to assist county officials with organizing a Collection Event for Household Hazardous Waste in their counties. The Division would like you, the Solid Waste Coordinator for the Development District, to have a copy for your own information and use. Copies have been sent to each county executive in the 91 counties to be served by this mobile collection service.

If there are any questions, please feel free to contact me at (615) 532-0089.

Sincerely,

A handwritten signature in cursive script that reads "Wade D. Murphy".

Wade D. Murphy, E.I.T.  
Division of Solid Waste Assistance

Enclosures

COUNTY RESPONSIBILITIES  
HOUSEHOLD HAZARDOUS WASTE COLLECTION EVENTS  
IN TENNESSEE

POLICY GUIDE  
AUGUST 1993



TENNESSEE DEPARTMENT OF ENVIRONMENT AND CONSERVATION  
DIVISION OF SOLID WASTE ASSISTANCE

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4. Advertisement
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9. Answers to 13 Commonly Asked Questions

### Attachments

- I. List of Acceptable Materials
- II. List of Materials Specifically Excluded
- III. Sample Newspaper Ad
- IV. Sample Public Service Announcement

STATE OF TENNESSEE  
POLICY OF NON-DISCRIMINATION

Pursuant to the State of Tennessee's policy of non-discrimination, the Tennessee Department of Environment and Conservation does not discriminate on the basis of race, sex, religion, color, national or ethnic origin, age, disability, or military service in its policies, or in the admission or access to, or treatment or employment in, its programs, services or activities.

Equal Employment Opportunity/Affirmative/ADA Action inquiries or complaints should be directed to the Tennessee Department of Environment and Conservation, EEO/AA/ADA Coordinator, 401 Church Street, 21st floor, Nashville, TN 37243, (615) 532-0103.

Tennessee Department of Environment and Conservation. Authorization No. 327467. 400 copies. This public document was promulgated at a cost of \$ .47 per copy. August 1993
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TENNESSEE MOBILE COLLECTION UNIT PROGRAM  
for  
HOUSEHOLD HAZARDOUS WASTE

HOUSEHOLD HAZARDOUS WASTE

Household hazardous wastes are those wastes discarded from homes or similar sources that are listed by EPA as hazardous or exhibit one or more of these characteristics: ignitability, corrosivity, reactivity, and toxicity.

To help Tennesseans with proper disposal of household hazardous wastes, the Solid Waste Management Act of 1991 (T.C.A. Section 68-211-829) requires the Department of Environment and Conservation to establish a program for mobile collection and disposal of household hazardous waste. The objectives of this program include educating the public on proper disposal practices and assisting counties across the state in providing a means for proper disposal.

Specifically, the state law requires that each county have at least one collection center by January 1, 1995, for collecting used automotive fluids, tires, and lead-acid batteries. It is the objective of the Division of Solid Waste Assistance to assist in the creation of collection centers that will also be able to collect such household items as paint, cleaners, and pesticides.

The Division of Solid Waste Assistance was established to help local governments plan for their solid waste disposal needs and prepare to meet new federal requirements for constructing and operating landfills.

The Special Wastes Section of the Division provides statewide services to assist local governments with the disposal of problem wastes, such as waste tires, waste oil, and household hazardous wastes.

MOBILE COLLECTIONS

Each county in Tennessee will have a responsibility for the household hazardous waste Collection Events. The county, by State law, must provide a service site. It is required to advertise in newspapers the day(s), hours, and location of the mobile collection unit (MCU), as well as the type of household hazardous waste the MCU will receive. The county will assign at least one person to the MCU site who will also assist in its operation.

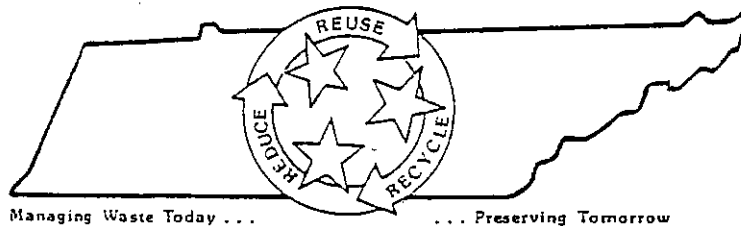
MOBILE COLLECTION PROGRAM  
PAGE 2

A mobile collection contractor will be hired by the State to manage the Collection Event. The contractor will receive, sort, categorize, and prepare the waste for transporting and disposal in accordance with all applicable regulations. The state expects to contract with a private firm for this service by fall, 1993.

Permanent collection sites are planned for the major metropolitan areas of the state, as defined by T.C.A. (Section 68-211-828). The remainder of the state will be serviced by mobile collection units.

The Division of Solid Waste Assistance is available to answer questions concerning site requirements and site selection procedures.

DIVISION OF SOLID WASTE  
ASSISTANCE  
SPECIAL WASTE SECTION  
14TH FLOOR, L & C TOWER  
401 CHURCH STREET  
NASHVILLE, TN 37243-0455  
(615) 532-0091



TENNESSEE'S SOLID WASTE ASSISTANCE PROGRAM

## INTRODUCTION

### Three Responsibilities

As set forth in the Solid Waste Management Act of 1991, county government has three responsibilities to fulfill prior to and during a Household Hazardous Waste Mobile Collection Event. These concern the location, the advertising, and a site representative. To assist county government, the Division of Solid Waste Assistance has defined in this policy guide the minimum criteria for fulfilling these three responsibilities. The policy guide also sets forth the minimum criteria established for scheduling a Collection Event.

### Program Integrity

The criteria herein are deemed appropriate for maintaining integrity of the Household Hazardous Waste Mobile Collection Program. The State of Tennessee will be liable for a set-up fee each time the household hazardous waste contractor services a county regardless of whether participants show up or not. The program can only realize its greatest benefits with the help and active participation of the county governments.

### Criteria Flexibility

These criteria, including the information in all of the attachments, are subject to change based on the needs of the program and the needs of the counties being served. A county may request variances from this policy guide by requesting and justifying a variance in writing to the Manager of the Special Waste Section. The Division reserves the right to refuse household hazardous waste collection service to any county that does not put forth a reasonable effort to meet these criteria.

Manager, Special Waste Section  
Division of Solid Waste Assistance  
14th Floor, L & C Tower  
401 Church Street  
Nashville, TN 37243-0455

### Restrictions

The Contractor is allowed to accept up to one hundred (100) pounds of acceptable household hazardous waste per household (per automobile). NO CONDITIONALLY EXEMPT SMALL QUANTITY GENERATOR OR SMALL QUANTITY GENERATOR WASTE WILL BE ACCEPTED.

### Program Expiration

The Solid Waste Management Act of 1991 has a five year sunset provision. Counties are encouraged to use the State's Mobile Collection Program for Household Hazardous Waste to assist with the design of long-term programs which must be included in their Regional Solid Waste Plans.

## I. Location

### A. Site Criteria

The county will arrange a temporary site for the Collection Event. If the site is not county-owned, then the county will be responsible for all leasing arrangements. The leasing arrangements must be in writing and submitted to the Special Waste Section Manager 15 working days prior to the Collection Event. Seven to fifteen (7-15) days prior to the Collection Event, the county will allow the household hazardous waste collection contractor to inspect the site in order to finalize plans for the Event.

The collection contractor is willing to assist the county in evaluating and selecting sites at no cost. To arrange this assistance, please contact the Special Waste Section at (615) 532-0091 or ask for assistance in the written request for a household hazardous waste collection.

The temporary site should meet the following minimum requirements:

- \* Be accessible by paved, gravel roads, or well maintained roads;
- \* Be located conveniently to the majority of the county residents;
- \* Possess a flat, asphalt or concrete working area of 100 ft X 100 ft minimum;
- \* Accommodate a minimum of 15 parked cars nearby;
- \* Have a clean water source within the working area;
- \* Have toilet facilities (portable or permanent) within approximately 200 feet of the working area;
- \* Have telephone access (portable or permanent) within approximately 50 feet of the working area; and,
- \* Have accessibility to a grounded, 110 electrical outlet.

The county should have a site location in mind when it submits a request in writing to the State for the collection service. The request should identify any of the above criteria that are impossible for the county to meet. Deviations from the above criteria may possibly be arranged. The State reserves the right to disapprove a site that does not meet the above the criteria.

## B. Containers for Nonhazardous Household Waste

The county will provide one or more waste containers for the collection of nonhazardous household waste at each Collection Event and provide for the proper disposal of the non-hazardous wastes. The county may also be required to empty the waste containers, at the county's expense, during the Collection Event hours of operation if necessary.

The county will coordinate with the household hazardous waste collection contractor for the location of these waste containers so as to be convenient to the collection contractor and inaccessible to the general public.

The county will have the right to place any restrictions on the use of the waste containers necessary to protect county interests (i.e., location, use, material sorting).

The State cannot hold the collection contractor responsible for any household hazardous or other waste found in the containers after the collection contractor's departure from the site. During the site clean-up it will be the county's responsibility to inspect the waste containers for questionable waste.

## II. Advertisement

A Collection Event cannot be successful without advertisement. The county will advertise in one or more newspapers of general circulation the date, hours and location of the Collection Event. To qualify as newspapers of general circulation, the newspapers generally have to be published more for their news content rather than their ads and have a paid subscription.

The advertisement should be published once at least two (2) full weeks preceding the event date and preferably the week of the event also. It should also specify that only 100 pounds of waste will be accepted from each household during the event and specifically list the items excluded from the program as well as examples of acceptable items. The items excluded from collection are medical wastes, explosives, radioactive wastes, and dioxins including dioxin precursors. Lastly, the ad should also indicate that the collection and disposal costs will be paid by the State of Tennessee.

The county is advised to send a copy of the proposed ad, the name(s) of the paper(s) in which the ad will appear, and the advertisement date(s) to the Special Waste Section Manager five working days prior to the proposed advertisement date.

A suggested newspaper ad, a generic public service announcement, and a list of materials to be accepted and excluded in the Household Hazardous Waste Mobile Collection Event are attached to this policy.

It is the State's policy to encourage the county to educate its citizens concerning the proper use and disposal of household hazardous waste. The State encourages the county to use available means other than the required newspaper advertisement to communicate the characteristics of household hazardous waste, the consequences of improper disposal, and the ideology of reducing, reusing, and recycling household hazardous waste whenever possible.

The State's household hazardous waste collection contractor and the State are committed to assisting the county with its educational campaign prior to the Collection Event. The contractor and the State have educational materials available for use by the county. The State will coordinate educational and promotional activities with the county and contractor after a formal request for service has been received from the county.

### III. County Site Representative

The site representative may be either a county employee or a person designated to represent the county during the Collection Event. The county will be responsible for paying any wages and expenses incurred by this site representative.

No minimum qualifications have been established for the site representative. However, the site representative should be someone who the county has confidence will safeguard any county property used by the collection contractor (primarily land and waste containers) and will manage problems that may arise during the Collection Event with the county-provided utilities and the nonhazardous waste containers.

A county representative must be on-site during the Collection Event's hours of operation and during the site clean-up. A county representative must also remain during the times the contractor is packaging the materials for shipment in case assistance is needed with site arrangements, utilities, or other problems. If the representative has to leave during the packaging, he should leave a number where he can be reached if needed.

The county should designate a backup representative who can be available to serve as a substitute or to share the responsibility should the Collection Event become lengthy.

The county representative will be asked to return to the site, regardless of the hour, to inspect the site clean-up prior to the contractor's exit from the site. The State will only hold the contractor responsible for any damages that are incurred as a result of the Collection Event operation. The county has the responsibility for documenting any damages to the site.

The representative may make suggestions for improving the site security provided by the contractor in cases where the contractor may leave hazardous materials and/or equipment on site overnight.

Assisting the contractor does not mean providing labor or materials required to fulfill the contractor's obligations. At no time will the county representative be asked to participate in any activity that puts him or her in contact with household hazardous waste.

The county should give the Special Waste Section Manager, in writing, the name of its designated site representative and the backup representative. This notification should also include the home and business addresses and telephone numbers of these representatives.

#### IV. Procedures for Scheduling a Collection Event

The Collection Events will be scheduled on a first-come, first-serve basis. The State reserves the right to make any and all scheduling changes that may be necessary. The procedures for scheduling are as follows:

- A. The County Executive will make a request in writing to the Manager of the Special Waste Section at least 30 days prior to the desired collection date. The letter should include the following:
  1. Request to be serviced by the State's Household Hazardous Waste Contractor.
  2. Indicate the date that the event is desired and at least one alternative date.
  3. Identify a contact person who will serve to coordinate the fulfillment of the county's responsibilities associated with the Collection Event. (This contact person and the site representative may be the same or different persons.)
  4. Identify (name and daytime telephone number) the site representative who will be on site during the day of the Collection Event.
  5. Identify proposed deviations from the minimum site criteria.
  6. Provide telephone numbers for the local law enforcement, emergency response, and nearest medical facilities and the address of the medical facilities.
  7. Provide a list of local environmental and service organizations and their phone numbers who may be able to provide volunteers for the Collection Event.
- B. The Division of Solid Waste Assistance will coordinate a Collection Event date with the contractor and the county contact person.



- C. Fifteen (15) working days or more prior to the Collection Event, the county should send the Special Waste Section Manager a written description of the site proposed for the Collection Event detailing the size, the arrangement and estimated proximity of the required utilities, and the address of and directions to the site. If the Collection Event is held on property not owned by the County, the agreement authorizing use of the site should also be included.
  
- D. Fifteen (15) working days prior to the Collection Event, the county should send the Special Waste Section Manager a copy of the proposed ad, the name(s) of the paper(s) in which the ad will be published, and the proposed advertisement date(s).

## V. Volunteers

It is the State's policy to encourage but not to require county volunteers for the State's Household Hazardous Waste Collection Program. The household hazardous waste collection contractor will provide the labor necessary to receive, sort, pack, manifest, transport, and dispose of the collected materials. The State requires that this labor force be sufficiently trained to perform these functions and that the contractor be responsible for their personal safety and their insurance coverage. The collection contractor will also be responsible for directing the traffic flow through the site in a manner that facilitates the most efficient collection operation.

There will, however, be areas where volunteers can be used, and the county should make an effort to use the resources of these individuals or groups. These are the areas of surveys, nonhazardous household waste management, and publicity.

The State plans to ask participants in the Collection Event to complete a short survey form about how far the participants traveled, how long the materials have been stored, other items participants would want to see collected, and other such information. Volunteers can be responsible for dispensing and collecting the survey forms.

Since the county will be responsible for managing the nonhazardous household wastes such as cardboard boxes and plastic bags, the county may want to enlist volunteers to help with these wastes especially if they are to be processed for recycling. This will occur only after the contractor has removed the household hazardous wastes from such containers.

Volunteers can also be used to help with publicity for the Collection Event. They can be pass out brochures and post notices of the Collection Event at businesses willing to advertise for the county. They can also be used to make and post signs that direct participants to the Collection Event site.

After the county submits its request in writing to the State to schedule a Collection Event, the State will communicate with the county contact person concerning any interested volunteers.

The hazardous waste collection contractor will assist in coordinating volunteers and insuring their safety on site, as well as assist the county in contacting and recruiting organizations that can provide volunteer support. To initiate this assistance, the county should provide a list of local environmental and service organizations and their phone numbers to the Special Waste Section Manager along with the initial request for a Collection Event.

At no time will volunteers be asked to participate in any activity that puts them in contact with the household hazardous waste.

ANSWERS TO 13 COMMONLY ASKED QUESTIONS  
TENNESSEE HOUSEHOLD HAZARDOUS WASTE PROGRAM  
AUGUST 1993

1. What are the state's criteria for site selection?

In general, a county may use any location, owned or leased, within its borders that meets certain minimum criteria. The criteria concern proximity to necessary utilities and population centers. For further information, a copy of the policy is available upon request. It is entitled, "County Responsibilities, HHW Collection Events in Tennessee, 7/93". A copy may be obtained by calling the Special Waste Section at (615) 532-0091.

2. Can the county collect household hazardous waste at several locations within the county such as convenience centers and then bring the collected wastes to the collection site on the day of the Collection Event?

Even though it might encourage more participation, this action is not allowed because of the potential liability and added responsibility to the county. In order to remain legal, a county collecting household hazardous wastes at various locations would have to personally interview each participant and refuse paints, solvents, petroleum products, pesticides, cleaners, etc., from businesses. (Products that exhibit hazardous characteristics discarded by any business ARE regulated by Tennessee's Hazardous Waste Regulations.) The consequences of not properly screening could result in violation of state and federal transportation and handling regulations which could result in fines and other penalties. Additionally, a collection site always has the potential for becoming a superfund site if the household hazardous waste is spilled or burned. The county would be responsible for the clean-up costs and complying with all clean-up regulations. The county staff would also have the responsibility of interviewing participants for details about waste in unlabeled containers and giving these details to the State's contractor for identification purposes. Lastly, the county would be responsible for the disposal of any waste the State's contractor is unwilling to accept from the county.

3. How can households be made to drive across the county to participate in the Event?

Obviously a household cannot be made to participate or to save household hazardous wastes for collection. In fact, data generated by other states' programs show that the participation rate in a household hazardous waste collection may be low in spite of good availability. However, the availability and Collection Event itself begin an education process within the county on proper management of household hazardous waste. It is hoped that this education will prove beneficial to counties when counties develop their own programs for solid waste management and solid waste reduction as a part of their regional solid waste planning as well as provide an outlet for those items currently stored in garages and basements. It will be possible for the county to hold the Collection Event in a different location from one year to the next.

4. How often can Collection Events be scheduled?

Collection Events are scheduled on a first-come, first-served basis. The State intends to make this service available to all Tennessee counties covered under this program even though funds are limited. Due to financial and other constraints, when scheduling Collection Events, priority will be given to those counties who have not yet held a Collection Event. Counties which have held at least one Collection may be delayed in scheduling additional Events since the Contractor may be previously scheduled to attend other county Collection Events. There is no established minimum or maximum number of events that may be scheduled for any county. However, the State will not schedule more than one Event in a county during a Collection Event day. In other words, a county may not choose locations to hold simultaneous Events for a one day Collection Event. Furthermore, under no circumstances does the State recommend to counties that they collect and store household hazardous waste at any location within the county awaiting the next scheduled Collection Event by the State's Contractor.

5. Will unknown materials be accepted?

As far as the homeowner is concerned, unknown and unlabeled materials may be brought to the collection event. Homeowners should come prepared to share as much information possible about unlabeled materials to assist the contractor with proper identification. With such cooperation from citizens, there are few materials the contractor's chemists cannot identify. Any material that cannot be identified in the presence of the participant will be returned to the participant. (The contractor cannot properly transport or dispose of unidentified material.)

6. Will farm pesticides be accepted?

It is the intent that all households may participate, including farms. A farm household, like other households, is limited to bringing 100 pounds of total waste to the collection event. This total may include pesticides used on the farm provided that they are not subject to regulation by Tennessee's Hazardous Waste Management Regulations. In Tennessee, household hazardous waste is exempt from regulation, and the collection contractor is not allowed to commingle regulated waste with household hazardous waste. The collection contractor is responsible for determining whether a pesticide is regulated or not, and can advise a farmer on how to properly dispose of a pesticides that are regulated.

7. Will the county be responsible for any remaining household hazardous waste?

The contractor is required by his contract with the State to properly package and dispose of every household hazardous waste item accepted during the collection event. The contractor has the responsibility to reject any waste he is unable to legally dispose of while it is still in the possession of the owner. The contractor will be expected to accept all materials except those household wastes specifically excluded by contract and business generated wastes. The contractor will not be responsible for the removal and disposal of any non-hazardous household waste (ordinary solid waste).

8. What will the contractor do with the collected wastes?

The contractor disposes of the collected household hazardous wastes at privately-owned facilities that have licenses and permits to dispose of hazardous waste. These facilities may include incinerators, chemical waste landfills, or recycling processors. The contractor will be allowed to choose the facilities he uses. The State will only reimburse the hazardous waste contractor for waste disposed of by licensed and permitted disposal facilities.

9. Will the wastes be disposed of in my county?

All wastes are to be disposed of at privately owned facilities licensed and permitted for hazardous waste disposal. The contractor will have to ship the wastes to such facilities, even out of state if necessary, in order to comply with this requirement. There is no obligation on the county's part to provide the collection contractor with a licensed and permitted disposal facility within the county's borders.

10. Will there be records that document where the contractor disposed of the wastes?

The contractor is obligated by the terms of his contract to submit to the State certificates of disposal from licensed and permitted disposal facilities in order to receive payment for the services rendered. These certificates are required 30 days from the date of the collection event. The State will compare the quantities of wastes disposed with the quantities of wastes manifested for shipment during the collection event.

11. Will the contractor provide insurance for the collection event?

The contractor is required by his contract with the State to accept all legal responsibility for the safety and well-being of all persons and property on site during the collection event. The contractor is required to carry certain types and amounts of insurance necessary to cover this liability, and has the right to restrict any of the work areas from the general public.

12. How is this collection program funded?

The household hazardous waste mobile collection unit program is funded from the Solid Waste Management Fund. This fund was established by the Solid Waste Management Act of 1991. The fund is financed by the \$1.00 predisposal fee collected on the retail sale of new automotive tires in Tennessee, and an \$0.85 surcharge per ton on waste being dumped in Tennessee landfills. In addition to the household hazardous waste collection program, the monies from the Solid Waste Management Fund are used to fund all other programs established by the Solid Waste Management Act of 1991. These include a grant program for county recycling equipment, grants for landfill scales and tire storage sites, and for the waste tire shredding program.

13. How was the contractor selected?

The contractor was selected through a proposal evaluation process. Each contractor was required to submit a proposal on a specified time and date for evaluation purposes. A Request for Proposal (RFP) was mailed to 64 companies in the hazardous waste industry 42 days prior to the required proposal submission date. The RFP defined the requirements of the program and specified the information required in the proposal. The potential household hazardous waste contractors were required to discuss their experience in household hazardous waste collection, their company organization, the technical aspects of their proposed service to Tennessee, and the cost to the State for the service. Each of these sections were evaluated by a separate group of Department employees and the results of these sections were summed to a total. A contract was awarded to the contractor receiving the most points from the evaluation.

ATTACHMENT # I

LIST OF ACCEPTABLE MATERIALS

HOUSEHOLD HAZARDOUS WASTE MOBILE COLLECTION AND DISPOSAL PROGRAM

- I. Household Cleaners
  - a. Drain Openers
  - b. Oven Cleaners
  - c. Wood and Metal Cleaners and Polishes
  - d. Toilet Bowl Cleaners
  - e. Disinfectants
  
- II. Automotive Products
  - a. Oil and Fuel Additives
  - b. Grease and Rust Solvents
  - c. Carburetor and Fuel Injector Cleaners
  - d. Air Conditioning Refrigerants
  - e. Starter Fluids
  - f. Body Putty
  - g. Anti-Freeze/Coolant
  - h. Waste Oil
  
- III. Home Maintenance and Improvement Products
  - a. Paint Thinners
  - b. Paint Strippers and Removers
  - c. Adhesives
  - d. Paint
  
- IV. Lawn and Garden Products
  - a. Herbicides
  - b. Pesticides/Rodenticides
  - c. Fungicides/Wood Preservatives
  
- V. Miscellaneous
  - a. Batteries
  - b. Fingernail Polish Remover
  - c. Pool Chemicals
  - d. Photo Processing Chemicals
  - e. Medicines/Drugs
  - f. Reactives (aerosols/compressed gas)

ATTACHMENT #II

LIST OF MATERIALS SPECIFICALLY EXCLUDED

FROM THE HOUSEHOLD HAZARDOUS WASTE MOBILE COLLECTION AND DISPOSAL PROGRAM

- I. Medical Waste (as defined by Tennessee Rule 1200-1-7-.01(2))
- II. Explosives or Ordnance (e.g., ammunition, DOT Class A, B, or C explosives)
- III. Highly Radioactive Compounds (e.g., plutonium, uranium)
- IV. Dioxin Precursors (e.g., 2,4,5-TP)



Attachment # III

HOUSEHOLD HAZARDOUS WASTE  
COLLECTION EVENT

Tennessee Department of  
Environment and Conservation and  
\_\_\_\_\_ County will conduct a  
Household Hazardous Collection  
Event at the following time and  
place:

\_\_\_\_\_  
(day and date)

\_\_\_\_\_  
(location)

\_\_\_\_\_  
(time)

 \_\_\_\_\_  
(map to site)

Hazardous waste may be found in every household in our county. This is your opportunity to properly and safely dispose of items such as paint, solvents, cleaners, pesticides, automotive fluids, batteries, and aerosols. There is a limit of one hundred pounds per household. The collection program is free to all households in \_\_\_\_\_ County.

FOR MORE INFORMATION CALL:

\_\_\_\_\_  
(name)

\_\_\_\_\_  
(telephone number)

NO MEDICAL WASTE, EXPLOSIVES OR  
ORDNANCE, RADIOACTIVE COMPOUNDS,  
OR DIOXINS WILL BE ACCEPTED.

Attachment # IV

PUBLIC SERVICE ANNOUNCEMENTS

ASK YOURSELF, ARE THERE ANY HAZARDOUS MATERIALS IN YOUR HOME? THE ANSWER IS PROBABLY "YES". EVERY DAY PRODUCTS LIKE USED MOTOR OIL, PAINTS, AND BUG KILLERS ALL MAY POLLUTE OUR DRINKING WATER IF NOT DISPOSED OF PROPERLY.

TENNESSEE DEPARTMENT OF ENVIRONMENTAL CONSERVATION AND \_\_\_\_\_ COUNTY'S HOUSEHOLD HAZARDOUS WASTE COLLECTION EVENT TO BE HELD ON \_\_\_\_\_

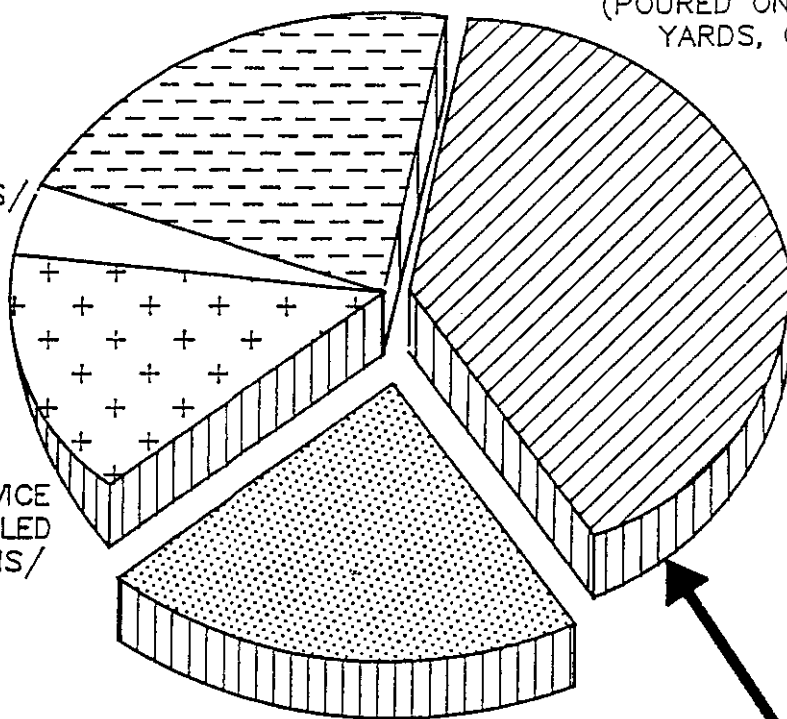
AT \_\_\_\_\_ WILL PROVIDE YOU WITH AN OPPORTUNITY TO PROPERLY MANAGE AND DISPOSE OF YOUR HOUSEHOLD HAZARDOUS WASTE. FOR MORE INFORMATION ON WHAT WASTE WILL AND WILL NOT BE ACCEPTED, CALL \_\_\_\_\_ AT \_\_\_\_\_

# ESTIMATE OF DISPOSITION OF DIY USED OIL IN 1981

21% MISCELLANEOUS (42 MILLION GALLONS/YEAR)  
(USED ON MACHINERY, STORED, USED AS A  
PESTICIDE, USED TO TREAT WOOD, ETC.)

40% DISPOSAL (80 MILLION GALLONS/YEAR)  
(POURED ON ROADS, DRIVEWAYS,  
YARDS, OR INTO SEWERS)

4% BURNED  
(8 MILLION GALLONS/  
YEAR)



14% TAKEN TO SERVICE  
STATIONS OR RECYCLED  
(28 MILLION GALLONS/  
YEAR)

21%  
PUT IN TRASH OR GARBAGE TO  
BE COLLECTED  
(42 MILLION GALLONS/YEAR)

"DO-IT-YOURSELFERS"  
MISMANAGE AT LEAST 61% OF  
THE OIL THEY HANDLE.  
(NOTE: SOME MISCELLANEOUS  
USES CAN ALSO CONSTITUTE  
MISMANAGEMENT.)



Waste Oil Handlers in Tennessee

A-1 Shipley's Waste Oil  
2843 Harrison Pike  
Chattanooga, TN 37406  
(615) 622-7039

Able Energy Company, Inc.  
1245 Channel Avenue  
Memphis, Tennessee 38113  
(901) 942-1523

CTC Industrial Services  
1827 Latham St.  
Memphis, TN 38106  
(901) 942-1212

Earth Industrial Waste  
Management  
3536 Fite Rd.  
Memphis, TN 38127  
(901) 358-5695

Enterprise Oil  
728 Owl Hollow Rd.  
Knoxville, TN 37923  
(615) 690-9751

Enterprise Waste Oil  
White Wing Rd.  
Lenoir City, TN 37771  
(615) 986-7972

Ferguson Harbor Service  
340 Rockland Rd.  
Hendersonville, TN 37075  
(615) 822-3295

Goins Waste Oil Company  
1606 E. 48th Street  
Chattanooga, TN 37407  
(615) 867-2216

H & H Oil Recovery Company  
Flatwoods Church Rd.  
Camden, TN 38320  
(901) 584-2043

Hurley's LP Gas  
1288 Arden Lane  
Morristown, TN 37813  
(615) 586-2392

ILWD, Inc.  
P. O. Box 983  
Kingsport, TN 37662  
(615) 246-5206

Jack Goins Waste Oil  
801 15th St. NE  
Cleveland, TN 37311  
(615) 476-7492

Necessary Oil Company  
497 Island Rd.  
Bristol, VA 24201  
(703) 669-4831  
(process plant in TN)

North American Environmental  
Corp.  
2100 Board St.  
Chattanooga, TN 37408  
(615) 756-8116

Oil Service Company  
202 Hill st.  
P.O. Box 1203  
Columba, TN 38401  
(615) 481-4999

OSCO, Inc.  
618 Grassmere Park Drive  
Suite 17  
Nashville, TN 37211

Petroleum Recycling Corp.  
2708 Crosslane Rd.  
Knoxville, TN 37919  
(615) 693-7627

Petroleum Refining Company  
119 Morriston St.  
Gallatin, TN 37066  
(615) 451-1806

Petroleum Refining Company  
Crosslane Rd.  
Karns, TN 37921  
(615) 693-7627

Page 2.

Waste Oil Handlers in Tennessee

Resource Recycling  
Technologies, Inc..  
1000 Market St.  
Portland, TN 37418  
(615) 325-9818

Robert Sun Company  
240 Great Circle Rd.  
Nashville, TN 37228  
(615) 251-0680

Systech Liquids Treatment, Corp.  
1640 Antioch Pike  
Nashville, TN 37013  
(615) 833-2059

United Oil and Chemical, Inc.  
1015 Southern Rd.  
Memphis, TN  
(901) 521-0810

Volunteer Waste Oil Company  
716 Currey Rd.  
Nashville, TN 37217  
(615) 366-7435

# Used Oil and Filters: The Continuing Saga

According to Tom Tiesler, Director of Solid Waste Management for Tennessee's Department of Environment and Conservation, generators have three options in disposing of used oil filters in this state.

## Option 1: Recycle



You can recycle the oil and the metal from the filters. Used oil

filters are exempt from hazardous waste regulations if both the metal and the used oil from the filters are recycled. To qualify for a scrap metal recycling exemption, you must remove free flowing oil from the filters by draining and crushing or by filter disassembly prior to shipping to a metal recycler. The actual processing of filters (draining, crushing, and transporting) is not subject to hazardous waste regulations. This means you can process the filters or have someone else handle them off-site.

If you choose to disassemble your oil filters, the individual parts all have statewide special waste approval only if the filter element is mechanically compressed to remove all free-flowing oil and that oil is collected for recycling.

After the filter's drained, you then certify that it's filter element and gaskets are non-hazardous and that you've removed all free-flowing oil. The state will accept this certification without a Toxic Characteristic Leaching Procedure (TCLP) test. The state is waiving TCLP for filters handled as prescribed above because published studies show that this processing method yields material which consistently passes the TCLP.



## Option 2: Recycle... and then some

Since the state is waiving TCLP for drained and crushed filters, you can also recycle the oil but dispose of the filter material in a landfill. TDEC says that after crushing, the filter material retains only about one ounce of oil. That drained filter material can therefore go in the landfill without fear of it oozing out all over the place. Of course you must properly recycle the free-flowing oil that you harvest during crushing. Several vendors exist in Tennessee who will handle your filters and used oil. TDEC doesn't care if processing's done on or off-site.



## Option 3: Dispose of as Hazardous Waste

If you don't want to crush and drain your filters, then you have to handle them as a hazardous waste. Special waste approval will NOT be granted for undrained and uncrushed filters. Nobody wants those yucky, oil-filled things in the landfill. And any oil which you drain from an unrecycled and uncrushed filter must be likewise recycled or disposed of as a hazardous waste if it's not recycled.

If this creates more questions for you than it answers, contact Garey Mabry at the Division of Solid Waste Management—615-741-3424.



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THE UNIVERSITY OF TENNESSEE  
CENTER FOR INDUSTRIAL SERVICES

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Suite 606  
226 Capitol Boulevard Building  
Nashville, Tennessee 37219-1804  
(615) 242-2456  
FAX (615) 741-6644

DRUM RECYCLERS AND DRUM HANDLING EQUIPMENT VENDORS

The following companies may be able to recycle or dispose of used empty drums. This is not meant to be a complete listing, nor is it an endorsement of any of these companies.

Tri-State Steel Drum Company, Inc.  
Graysville Road  
Graysville, GA  
404-891-9726

Nashville Barrel and Drum, Inc.  
1607 Mallory Lane  
Brentwood, TN  
615-377-6801

Cowley Container Corporation  
1715 Pecan  
P. O. Box 5716  
Nashville, TN 37208  
615-242-9127

B J Fox and Son  
62 Hart  
Nashville, TN  
615-256-3512

Allied Drum Service, Inc  
401 Colorado Ave  
Louisville, KY  
502-637-5428

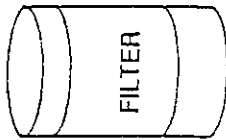
O'Bryan Barrel Company, Inc.  
Evansville, IN  
812-479-6741

Jehl Cooperage Company  
4 Virginia Avenue East  
Memphis, TN  
901-775-3500

Memphis Drum Service  
3299 Tulane Rd  
Memphis, TN  
901-396-6484

W & R Drum Company  
1501 Latham  
Memphis, TN  
901-948-6364

## About Oil Filters:



If you change your oil filter, drain the old one by punching an air hole in the top and drain a minimum of 12 hours.

Dispose of the oil filter only after it is properly drained.

Check to see if there is a filter crushing and recycling program in your community.

*NOTE: Commercial handlers of used oil and oil filters may be subject to more stringent requirements than those specified for do-it-yourselfers.*

The information contained in this pamphlet is based on current state laws and best management practices. Recommendations may change over time as new laws and information are developed. Contact the Division of Solid Waste Assistance if you have any questions.

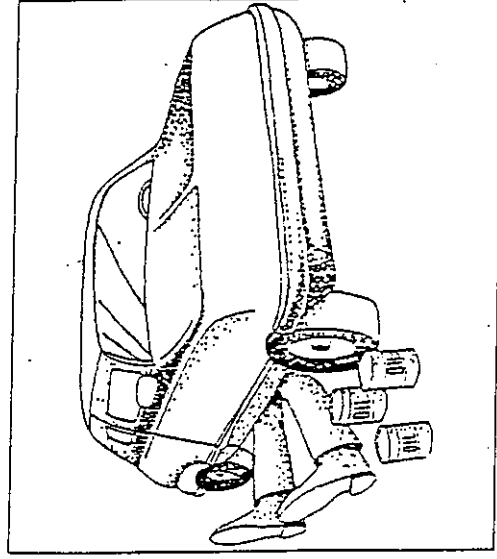
Division of Solid Waste Assistance  
Special Wastes Section  
14th Floor, L & C Tower  
401 Church Street  
Nashville, TN 37243-0455  
(615) 532-0091

What Tennessees  
Do-It-Yourselfers  
Should Know  
About  
Disposing of

# USED MOTOR OIL



TENNESSEE WASTEWISE



Printed on recycled-content paper



Tennessee Department of Environment and Conservation. Authorization No. 327421, 2,000 copies. This public document was promulgated at a cost of \$.09 per copy. January 1993.

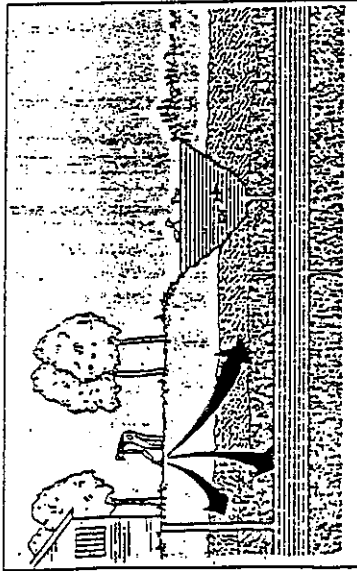


## Get the Facts:

Tennessee's do-it-yourselfers (DIYers) generate more than 1,000,000 gallons of used motor oil each year.

If it is not disposed of properly, waste motor oil can interfere with the operation of sewer systems and can easily get into our groundwater and streams.

In fact, it is estimated that up to 60 percent of the used motor oil generated by Tennessee's do-it-yourselfers may end up in the our streams and lakes.



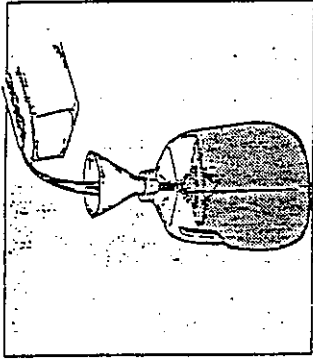
Used with permission of Project ROSE (Recycled Oil Saves Energy)

## The Law

The Tennessee Water Quality Control Act of 1977, enacted to prevent water pollution, makes it unlawful (except under the conditions of a valid permit) for any person to place any waste (including oil) in any location where it is likely to move into any public or private ground or surface water. The maximum penalty is \$10,000 per each day of occurrence (T.C.A. Section 69-3-108 (b)).

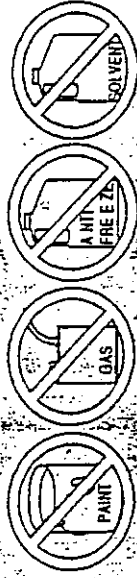
## Proper Disposal of Used Oil:

Put your used oil in a clean plastic container with a tight lid.



Used with permission from Project ROSE (Recycled Oil Saves Energy)

Don't mix it with anything else--paint, gasoline, solvents, antifreeze, etc.



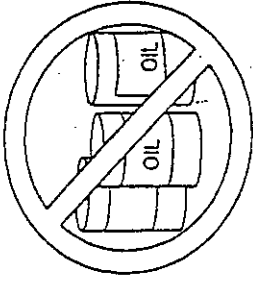
Take your used oil to a service station or other location that collects used oil for recycling.

## Possible Collection Centers:

Automotive Service Stations  
Auto Supply Stores  
Convenience Stores  
Car Dealerships  
Instant Oil Changers  
Recycling Drop-Off Centers

Contact your county or city Public Works or Sanitation Department for other possible collection centers.

## Things NOT To Do With Used Oil:



- Never pour used oil down a drain.
  - Never pour used oil into a storm sewer.
  - Never toss used oil on the driveway, street or ground.
  - Never dispose of oil in lakes, streams or wetlands.
  - Never spread oil to suppress dust or kill weeds.
  - Never burn oil outdoors.
  - Never mix oil with other substances.
- Remember:**
- Oil drained from your automobile is a valuable resource when properly recycled.

- Recycling used oil can conserve our nation's natural resources.
- Used oil can be re-refined and purified into a high-quality motor oil.
- Recycling used oil can save consumers money.
- Improper disposal of used oil can contaminate the soil as well as surface and ground water.

# Appendix B

## Sample Brochure

### WHAT HAPPENS THEN?

- Used oil can be re-refined into a good-as-new lubrication oil. Oil never wears out, it just gets dirty. It takes 42 gallons of crude oil to produce 2½ quarts of new lubricating oil. But just one gallon of used oil can be re-refined into the same high quality 2½ quarts of lubricating oil.
- Used oil can be reprocessed into a fuel oil. One gallon of used oil reprocessed for fuel contains about 140,000 BTUs of energy and can be burned very efficiently.
- Recycling used oil could reduce national petroleum imports by 25.5 million barrels of oil per year, and save much of the energy to process it. (University of Alabama; Alabama Energy Division, 1986.)

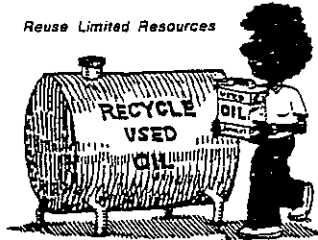
Washington State law declares that it is the policy of the state to collect and recycle used oil (Chapter 19.114, RCW). Additionally, it is unlawful to spill oil into the ground water or surface waterways of the state (Chapter 90.48, RCW).



Printed on 100% Recycled Paper

### RECYCLE USED OIL

- Prevent Water Pollution
- Protect Public Health
- Reuse Limited Resources

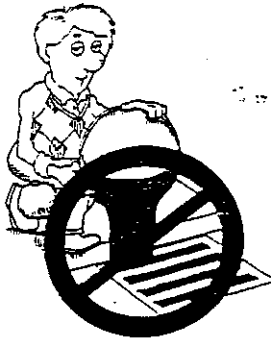


Illustrations by Tim Schiender

For information:  
Call toll-free 1-800-RECYCLE

WASHINGTON STATE DEPARTMENT OF ECOLOGY  
Litter Control & Recycling Program  
Olympia, WA 98504

# GO RECYCLE!



**THE USED OIL PROBLEM**  
What Can You Do?

Waste oil has the most negative environmental impact of all automotive products because it's insoluble, persistent, and contains toxic chemicals and heavy metals. Oil sticks to everything from beach sand to bird feathers. It floats on and pollutes our waterways. It is slow to degrade and evaporates. A small amount seriously contaminates large quantities of drinking water.

### HOW BIG IS THE USED OIL PROBLEM?

More than 4.5 million gallons of used oil are discarded every year in Washington State.

- More than 2 million gallons of used motor oil (enough to fill a medium sized tanker) ends up in Puget Sound. Much of it is dumped into storm drains that empty into streams and lakes that lead to the Sound.
- Used oil is the largest single source of oil pollution (over 40 percent) in our nation's waterways. Most is dumped by do-it-yourselfers.

In 1960, service stations performed 90 percent of the automotive oil changes. Today do-it-yourselfers change about 50 percent of the automotive oil.

Most used oil changed by do-it-yourselfers is dumped down a storm drain, poured on the ground, or sent off to a landfill in the garbage.



### WHAT ARE THE EFFECTS?

Dumping of used oil in storm drains and on the ground pollutes watersheds, Puget Sound, and groundwater water supplies.

- Used oil contains toxic chemicals, carcinogenic hydrocarbons and heavy metals (lead, zinc, arsenic, chromium, cadmium) which are harmful to the environment and public health.
- One pint of oil can produce a slick of approximately one acre on surface water. Fish, waterfowl, insects and aquatic life are threatened by used oil in waterways. Floating plankton and algae (a basic food source) are killed on contact with oil. Very small amounts of oil raised over shellfish beds can contaminate the flavor of clams and oysters. Less than 300 parts per million can ruin the taste of fish.
- Used oil placed in the garbage seeps through the landfill to contribute to leachate and contamination of groundwater supplies.

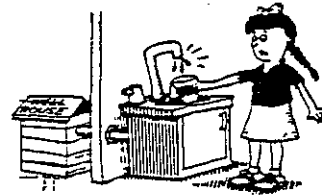
One quart of oil will foul the taste of 250,000 gallons of water.

- Used oil should not be applied to roads for a dust suppressant, as new oil sometimes is.

Over 90 percent leaves the road surface as dust particles or is raised into the state's waterways with rain runoff, according to an EPA study.

Used oil carries a load of heavy metals and toxics.

- Burning unprocessed used oil can pollute the air we breathe with elements potentially harmful to human health.



### WHAT CAN YOU DO? RECYCLE!

RECYCLE used oil from cars, boats, motorcycles, and lawnmowers.

#### HOW?

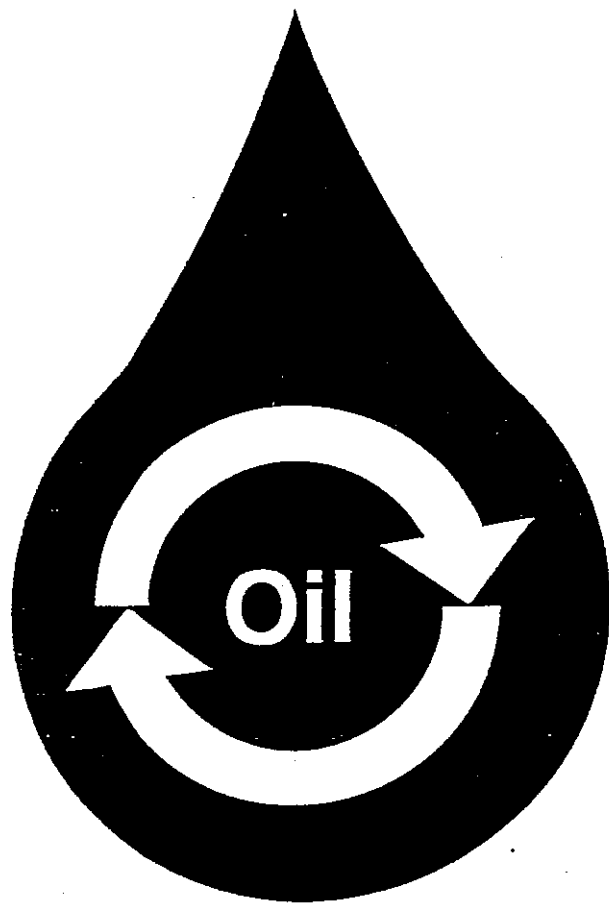
- Take it in a clean, sealed container (like a milk jug) to the nearest participating recycling center or service station accepting uncontaminated used oil. For locations, call the Department of Ecology toll-free recycling hotline, 1-800-RECYCLE.

Current market fluctuations have eliminated many of the financial incentives of the used oil recycling program, and the service station owners may have to pay to have oil removed from their tanks. However, most participating stations have chosen to remain in the program.

Used oil should never be mixed with antifreeze, engine degreasers, gasoline, paint thinner, solvents, cooking oil, etc., since these contaminants interfere with the reprocessing or re-refining process and are very expensive to remove.



**RECYCLE  
USED OIL  
HERE**



# Appendix C

## Sample Letter to Prospective Collection Center Operators

(Date)

(Name)  
(Address)

Dear \_\_\_\_\_:

We would appreciate your help in a community used oil recycling project designed to conserve energy and protect our environment.

We are planning a broad-scale program aimed at capturing used oil from do-it-yourself oil changers. The residents of our town will be encouraged to participate. They will be informed of the energy potential and the value of recycled oil—that it need not be wasted but can be reprocessed and used again.

As you know, many of our citizens change their own oil and would be willing to cooperate with us in this endeavor, but they need a convenient place at which to deposit their drainings. We are in the process of setting up used oil collection centers at which do-it-yourselfers can deposit their used oil. This oil will then be picked up by reputable used oil collectors to be reprocessed and prepared for use once again.

Would you consider extending your service by establishing a collection center for our project? You would be assisting many people who are now disposing of their drained oil in ways that harm our environment and waste a valuable energy resource. The used oil brought to the collection center would be yours to sell. While rendering a significant service, you would also be playing an important role in a community project that benefits you, the car owner, and the nation.

It is our belief that such a program can and will be successful if we work at it TOGETHER. Sponsors of the program include: (names).

We hope that you will join us and will place a "Recycle Used Oil Here" sign at your station.

Please let us know at your earliest convenience if we can count on you. Write us at the following address: \_\_\_\_\_ or call \_\_\_\_\_ (phone).

Thank you for giving the program your consideration.

Sincerely,

(Name)  
(Title)  
(Organization)

## Sample Letter to Encourage Participation

(Date)

(Name)  
(Address)

Dear \_\_\_\_\_:

Can we count on you to help our program to recover a potential source of energy, while at the same time eliminating an environmental hazard?

We are in the process of establishing a public service used oil recycling program that we feel would benefit our community and the nation. We would appreciate your advice and assistance in its development.

Used oil is a neglected but valuable energy resource. It can be recycled and put back to work as a lubricant or fuel. If used oil is not recycled and is discarded improperly, it can present a serious hazard to our environment. Throughout our community and nation, used oil is being wasted in surprisingly large amounts. (The Environmental Protection Agency and the Department of Energy estimate that the amount of oil mishandled annually in the U.S. by do-it-yourselfers exceeds 180 million gallons.)

Part of the reason for this waste is that automobile owners who change their own oil do not have proper disposal facilities for their drainings. As a result, used oil ends up in garbage or trash cans, storm sewers, or vacant lots. Eventually, it reaches and pollutes our streams and rivers. A combined effort to end this pollution by saving and re-using oil, thus conserving energy, will benefit all.

Our theme: PROTECT OUR ENVIRONMENT—CONSERVE ENERGY RESOURCES

Our slogan: RECYCLE USED OIL

A key feature of our program will be the establishment of a network of convenient used oil collection centers in our community. We hope to enlist the voluntary participation of civic-minded service station managers and business persons who are equipped and would be willing to handle used oil. Collection facilities might also be set up on public properties such as municipal garages, fire stations, or the area landfill or transfer station. Each collection point can be identified by a sign or poster. The discarded oil can then be sold to a recycler, who will ultimately reprocess it and prepare it for future marketing.

We will publicize the program and the collection centers through literature (brochures, etc.) and the media.

Your interest in, and active support of, our endeavor can help to make this much-needed public service a success. We would welcome your endorsement of our effort. Would you, or someone you designate, meet with us to share additional ideas and discuss approaches aimed at creating an effective program?

We welcome a response at your earliest convenience. You may call us at (phone) or write us at the following address: (list). Thank you for giving the program your consideration.

Sincerely,

(Name)  
(Title)  
(Organization)

Sample Kickoff Press Release

FROM:

DATE:

FOR RELEASE ON: \_\_\_\_\_

USED OIL RECYCLING PROGRAM  
BEGINS IN (COMMUNITY, CITY, STATE)

(Date) marks the kickoff of (community) used oil recycling program.

"We only wish that every community in the nation could be kicking off its own recycling program today also," said (Name, Title) of (Organization).

The program, initiated on (date) by (identify and give desired specifics), will be the first effort of its kind staged in (community). "The objectives are many. Of utmost importance will be our desire to impress upon the do-it-yourself oil changers of (community) the importance of keeping their oil drainings out of storm drains, garbage and trash receptacles, empty lots and the ground water," said (name). (Name) also cited the need to educate new do-it-yourselfers about how to collect and recycle oil in an environmentally sound manner.

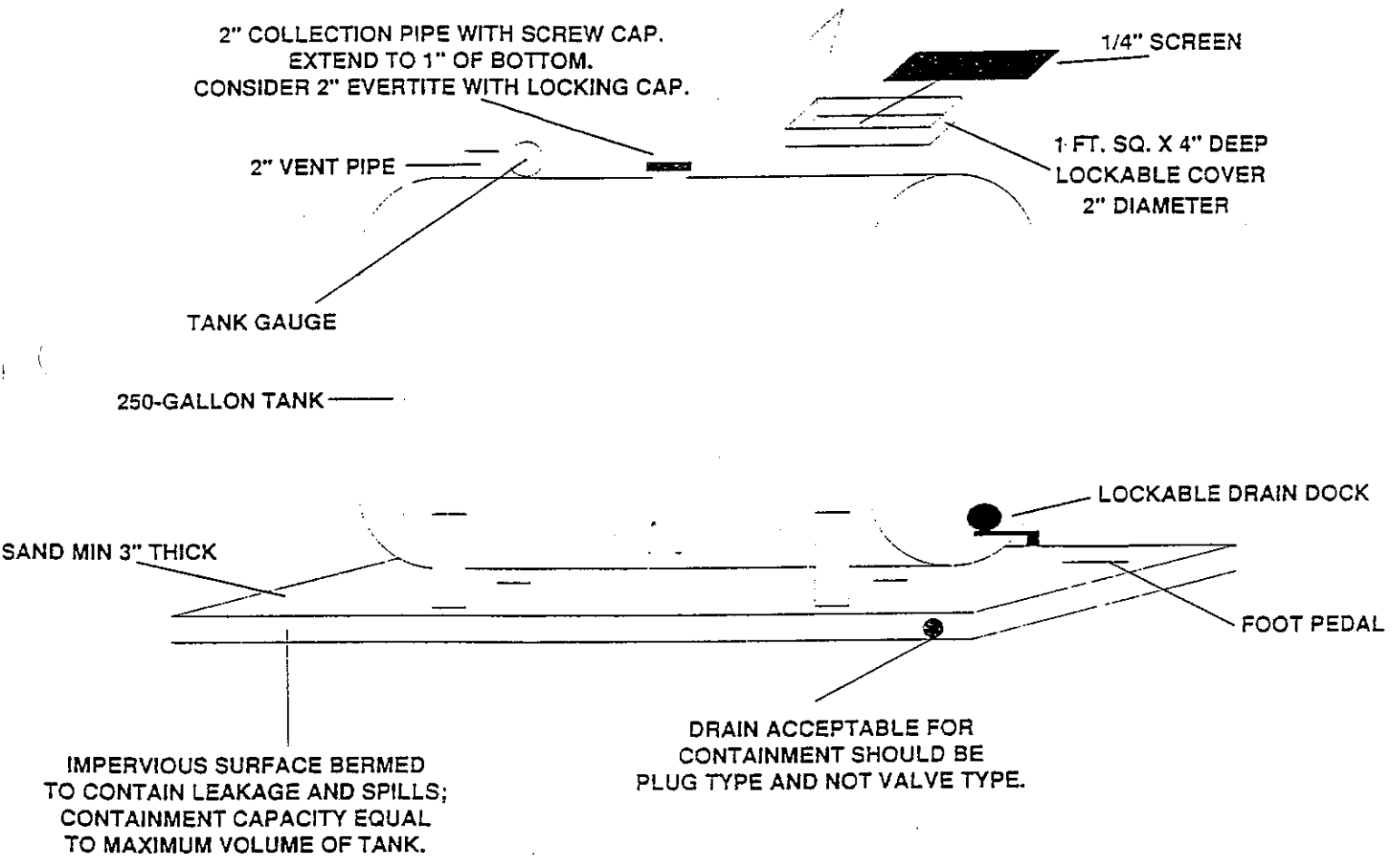
(Community's) desire to aid in doing its share to combat the harm done to the environment by improper disposal was yet another reason. Last, but by far not least, (name) said "we want to take a giant step for energy conservation through re-use of this valuable energy resource."

The U.S. Environmental Protection Agency and the Department of Energy estimate that in excess of 180 million gallons of used oil are mishandled annually by do-it-yourselfers.

The (community) program has established a network of collection centers for used oil. Service stations (and any other establishments participating) have agreed to serve as used oil collection centers. One of the incentives is that the collection centers will be able to sell the used oil to recycling conglomerates and use the proceeds as they wish (use statement only if applicable). The collection points will be identified by posters and their locations will be publicized areawide. (Name) said, "For our residents, the rest is easy. All they need is a suitable container and a cooperative frame of mind." (Organization) will have brochures, pamphlets and other informational materials to place in circulation. The (organization) has received endorsements from a number of (civic groups, organizations, etc.) and officials in the area, including: (list)

(Name of person) anticipates excellent cooperation and participation on the part of collectors and community residents. Anyone interested in obtaining more information or helping with this campaign should contact (name) at (address) or call (phone number).

# SAMPLE OIL COLLECTION TANK DESIGN





## Lead Acid Batteries

**BACKGROUND.** Lead acid batteries provide power to most motorized vehicles. Because of the toxic properties of lead acid batteries, it is illegal for Tennessee landfills to accept them for disposal. The batteries use a chemical reaction between sulfuric acid and lead to generate electricity. Lead acid batteries can be recycled into useable lead, sulfuric acid and plastic to make new batteries.

**GOALS.** The Region's goals in regards to management of lead acid batteries include:

maintain and support private entities to offer collection of used oil

educate the population regarding the potential impacts of mismanagement of lead acid batteries and environmentally sound disposal options

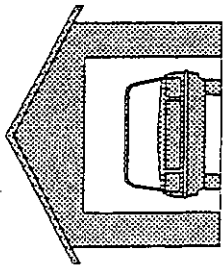
educate disposal facility operators to ensure no disposal of lead acid batteries at landfills in the Region

**CURRENT SYSTEM.** The Region, as every county in Tennessee, is covered by Tennessee law in that every retail store that sells lead acid batteries is required to accept used batteries as trade-ins. In fact, some retailers provide a discount on new batteries with the trade-in of old batteries. Recyclers then buy used batteries from retail stores. Lawrence County accepts batteries at the waste processing facility where they are temporarily stored until sold to a recycler. The balefill accepts used batteries and segregates them for storage until a scrap dealer hauls them offsite for recycling.

**IMPLEMENTATION.** The existing system complies with the minimum State requirements for lead acid battery disposal. An important aspect of maximizing the effectiveness of the program is education. The County will work with the retailers to emphasis the disposal options available to consumers. Local environmental groups, the county sanitation departments, earth science programs at schools, etc. need to encourage the recycling, which includes lead acid batteries. The Region will include in the general educational program outlined in Chapter IX educational efforts towards assuring the proper disposal of more batteries. The State has information brochures which briefly outline the potential problems and ways to avoid them for individuals wanting to dispose of lead acid batteries (attached). The Region will coordinate with gas stations, supply stores, existing disposal facilities to circulate this information.

**Lead-Acid Batteries** provide electricity to the electrical systems of most motorized vehicles. There are millions of these batteries in use today. Lead-acid batteries are used by such things as:

Automobiles,  
Motorcycles,  
Trucks, Tractors,  
Boats, Jet Skis,  
Riding Lawn-  
mowers, Off-Road  
Vehicles

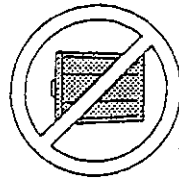


The electricity produced by these batteries is generated by a chemical reaction between sulfuric acid and lead.

***Never throw your battery in the trash.***

While today's landfills are constructed and operated to protect the environment, the best protection is to keep harmful substances out of them.

Because of the toxic properties of lead-acid batteries, it is illegal for Tennessee landfills or incinerators to accept lead-acid batteries for disposal.



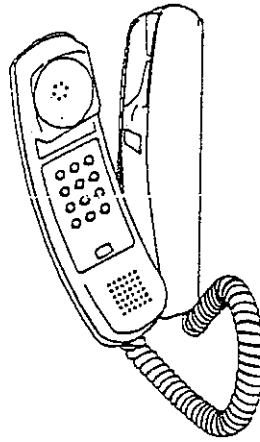
## Always Recycle Your Old Batteries

Lead-acid batteries can be recycled. The components in a battery do not wear out, they just get dirty. Battery recyclers convert spent batteries into useable lead, sulfuric acid and plastic.

### Where Can I Recycle?



Every retail store that sells lead-acid batteries in Tennessee is required by Tennessee law to accept used batteries as "trade-ins." Recyclers then buy used batteries from retail stores.



Call your local auto parts store, service station or discount department store.

Many battery retailers will even accept used lead-acid batteries even when you are not actually purchasing a battery. Just ask!

**REMEMBER:**

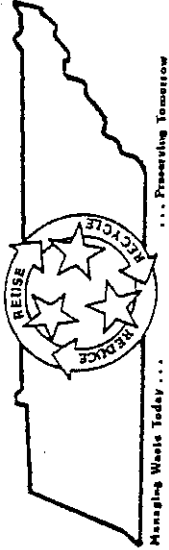
- Don't Trash
- Don't Burn
- DO Recycle!

**Lead-Acid Batteries.**

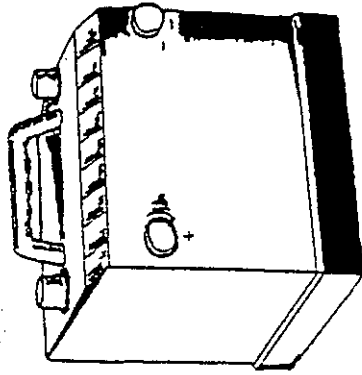
Division of Solid Waste Assistance  
Special Wastes Section  
14th Floor, L & C Tower  
401 Church Street  
Nashville, TN 37243-0455  
(615) 532-0091

**PROPER DISPOSAL  
OF  
LEAD-ACID  
BATTERIES**

**TENNESSEE WASTEWISE**



The information contained in this pamphlet is based on current state laws and best management practices. Recommendations may change over time as new laws and information are developed. Contact the Division of Solid Waste Assistance if you have any questions.



Tennessee Department of Environment and Conservation, Authorization No. 327420, 2,000 copies. This public document was promulgated at a cost of \$.09 per copy, January 1993.

**APPENDIX A**

**LEGAL DOCUMENTATION AND ORGANIZATION OF THE REGION**

**Copy of Resolution Forming the  
Solid Waste Planning Board**

COUNTY COMMISSION, LAWRENCE COUNTY, TN  
KENNETH WEATHERS, COUNTY CLERK

RECEIVED  
JUL 22 1994

RESOLUTION # 01121092 Resolution creating Lawrence Counties' Municipal Solid Waste Planning Region.		MOTION	SECOND	AYE	NAY	PASS	PRESENT	ABSENT
14th District	964-2430			X				
BENEFIELD, DELANO	4628 Hwy 43 N. S'Town, TN 38483			X				
16th District	762-3167							
DUIE, JIM	508 8th St. L'Burg, TN 38464			X				
15th District	762-7938							
BUTLER, JACK	1000 Pine Cr. L'Burg, TN 38464			X				
13th District	762-4391							
CONE, STEVE	205 Parkes Ave. L'Burg, TN 38464						X	
1st District	845-4404							
FERRELL, CHARLES N.	575 Mt Nebo Rd. Iron City 38463			X				
5th District	852-2899							
GABEL, JIM	P O Box 176 Leoma 38468		X	X				
6th District	853-6709							
GREEN, ROBERT L.	P O Box 224 Loretto 38469	X		X				
8th District	762-6640							
GRISHAN, BILL	199 Crawford Ln L'Burg 38464			X				
18th District	829-2603							
HILL, STEVE	38 Dry Weakley Ethridge 38456						X	
4th District	852-4561							
KEENER, ALAN J	226 Dunn-Leoma Rd. Leoma 38468			X				
11th District	964-3080							
MOORE, TRAVIS	352 Corbin St. S'Town 38483			X				
7th District	762-5501							
MOORE, W. T. (TONNY)	305 Pond Field Rd. West Point 38486			X				
3rd District	852-2425							
PARROTT, L. C.	52 Williams Hill Rd. Leoma 38468			X				
10th District	762-8007							
PERRY, TIM A.	1136 Ethridge-Redhill Rd Ethridge 38456						X	
12th District	762-6357							
RAY, TONNY	313 Shirley Dr. L'Burg 38464			X				
9th District	762-2433							
SANDRELL, CARL	79 Bishop Rd. L'Burg 38464			X				
17th District	762-8246							
WILBURN, JAMES D.	430 Frank St L'Burg 38464			X				
2nd District	853-6725							
YOCOM, WAYNE A	148 Rigling Rd Loretto 38469			X				
<b>TOTALS</b>				15			3	

Date December 10, 1992

I, the undersigned County Clerk, do hereby  
 Certify that this is a true and correct copy  
 of the original of this instrument filed  
 this 21<sup>st</sup> day of July, 1994.  
Kenneth Weathers  
 COUNTY CLERK

0112 1072

RESOLUTION NO. 10111692

A RESOLUTION  
CREATING LAWRENCE COUNTY'S MUNICIPAL SOLID  
WASTE PLANNING REGION

WHEREAS, the adoption of the Subtitle D landfill regulations by the United States Environmental Protection Agency and companion regulations adopted by the Tennessee Solid Waste Control Board will impact on both the cost and method of disposal of municipal solid waste; and

WHEREAS, at the urging and support of a coalition of local government, environmental, commercial, and industrial leaders, the 97th Tennessee General Assembly enacted T.C.A. §68-211-801 et seq. titled "Solid Waste Management Act of 1991"; and

WHEREAS, with the view that better planning for solid waste will help control the additional costs that will be imposed by the new landfill regulations, help protect the environment, provide an improved solid waste management system, better utilize our natural resources, and promote the education of the citizens of Tennessee in the areas of solid waste management including the need for the desirability of reduction and minimization of solid waste, local governments in Tennessee supported and worked for the passage of this Act; and

WHEREAS, one of the stated public policies of this Act is to institute and maintain a comprehensive, integrated, statewide program for solid waste management; and

WHEREAS, as per T.C.A. §68-211-811, the nine development districts in the State of Tennessee have completed a district needs assessment which are inventories of the solid waste systems in tennessee; and

WHEREAS, Lawrence County's Board of County Commissioners has given consideration to the needs assessment prepared by the South Central Tennessee Development District; and

WHEREAS, T.C.A. §68-211-813, requires that counties in the State of Tennessee form municipal solid waste regions no later than December 12, 1992; and

WHEREAS, the Act's stated preference is the formation of multi-county regions with counties having the option of forming single or multi-county municipal solid waste regions; and

WHEREAS, the State of Tennessee will provide grant monies of varying amounts to single county, two county, and three or more county municipal solid waste regions to assist these

regions on developing their municipal solid waste region plans; and

WHEREAS, the primary and prevailing purpose of the municipal solid waste regions are the preparation of municipal solid waste regional plans which among other requirements must identify how each region will reduce its solid waste disposal per capital by twenty-five percent (25%) by December 31, 1995, and a planned capacity assurance of its disposal needs for a ten (10) year period; and

WHEREAS, the development of a municipal solid waste regional plan that results in the most cost effective and efficient management of municipal solid waste is in the best interest of the citizens of Lawrence County.

NOW, THEREFORE BE IT RESOLVED, by the Board of County Commissioners of Lawrence County, Tennessee, acting pursuant to T.C.A. §68-211-801 et seq., that there is hereby established a Municipal Solid Waste Region for and by Lawrence County, Tennessee; and

BE IT FURTHER RESOLVED, that this Resolution by the Board of County Commissioners of Lawrence County evidences and constitutes the agreement of Lawrence County in the formation of a single-county municipal solid waste region which region may become a part of a multi-county region heretofore formed by Lewis, Perry and Hickman Counties; and

BE IT FURTHER RESOLVED, that pursuant to T.C.A. §68-211-813(b)(1), a Municipal Solid Waste Region Board is hereby established to administer the activities of this Region; and

BE IT FURTHER RESOLVED, that this Municipal Solid Waste Region Board shall be composed of 7 members; and

BE IT FURTHER RESOLVED, that pursuant to T.C.A. §68-211-813(b)(1), and as part of the participating counties' agreement as evidenced and constituted by this Resolution, the Municipal Solid Waste Region Board shall be composed of the following number of members representing their respective County and, in the instance of a City or Town which collects or provides disposal services through its own initiative or by contract, the number of members representing the city(ies) or town(s):

Lawrence County	2 members
Lawrenceburg	1 member
Loretto	1 member
St. Joseph	1 member
Iron City	1 member
Ethridge	1 member

BE IT FURTHER RESOLVED, that the Municipal Solid Waste Region Board members shall be appointed by the County Executive of the respective county the member shall represent and by the



Mayor of the respective city or town the member shall represent and, that the members so appointed, shall be approved by the respective Board of County Commissioners and municipal governing bodies.

BE IT FURTHER RESOLVED, that the members of the Board of the Municipal Solid Waste Region shall serve a six year term except that, as pursuant to T.C.A. §68-211-813(b)(1) and as part of the participating counties agreement as evidenced by this Resolution, the following shall be the initial terms of office: 1 member representing Lawrenceburg for a 6 year term; 1 member representing Loretto for a 4 year term; 1 member representing St. Joseph for a 4 year term; 1 member representing Iron City for a 2 year term; 1 member representing Ethridge for a 2 year term; 1 member representing Lawrence County for a 2 year term; and

BE IT FURTHER RESOLVED, that this Municipal Solid Waste Region Board shall have all powers and duties as granted it by T.C.A. §68-211-813 et seq. and, as part of the participants agreement as evidenced by this Resolution, it shall have the additional rights and is empowered to utilize existing governmental personnel, services, facilities, and records of the counties which are a party to this agreement evidenced by this Resolution, and to employ or contract with persons, private consulting firms, and/or governmental, quasi-governmental, and public entities and agencies in the performance of its duty to cause a municipal solid waste region plan to be produced; and

BE IT FURTHER RESOLVED, that at the Municipal Solid Waste Region Board's initial organization meeting it shall select from its members a chair, vice-chair, and secretary and shall cause the establishment of a municipal solid waste advisory committee whose membership shall be chosen by the Board and whose duties are to assist and advise the Board; and

BE IT FURTHER RESOLVED, that the Municipal Solid Waste Region Board, in furtherance of its duty to produce a municipal solid waste region plan, is authorized to apply for and receive funds from the State of Tennessee, the federal government, the counties and municipalities that are within the region, and donations and grants from private corporations and foundations; and

BE IT FURTHER RESOLVED, that as part of the participating counties' agreement, as evidenced and constituted by this Resolution, Lawrence County shall receive, disburse, and act as the fiscal agent for the administration of the funds of the Municipal Solid Waste Region and the Region's Board; and

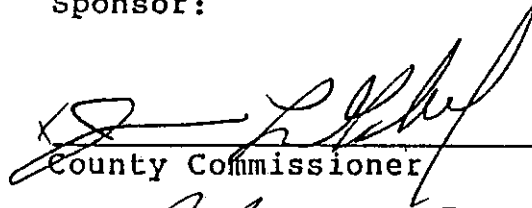
BE IT FURTHER RESOLVED, that the Municipal Solid Waste Region Board will strive to coalesce with other municipal solid waste regions to maximize collection, recycling and disposal of solid waste; and

BE IT FURTHER RESOLVED, that the Municipal Solid Waste Region Board will plan, in conjunction with other regions and particularly the region formed by Lewis, Hickman and Perry Counties of the South Central Tennessee Development District, so as to encourage multi-county planning and make possible later mergers of smaller regions into larger regions, if so desired; and

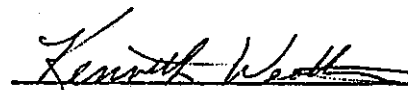
BE IT FURTHER RESOLVED, that upon the passage of this Resolution and at no later date than December 31, 1992, the County Clerk of Lawrence County shall transmit a copy of this Resolution to the Tennessee State Planning Office.

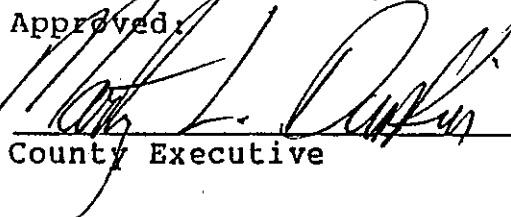
RESOLVED BY THE BOARD OF COUNTY COMMISSIONERS OF LAWRENCE COUNTY, TENNESSEE, this 16th day of November, 1992, the welfare of the citizens of Lawrence County requiring it.

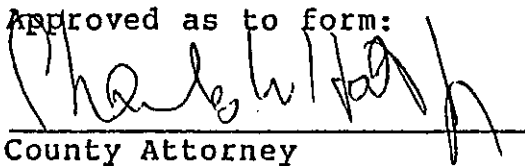
Sponsor:

  
\_\_\_\_\_  
County Commissioner

Attest:

  
\_\_\_\_\_  
County Clerk

Approved:  
  
\_\_\_\_\_  
County Executive

Approved as to form:  
  
\_\_\_\_\_  
County Attorney

**Description of the Administrative Board of the Region**

**Lawrence County Solid Waste Planning Board**

**List of Members**

Jerry Henson (Chairman)	Lawrence County
Wayne Richardson (Secretary)	Lawrence County
Jerry Gray	Iron City
Bryson Keeter	Ethridge
Roy Powell	Lawrenceburg
Vacant	St. Joseph
Vacant	Loretto

**Description of the Citizen's Advisory Committee**

## Lawrence County Solid Waste Citizen's Advisory Board

### List of Members

A. D. Yokley	Ethridge
David Allen, Attorney	Lawrenceburg
Don Hammer, Graphics Packaging	Lawrenceburg
Larry Brown, NationsBank	Lawrenceburg
Kevin Story, Story and Lee Furniture	Leona
Betty Perry	Lawrenceburg
Travis Gobble, Attorney	Lawrenceburg
Donnie Simbeck	Loretto
Terese Frazier	Lawrenceburg
Brenda McDonald	Summertown
Jim Jenkins	Lawrenceburg
Randy Brewer	Lawrenceburg

## **Lawrence County Solid Waste Citizen's Advisory Board**

### **Narrative**

#### **Mission Statement**

It is the mission of the Lawrence County Solid Waste Citizen's Advisory Board to provide a sounding board for the Solid Waste Planning which represents a cross section of the Lawrence County community.

Further, it is the mission of the Lawrence County Solid Waste Citizen's Advisory Board to provide a means of disseminating information concerning the solid waste planning process throughout the Lawrence County community.

Further, it is the mission of the Lawrence County Solid Waste Citizen's Advisory Board to provide feedback and input into the planning process from the different economic sectors throughout the Lawrence County community.

#### **Summary of Activities During Plan Development**

The Solid Waste Planning Board hosted a special meeting of the Citizen's Advisory Board at the development of the preliminary draft of the plan. During this special meeting, the draft was explained and questions were entertained. The Advisory Board members then returned at the public hearing after having discussed the information with other members of the community. The Solid Waste Planning Board incorporated the input of this board into the plan.

#### **Probable Role in Implementation**

The Citizen's Advisory Board will continue to fulfill its mission as per the above mission statement and will be advised of all meetings of the Solid Waste Planning Board.

**Financial Accounting Certification**



# Marty L. Dunkin

County Executive of Lawrence County

---

NBU #1  
Lawrence County Courthouse  
Lawrenceburg, TN 38464

Phone (615) 762-7700  
Fax (615) 766-2219

August 3, 1994

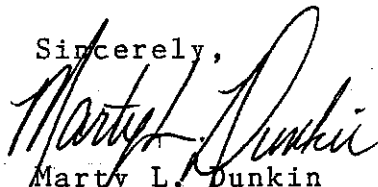
Mr. Paul Evan Davis  
Solid Waste Assistance Division  
14th Floor, L&C Tower  
401 Church Street  
Nashville, TN 37243-0455

Dear Mr. Davis:

This letter is to certify that Lawrence County has complied with the financial accounting requirements of T.C.A. 68-31-874 (a), as amended.

If I can be of further assistance please don't hesitate to call on me.

Sincerely,



Marty L. Dunkin  
County Executive

**APPENDIX B**

**DOCUMENTATION FOR ADJUSTMENTS TO THE BASE YEAR GENERATION**

**(NOT APPLICABLE)**

**APPENDIX C**  
**PUBLIC PARTICIPATION ACTIVITIES**

## **Lawrence County Solid Waste Plan**

### **Synopsis of the Meeting with County Haulers**

**April 25, 1994**

Due to the large-scale nature of the solid waste collection program being considered for recommendation by the Planning Board, a special meeting was called in which the waste haulers operating within Lawrence County were invited to discuss the potential program.

The program was explained to the haulers and they were solicited for input. The consensus of the haulers felt that long term contracts would be required to justify the capital costs associated with purchasing sufficient and appropriate equipment to service the much larger number of households to be served under the new program. It was considered possible that collection costs could drop under the new program on a per household basis due to the increased efficiency of the system.

Many of the haulers felt that the old franchise zone system was being reimplemented and it was explained to them that the old system had been declared illegal by the state and could not be reinstated under this plan.

There was a concern expressed over the possibility of the proposed system attracting out-of-county competition for the larger waste hauling contracts.

## **Lawrence County Solid Waste Plan**

### **Synopsis of the Results of the Public Hearing**

**May 3, 1994**

After a four week advertising period, the Lawrence County Solid Waste Planning Board conducted a public hearing on May 3, 1994 to elicit public comment on the recommendations being made in the 10-year solid waste plan. There were 28 in attendance (see attached list).

The meeting commenced with a description of the plan by the consultant, Draper Aden Associates. This presentation was followed by a question/answer/comment period.

The vast majority of the comments concerning the plan were directed at the collection recommendations. The majority of those in attendance spoke at some portion of the meeting. There was concern that the county providing county-wide door-to-door collection would enable large out-of-county collection interests to displace the locally owned and operated haulers from the marketplace.

Other than the collection issue, comments were sporadic and general in nature.

MAY 3<sup>RD</sup> 1994

NAME

ADDRESS

Nancy Brewer - Lawrence Co. Advocate P.O. Box 308

Marie Washburn - 981 Turnpike, Summertown, In. 38483

Brenda McDonald - 120 Cemetery Rd, L'Burg 38464

Vella Gillespie 157 Gamble Rd, Five Points 38457

James L. Gabel 2773 HWY. 43 S, Leoma, TN. 38468-0176

Charlie Holt P.O. Box 357, L'Burg TN 38464

James R Owens 900 Lanning Rd. Law

Jern Owens 900 Lanning Rd. L'Burg

Angela Owens 904 Lanning Rd. L. Burg

Thomas J. Owens 904 Lanning Rd. L'Burg

Laura Griffin 4 Griffin Rd L'Burg

Bruce Griffin 4 Griffin Rd L'Burg

Ruth Dickey - 943 Turnpike

Mary Ann Coma - 944 Turnpike

Jimmy Barton 3 Waterfork Rd Ethridge, TN

A. C. FREEZE 811 FAIR AVE. L, BURG, TN 38464

Dale Miklich P.O. Box 967 L'Burg TN 38464

LINDSEY GARNER 525 PARRISH, LAW, TN. 38464

SAM HAGAN 103 Weakley Creek Rd L'Burg

W. L. WRIGHT 300 Grandview Dr P.O. Box 426, L'Burg, TN 38464

John White 191 Watson Road L'BURG TN 38464

Glenn Clifton 78 Cemetery Rd. L'Burg Tenn 38464

Paul Rockelle 1704 MASSEY AVE L'Burg TENN 38464

Jimmie Moore 305 Pond Field Rd. West Point TN 38486

Jimmie Crawford Democrat-Union P.O. Box 685 L'Burg TN 38464

A.I.F.D.

NAME

LARRY HAYES

GARY WIDE

MARTY DOLKIN

DRAPER ADEN ASSOC.

" " "

LAWRENCE CO EXE

**APPENDIX D.**  
**EXPORTS AND IMPORTS**



Based on this plan, Lawrence County will execute a contract with a private, out-of-county disposal facility for the disposal of their solid waste prior to October 9, 1996. A copy of this contract will also be submitted (prior to October 9, 1996) to Tennessee's Division of Solid Waste Assistance.

**APPENDIX E**

**REVIEW BY APPROPRIATE MUNICIPAL OR REGIONAL PLANNING  
COMMISSION**

**LAWRENCE COUNTY SOLID WASTE PLANNING BOARD**

Jerry Henson, Chairman

July 12, 1994

Mr. Paul Blair  
Chairman, Loretto Planning Commission  
712 Brenda Avenue  
Loretto, TN 38469

Re: Lawrence County Solid Waste Plan


Dear Mr. Blair:

This letter is to notify you that a copy of the Lawrence County Solid Waste Plan is available for your review at the Lawrenceburg - Lawrence County Solid Waste System office. This office is at the county balefill which is located at 2126 Baler Drive (Behind S.O.S. in the Industrial Park) in Lawrenceburg. The Solid Waste Management Act of 1991 requires counties in Tennessee to develop a 10 year plan for the management of solid waste. This plan was prepared by the Lawrence County Solid Waste Planning Board established by Lawrence County. This plan has been approved by the Lawrence County Commission.

The Tennessee Regional (TCA 13-3-101 et seq) and Municipal (TCA 13-4-101 et seq) planning statutes emphasize that planning documents which may affect the future of an area be available to relevant local planning commissions for review. The law does not require planning commissions to approve solid waste plans nor does it require planning commissions to comment on the plans.

If you have any questions please contact me or Mr. Gary Lide with Draper Aden Associates, our engineering consultant, at 259-3996.

Sincerely,

  
Jerry Henson  
Chairman

**LAWRENCE COUNTY SOLID WASTE PLANNING BOARD**

Jerry Henson, Chairman

July 12, 1994

Mr. Ron Van Vickle  
Chairman, Lawrenceburg Planning Commission  
616 N. Locust Avenue  
Lawrenceburg, TN 38464

Re: Lawrence County Solid Waste Plan

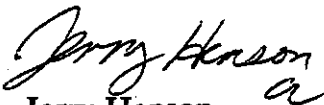
Dear Mr. Van Vickle:

This letter is to notify you that a copy of the Lawrence County Solid Waste Plan is available for your review at the Lawrenceburg - Lawrence County Solid Waste System office. This office is at the county balefill which is located at 2126 Baler Drive (Behind S.O.S. in the Industrial Park) in Lawrenceburg. The Solid Waste Management Act of 1991 requires counties in Tennessee to develop a 10 year plan for the management of solid waste. This plan was prepared by the Lawrence County Solid Waste Planning Board established by Lawrence County. This plan has been approved by the Lawrence County Commission.

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Sincerely,



Jerry Henson  
Chairman

COUNTY COMMISSION, LAWRENCE COUNTY, TN

KENNETH WEATHERS, COUNTY CLERK

RESOLUTION # 11063094 Resolution to adopt Solid Waste Management Plan.		HOTTER	SECOND	AYE	NAI	PASS	PRESENT	ABSENT
14th District	964-2430							
BENEFIELD, DELANO	4628 Hwy 43 N. S'Town, TN 38483			✓				
16th District	762-3167			✓				
BULE, JIM	508 8th St. L'Burg, TN 38464			✓				
15th District	762-7938			✓				
BULLER, JACK	1000 Pine Cr. L'Burg, TN 38464			✓				
13th District	762-4391			✓				
CONE, STEVE	205 Parkes Ave. L'Burg, TN 38464			✓				
1st District	845-4404							
FERRELL, CHARLES N.	575 Mt Noho Rd. Iron City 38463							
9th District	852-2899							
GABEL, JIM	P O Box 176 Leoma 38468				✓			
6th District	853-6709		✓	✓				
GREEN, ROBERT L.	P O Box 224 Lorretto 38469			✓				
8th District	762-6640			✓				
GRISHAM, BILL	199 Crawford Ln L'Burg 38464			✓				
18th District	829-2603			✓				
HILL, STEVE	38 Dry Waukeley Ehridge 38456	✓		✓				
4th District	852-4561			✓				
KUENER, ALAN J	226 Dunn-Leoma Rd. Leoma 38468			✓				
11th District	964-3080			✓				
NOORE, TRAVIS	352 Corbin St. S'Town 38483			✓				
7th District	762-3501			✓				
MOORE, W. T. (TONNY)	305 Pond Field Rd. West Point 38486			✓				
3rd District	852-2425			✓				
PARROTT, L. C.	52 Williams Hill Rd. Leoma 38468			✓				
10th District	762-8007			✓				
PE, TIM A.	1136 Ehridge-Redhill Rd Ehridge 38456			✓				
12th District	762-6357			✓				
RAY, TONNY	313 Shirley Dr. L'Burg 38464			✓				
9th District	762-2433			✓				
SANDRELL, CARL	79 Bishop Rd. L'Burg 38464			✓				
17th District	762-8246			✓				
WILBURN, JAMES D.	430 Frank St L'Burg 38464			✓				
2nd District	853-6725			✓				
YOCOM, WAYNE A	148 Rigling Rd Lorretto 38469			✓				
<b>TOTALS</b>				13	2			3

Date June 30, 1994

*Kenneth Weathers*  
 KENNETH WEATHERS, COUNTY CLERK

RESOLUTION NO. 11063094

**RESOLUTION TO ADOPT REGIONAL SOLID WASTE  
MANAGEMENT PLANT**

WHEREAS, pursuant to T.C.A. §68-211-801, et. seq., Lawrence County and the municipalities therein have established themselves as a solid waste planning district; and

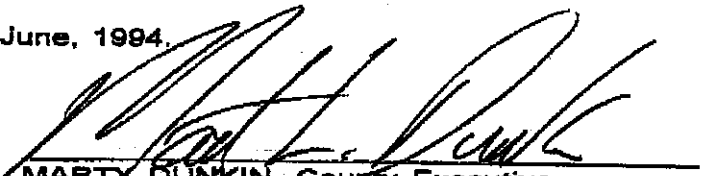
WHEREAS, pursuant to T.C.A. §68-211-801, et. seq., each region is required to submit its plan to the State Planning Office by July 1, 1994; and

WHEREAS, the Regional Solid Waste Management Plan attached hereto and incorporated herein has been approved by the Regional Planning Board.

NOW, THEREFORE, be it resolved by the Lawrence County legislative body meeting in special session this 30th day of June, 1994, that the Regional Solid Waste Management Plan attached hereto is hereby adopted by Lawrence County.

This Resolution shall take effect upon its passage, the public welfare requiring it.

Passed this 30th day of June, 1994.

  
MARTY DUNKIN, County Executive

ATTEST:

  
KENNETH WEATHERS, County Clerk

ED MARTIN  
County Executive of Lawrence County

NBU #1  
Lawrence County Courthouse  
Lawrenceburg, TN 38464

Phone (615) 762-7700  
Fax (615) 766-2219

March 22, 1996

RECEIVED BY

MAR 27 1996

JN SOLID WASTE ASSISTANCE

*EDR 3/27*  
Mr. Paul Evan Davis, Director  
Tennessee Department of Environment and Conservation  
Division of Solid Waste Assistance  
401 Church Street  
L & C Tower, 14th Floor  
Nashville, TN 37243-0455

Dear Mr. Davis,

As per instructions from Ilia Jefferson, after her speaking with Mr. Bill Bethel, I am enclosing the original copy of the Solid Waste Plan Revisions for Lawrence County. Ms. Jefferson will be mailing Lawrence County a copy of this original. Should you have any questions, please feel free to contact me.

Sincerely,

*Ed Martin*  
Ed Martin  
County Executive

EM/ejb

Enclosure

**ADDENDUM I:**

**SOLID WASTE PLAN REVISIONS**

**Municipal Solid Waste Regional Plan**

**for the**

**Lawrence County**

**Solid Waste Planning Region**

*Prepared for:*

The  
Lawrence County  
Solid Waste Planning Region

*Prepared by:*



**Draper Aden Associates**

CONSULTING ENGINEERS

Blacksburg, Virginia - Richmond, Virginia - Nashville, Tennessee

DAA Job No.: 30005  
February 19, 1996



**Lawrence County Solid Waste Planning Region  
P.O. Box 965  
Lawrenceburg, TN 32464**

March 5, 1996

Mr. Paul Evan Davis  
Director  
Department of Environment and Conservation  
Division of Solid Waste Assistance  
401 Church Street  
Nashville, TN 37243

RE: Lawrence County Municipal Solid Waste Regional Plan

Dear Mr. Davis:

The Lawrence County Solid Waste Planning Region is pleased to submit a response to the comments of the regional plan. Comments regarding the plan were submitted to the region by the Division of Solid Waste Assistance (DSWA) in a letter dated December 28, 1995. The letter identified four areas of deficiency requiring immediate attention. These three areas of deficiency include the following: 1) Budget and funding, 2) Disposal capacity assurance, 3) Confirmation letters, and 4) Uniform financial accounting. The areas of deficiency have been addressed and the appropriate information has been bound in the enclosed document entitled, "Addendum I: Solid Waste Plan Revisions, Municipal Solid Waste Regional Plan for the Lawrence County Solid Waste Planning Region." Addendum I has been prepared by Draper Aden Associates on behalf of the planning region. The information provided in Addendum I supersedes any parts of the regional plan which may be affected by this addendum.

The addendum has been divided into five sections containing the information required by the comments from the DSWA. Section One of the Addendum contains a copy of the comment letter from the DSWA. The letter and its attachments will become part of the regional plan.

Budget and funding information for all localities within the region is included in Section Two of Addendum I. Budget and funding plans have been prepared based on the goals of the solid waste regional plan. In the event that a locality is implementing a different program to meet the goals as specified in the plan, the revised budget information has been included in the budget and funding plan. Finally, budget and funding information has been projected for the ten year duration of the plan.

Mr. Paul Evan Davis  
March 5, 1996  
Page 2

The issues regarding disposal capacity assurance have been resolved. A letter from Sanifill Cedar Ridge Landfill is included in Section Three of Addendum I. This letter provides assurance that the landfill has the capacity to accept the region's wastestream for the remainder of the planning period.

Documentation confirming the appointment of the solid waste regional board members is included in Section Four of Addendum I. Lawrence County has provided a letter from the county executive confirming the appointments to the board. The mayors of Lawrenceburg, Loretto, St. Joseph, Ethridge and Iron City have also provided letters confirming their appointments to the board.

Assurance that the localities are complying with the uniform financial accounting requirements of the Solid Waste Management Act has been provided in Section Five of Addendum I. The Cities of Lawrenceburg, Loretto, and Ethridge have provided a letter stating that a special revenue fund is used for any expenses relating to solid waste management.

The letter prepared by DSWA requested that two issues, the implementation schedule and permit review, be addressed in the annual report due March 31, 1996. These issues have not been addressed as part of this addendum but will be addressed in the annual report.

The enclosed information constitutes the full response by the Lawrence County Solid Waste Regional Board to the comments provided in the letter by the DSWA dated December 28, 1995. Should you have any questions or need further information, please call Ms. Ilia C. Jefferson of Draper Aden Associates at (615)259-3996

Sincerely,  
Lawrence County  
Regional Solid Waste Board



Jerry Henson  
Chairman

Enclosure

cc: Lawrence County Solid Waste Planning Region, Members  
Mr. Ed Martin, County Executive, Lawrence County  
Mr. Clayton Ezell, Mayor, City of Lawrenceburg  
Mr. Kimble Maynard, South Central Tennessee Development District  
Ms. Ilia C. Jefferson, Planner, Draper Aden Associates

**ADDENDUM I**

**SECTION ONE**

Comments Provided by  
Division of Solid Waste Assistance  
on December 28, 1995



STATE OF TENNESSEE  
**DEPARTMENT OF ENVIRONMENT AND CONSERVATION**  
Division of Solid Waste Assistance  
401 Church Street, 14th Floor  
Nashville, TN 37243-0456

**CERTIFIED MAIL**

December 28, 1995

Jack Benefield, Chairman  
Lawrence County Solid Waste Planning Board  
455 Jonestown Road  
Summitown, TN 38483

Dear Mr. Benefield:

Thank you for the submission of the Lawrence County Municipal Solid Waste Plan. I regret our delay in responding to your region's solid waste plan. The purpose of our review is to provide constructive comments that will assure your regional solid waste plan is complete and complies with the Solid Waste Management Act of 1991. The plan is a commendable effort and the information provided is both complete and adequate in most cases. However, the Department cannot grant final approval to the plan in its present form. The plan evaluation committee has recommended that the following deficiencies be addressed prior to approval:

- **BUDGET AND FUNDING INFORMATION** - The region's budget and funding plan requires additional detail. A master budget must be developed and integrated for the region over the ten year planning period. Please refer to comments under Chapter XI. For additional information regarding budget requirements, please note comments regarding the budget marked in bold in Chapters V, VI, VII, VIII, and IX.
- **DISPOSAL CAPACITY ASSURANCE** - The plan does not adequately assure disposal capacity for the ten year planning period. The plan should be explicit regarding a disposal capacity solution for the region. Please refer to the attached review comments under Chapter VIII.
- **CONFIRMATION LETTERS** - There is no evidence of appointment or confirmation of any of the seven (7) solid waste regional planning board members. The region must submit evidence of their appointment and confirmation from the county executive and mayors. Please refer to the attached review comments under Appendix A.
- **UNIFORM FINANCIAL ACCOUNTING** - The plan must include evidence that the local governments within the region have adopted the financial accounting requirements that are mandated in the Solid Waste Management Act of 1991. Lawrence County has submitted an appropriate letter. However, letters are also required from all cities providing or contracting for collection services. Please refer to the attached review comments under Appendix A.

Mr. Benefield  
Page 2  
December 28, 1995

In accordance with the Solid Waste Management Act of 1991, T.C.A. Section 68-211-814, the deficiencies identified above are to be corrected within thirty (30) calendar days from the receipt of this letter. These deficiencies are detailed under the respective **IMMEDIATE ATTENTION** review comments. If you need any further clarification on these deficiencies, please contact our office.

In addition to the issues raised above, the plan evaluation committee has identified issues that should be resolved in the region's **annual report**. Specifically, the report to be submitted in March of 1996 should address:

- **IMPLEMENTATION SCHEDULE** - The summary implementation schedule offered is incomplete. A comprehensive schedule for all solid waste programs in the region extending through the year 2003 is needed. Please refer to attached review comments under Chapter XI.
- **PERMIT REVIEW** - Language in the plan granting authority to the host county or city is inconsistent with regional permit review under the Solid Waste Management Act of 1991. This language should be removed or revised. Please refer to the attached review comments under Chapter XIII.

Chapter-by-chapter comments submitted by the plan evaluation committee along with recommendations for action have also been included. Comments on issues other than those specifically detailed above are provided solely for your information, and may be useful as you review your implementation progress and as you update the plan. This letter and attachments should be kept with and become part of the plan.

Our goal is to develop practical, effective, complete regional solid waste plans. I invite you to call our office at 615-532-0091 for more information regarding modifications to correct your specific plan deficiencies.

Please let us know how the Department can assist you in moving toward the important task of attaining final approval of your region's solid waste plan.

Sincerely,



Paul Evan Davis  
Director  
Division of Solid Waste Assistance

PED:dhm

Attachments

cc: Ed Martin, Lawrence County Executive  
Kimble Maynard, South Central TN Development District

## Lawrence County Solid Waste Management Plan

### Review Comments

*December 28, 1995*

Prepared by the Division of Solid Waste Assistance

The following chapter-by-chapter comments were prepared by the Division of Solid Waste Assistance's Plan Evaluation Committee. The majority of the comments require no action and are offered to aid local officials as they implement and update the regional solid waste plan in the future. This document and attachments along with the letter from Paul Evan Davis, Director, Division of Solid Waste Assistance, should be kept with and become part of the Region's Solid Waste Management Plan.

The comments offered in bold and marked "IMMEDIATE ATTENTION" require action within thirty (30) calendar days after receipt of Mr. Davis's letter.

The comments marked "ANNUAL REPORT" should be addressed in the Region's annual report due in March of 1996.

#### EXECUTIVE SUMMARY

The executive summary is generally complete and adequate.

**Action Required: None.** However, we strongly encourage you to revise the **Executive Summary** to reflect plan revisions based on these review comments.

#### CHAPTER I

The chapter is complete and adequate.

There is no description of how the Regional Planning Board will coordinate with local governments.

**Action Required: None.**

## CHAPTER II

Although the chapter is complete and adequate, it may be improved by addressing the following issues as suggested in the **Guidelines for Preparation of a Municipal Solid Waste Regional Plan**:

- There is no regional map showing any of the sites requested.
- Page II-13 represents the financial statements for this chapter. Although Lawrenceburg operates a door-to-door collection service, it is not shown on the financial statement. The statement shows only Loretto & Ethridge as having expenditures.
- There is no combined regional summary of expenditures.
- **The information on financial statements (or pie charts) are not included. The only information given is for Loretto and Ethridge.**
- There is no description of existing solid waste and recycling education programs in Chapter II. In Chapter IX, education is addressed mainly in terms of goals.
- There is no section on "strengths and weaknesses" in Chapter II.

**Action Required: None.** While we strongly encourage you to develop the suggested narrative and include it in your regional plan, we do not require any action at this time.

## CHAPTER III

The chapter is complete and adequate.

**Action Required: None.**

## CHAPTER IV

The chapter is complete and adequate. The plan indicates the 25% waste reduction goal is met in 1994. Target reductions are not specifically identified in either Chapter IV or Chapter XI, although they may be extrapolated from the chart on page IV-10. The total target reduction for 1995 is 6,584 tons. All of this amount and more (8,740 tons annually) is accounted for by an industrial paperboard reduction program in place instituted by Graphics Packaging. A blue bag recycling program already in place utilizes a materials recovery facility (owned by Lawrenceburg/Lawrence County) and reduces the wastestream by over 1,000 tons annually. Lawrenceburg operates a Class III/IV facility which diverts about 500 tons per year (the plan recommends that this facility

### **Chapter IV (continued)**

be transferred to Lawrenceburg/Lawrence County Solid Waste System ownership). Other minor reduction sources are named in the Table IV-6 on page IV-10 and elsewhere.

The plan proposes that a "Reduction and Education Manager" be chosen by fall of 1994.

No base year adjustment is requested. The calculations of the 1989 base year and 1995 goal are generally accurate and consistent with the UT study. The region begins in 1989 at 0.73 tons/person/year (t/p/y) and aims for 0.55 t/p/y in 1995.

The chapter may be improved by addressing the following issues:

- Target reductions are not specifically identified in either Chapter IV or Chapter XI. The plan ignores both the annual quantitative analysis of the 25% waste reduction goal required in the **Guidelines for Preparation of a Municipal Solid Waste Regional Plan** in Table IV-2 (although Table IV-6 on page IV-10 is close) and the flow diagram of the goal required in Chapter XI.
- Chapter IV calculations estimate that the region will generate around 19,701 tons in 1995. While this figure is consistent with the Division's calculation, Chapter VIII, Table VIII-1 seems to indicate that 19,000 tons will require disposing in 1996.
- Problem wastes are not considered in the diversion targets offered.

**Action Required: None.** While we strongly encourage you to develop the suggested narrative and include it in your regional plan, we do not require any action at this time.

Reduction records relative to the 25% waste reduction goal should be kept up to date for use when the goal is evaluated after December 31, 1995. The Department's **Guidelines on the 25% Reduction Goal** are attached for your information (**Attachment A**).

### **CHAPTER V**

The chapter is only partially complete and adequate. Lawrence County is in need of a collection system that meets collection assurance criteria by January 1, 1996. Although the chapter reports that the majority of the county is served by private haulers (page V-1), there is no agreement between the county and the haulers which assures the service. Lawrenceburg, Loretto, and Ethridge provide door-to-door service and the Lawrenceburg/Lawrence County Solid Waste System services the county school system (page XI-5).



**Chapter V (continued)**

There are no convenience centers in the county (page V-1) and no plans to construct convenience centers. Drop-off collection appears to be available at the city/county materials recovery facility (MRF); however, this does not appear to be a registered convenience center.

The chapter proposes to provide a higher level of service through what is called a "franchise" system with the private haulers and/or municipalities. Under the proposed system, zones would be established and a bidding process set up for potential haulers. The county would coordinate the bidding process and the billing system for all county households.

Appendix C documents several concerns of the private haulers who would potentially be the bidders on the franchise contracts. It also documents that most of residents interested enough to attend a public hearing were also concerned with the proposed collection arrangement. The haulers are concerned about the legality of the arrangement, and the citizens are concerned that the arrangement may put the local haulers out of business through enticement of a large, more competitive contractor from outside the region.

The proposed system appears as though it may be legal, and it would more than meet the minimum requirements under the law. However, it appears the region is laboring under the false assumption that 90% of the population **must be served** in order to provide a higher level of service. In fact, it is only necessary that 90% of the population **have reasonable access** to collection services.

In addition to only going through 1996, the implementation schedule on page XI-4 disregards the hiring of any staff mentioned on page V-4, other than the Solid Waste Manager. It also does not include milestones for design and implementation of the franchised collection contracts and user billing system, annual reporting, and five-year update requirements.

**Budget information for collection services is incomplete.** The chapter lists the costs per household for administration of the program, but no costs per household for the actual service. It is implied that all such costs would be covered by a household fee, but that is not clear. Without more information on the proposed fee or fees (when, who, how much?), page XI-6 only represents an unfunded cost estimate. There is a sizable increase in collection costs after 1995. Current costs and revenues for the Loretto and Ethridge systems are only listed in Chapter II.

**Please see IMMEDIATE ATTENTION review comments regarding BUDGET AND FUNDING in Chapter XI for additional information concerning the collection budget.**

### **Chapter V (continued)**

**Action Required: None.** While we strongly encourage you to develop additional detail with regard to the region's plan's to provide minimum collection assurance, we do not require any action at this time.

Collection records should be kept up to date in order to assure county-wide collection by January 1, 1996 per T.C.A. 68-211-851(a). Such records will be useful as collection reports are required annually as well as to document collection assurance. A fact sheet regarding collection assurance is included for your information (**Attachment B**).

### **CHAPTER VI**

The chapter is complete and adequate. In 1993, The City of Lawrenceburg/Lawrence County (CLLC) Solid Waste System built a materials recovery facility (MRF) at the balefill site and began implementation of a county-wide "blue bag" recycling collection program. Lead bags are distributed each month, county-wide, by a network of public and private haulers and made available at the landfill for direct users. The bags are picked up, some together with household waste and some separately, and processed at the MRF. Recyclables collected include newspapers, aluminum/glass/plastic/steel containers, and corrugated cardboard. These are marketed through Greentree Recycling of Florence, Alabama. The MRF also serves as a drop-off convenience center for those who do not subscribe to a collection service.

Drop-off sites are planned for each school in the county to collect white paper and corrugated. Expansion of the program to cover every resident, business and industry in the county is planned through the proposed "franchise" collection system (see Chapter V).

The chapter indicates that at least one (1) recycling collection center will exist in the county by January 1, 1996 which is the statutory requirement [T.C.A. 68-211-863(a)].

The chapter may be improved by addressing the following issues:

- The staffing plan contains no milestone schedule.
- Support for the recycling program is presently funded 60% by Lawrenceburg and 40% by Lawrence County. The proposed plan to impose a collection fee for the franchise zones needs to be spelled out in Chapter VI since recycling is an integral part of the overall collection program.
- The ten-year implementation schedule extends only to January 1996.

**Chapter VI (continued)**

- There is no facility locator map in Chapters VI or XI, and the map in Chapter II does not indicate any recycling facilities.
- Although costs are covered in detail, a detailed funding plan for recycling activities is not offered. Please see IMMEDIATE ATTENTION review comments regarding BUDGET AND FUNDING under Chapter XI for additional comments on the recycling budget.

**Action Required: None.** While we strongly encourage you to develop the suggested narrative and include it in your regional plan, we do not require any action at this time.

**CHAPTER VII**

The chapter is complete and adequate. Generally, the programs discussed in this chapter are not of key importance to the overall plan. The plan reviews the potential contribution of central yard waste and solid waste composting, yard waste incineration and waste-to-energy, but none of these options are recommended. Backyard composting with a training program is discussed in Chapter 8, pages 5 and 6, but it is more an information outline than a definite plan.

Co-composting is discussed as a long-term option using wood, sawdust, food and yard waste with Class A sewage sludge, but there is no implementation plan.

The only program covered as an option in Chapter 7 is an existing baling operation, but the plan is very sketchy and is given only in outline form.

The chapter may be improved by addressing the following issues:

- The plan does not provide the volume of the waste stream processed nor the percent waste reduction, if any.
- Baling is not listed as a component of the regional system.
- The chapter does not provide a plan for an alternative in case baling is discontinued.
- No facility sites are identified or located on the region map.
- Revenues and budgets are not covered or referenced. Please see IMMEDIATE ATTENTION review comments regarding BUDGET AND FUNDING under Chapter XI.

### *Chapter VII (continued)*

**Action Required: None.** While we strongly encourage you to develop the suggested narrative and include it in your regional plan, we do not require any action at this time.

## **CHAPTER VIII**

Although generally complete, this chapter does require some additional clarification. The Lawrence County Solid Waste Planning Region has two existing solid waste facilities: a Class I balefill (operated by the City of Lawrenceburg/Lawrence County Solid Waste System) and a Class III/IV landfill (20 years capacity). The only system map in the plan is located at the end of Chapter II, and it does not show the locations of the existing landfills.

The balefill does not have a cell that meets the new leachate collection and liner requirements, but has capacity in its existing footprint to allow landfilling until 1995 or 1996 (page II-11). There are five (5) acres available in the permitted area that could be fitted with the federal Subtitle D required liner and leachate system (page II-11), and Table VIII-1 indicates that sufficient capacity exists through 1999 should the region decide to develop the 5 acres. However, the chapter proposes that the region use the existing Class I as long as possible up to the October 1996 deadline and then contract for out-of-region disposal (pages VIII-6 and II-11; and in Appendix D).

Chapter XI indicates that the Class I balefill will operate in its existing cell until October 1996, at which time the jurisdictions using the balefill will contract for out-of-region capacity (page XI-2). Appendix D promises that a contract to export will be secured sometime before the federal Subtitle D deadline of October 9, 1996, but it is no more specific than that. While page VIII-6 recommends that the region export to the Sanifill Cedar Ridge Landfill, no further details and rationale regarding the choice are offered.

The Implementation schedule provides even less detail regarding the acquisition of additional capacity. There is no schedule in Chapter VIII, and the one in Chapter XI (page XI-4) offers no milestones for negotiating or awarding disposal contracts. The schedule does not go beyond 1996.

With regard to the disposal budget, the plan should further address how the increased costs of disposal will be funded after 1996. There is a significant increase in the disposal/transportation costs estimates shown for 1996 and 1997 on Page XI-6. It is assumed that the additional costs are for transportation to and disposal at a Subtitle D facility. More information regarding how these additional costs are to be funded (when additional fees are to be instituted, upon whom, and by which jurisdictions) is needed. Please see IMMEDIATE ATTENTION review comments regarding BUDGET AND FUNDING under Chapter XI for additional comments on the disposal budget.

**Chapter VIII (continued)****IMMEDIATE ATTENTION**

**DISPOSAL CAPACITY ASSURANCE** - The plan does not adequately assure disposal capacity. T.C.A. 68-211-815(b) states: "At a minimum, each plan submitted by a municipal solid waste region shall include the following: (6)Planned capacity assurance, including descriptions of planned or needed facilities," and T.C.A. 68-211-851(a) states: "Effective January 1, 1996 each county shall assure that one (1) or more municipal solid waste collection and disposal systems are available to meet the needs of the residents of the county..."

**ACTION REQUIRED:** The plan must be more explicit regarding a disposal capacity solution for the region once the federal Subtitle D deadline arrives. In the absence of a contract, documentation such as a letter from Sanifill Cedar Ridge landfill management assuring capacity at a reasonable rate may be sufficient. As a matter of courtesy, when a formal disposal agreement does exist, the regional planning board of the Importing region should be informed by letter by the regional planning board of the exporting region.

The region must submit an update on efforts to satisfy the disposal capacity assurance requirements of the Solid Waste Management Act as outlined above. Primary questions include: 1) how does the region currently plan to dispose of its waste throughout the ten-year planning period?; and 2) If final decisions regarding disposal for the entire planning period (through 2003) have not been made, has the region submitted a timetable for decision-making coupled with a letter from at least one source landfill assuring capacity at a reasonable price? If a given option results in the exporting of any and/or all of the region's waste to another region, the regional planning board should, as a matter of courtesy, notify the region receiving the waste of the contract with the receiving landfill. If a disposal contract has been signed, the Department should be made aware of the contract and terms.

If a given contract is for a term less than the total ten-year planning period, the region should outline a strategy and timetable for assuring capacity during the remainder of the planning period. A sample disposal capacity assurance schedule is attached (Attachment C).

The additional information and clarification requested is to be submitted to the Division of Solid Waste Assistance within thirty (30) days of receipt of this letter.

## CHAPTER IX

The chapter is complete and adequate. The plan sets forth a need to expand existing educational efforts, but gives very little information about what education programs exist so far. The chapter shows goals and objectives, which if adopted should result in a successful educational program.

The chapter has described a number of activities to educate the public on solid waste issues. Only the goals dealing with school curriculum contain the amount and kind of information to be provided. Other goals target a certain number of meetings per month, but do not indicate topics to be covered. Methods are presented for most activities.

Budget information shown is satisfactory but confusing. The budget presented is not a ten-year budget. It indicates that salary, overhead, and office equipment will be shared with the recycling program, but it does not appear to include costs for support staff to be provided by the City/County Solid Waste System, or office space provided by the MRF. Other parts of the plan indicate the education coordinator will take care of recycling and waste diversion.

Three options are given for funding the education program - tipping fees, direct government appropriations, or having the city/county provide funding through the solid waste planning region. It is unclear which option has been chosen by the region. The ten-year budget for education in Chapter XI appears to exclude salary, benefits, etc. Please see IMMEDIATE ATTENTION review comments regarding BUDGET AND FUNDING under Chapter XI for more information on budget requirements.

The chapter may be improved by addressing the following issues:

- The plan contains limited information about how the educational programs will be evaluated. It is not clear who is responsible for maintaining information on each segment of the program, what specific information will be kept, what reports will be prepared, to whom this information will be reported, or what will be the frequency of reporting.
- An implementation schedule has been provided, but milestones are not specific except for the ones dealing with media, business and civic groups. Also, the schedule only goes through 1996 with no targets beyond that time.
- Responsibility of local governments, business and schools for implementing educational programs is not discussed in this chapter.
- Chapter 11 does not contain all of the milestones reported in Chapter 9 in the implementation schedule. Milestones are not specific.

**Chapter IX (continued)**

**Action Required: None.** While we strongly encourage you to clarify the issues raised and include the suggested narrative in your regional plan, we do not require any action at this time. Development of detail in this chapter may help justify any applications to the Division of Solid Waste Assistance for education grants, once the plan is approved.

**CHAPTER X**

The chapter is complete and adequate. Specific goals for managing household hazardous wastes in the region are listed. The staff needed for collection events is described. The projected costs for holding each event are very specific. The county intends to schedule one (1) collection event with the state every year. In the event the state's collection service is not reauthorized in 1996, the implementation of a long-term, regionally-funded program is described. The plan assumes that the state program will cease and permanent HHW collection sites will be mandated for rural counties in 1996, but this is a premature assumption.

The region will construct a waste tire storage and shredding area at the balefill site where the shreds will be landfilled. The number of tires sold in Lawrence County for 21 months are provided. The plan concludes that the number of tires shredded compared to the number sold in the region indicates a high probability of illegal dumping. An outline of a program for addressing illegal dumping is discussed.

The plan states that the county has a used oil collection facility at the balefill.

The chapter may be improved by addressing the following issues:

**A. Household Hazardous Waste (HHW).**

The implementation schedule contains no detailed objectives or milestones for measuring the progress of the HHW program. A description of the training needed is omitted from the estimate of the staff for collection events. Information on site selection and support staff is not specific for the planning region. More county-specific details need to be provided on coordinating with the state on collection days, publicity, and public education on HHW.

The plan indicates that the law insists on a permanent HHW site by January 1, 1996 (page ES-4), but please note this is not the case.

**Chapter X (continued)****B. Waste Tires.**

No specific information on how the region will inventory and quantify illegal tire dumps is provided.

**C. Waste Oil.**

The plan does not list the private sector facilities it states exist in the region, or describe how much oil is recycled through the county's existing public facility.

**D. Lead-Acid Batteries.**

A plan for proper disposal is not discussed.

**E. Litter.**

The description of a litter program appears to be advice from the consultant to the county without actually describing a plan.

**Action Required: None.** While we strongly encourage you to develop the suggested narrative and include it in your regional plan, we do not require any action at this time.

**CHAPTER XI**

This chapter will require additional information. Lawrence County proposes to reduce wastes through diversion and recycling, focusing on white goods and industrial sources. The region plans to provide county-wide curbside collection through contracts for several "franchise zones," which may include cities that now provide collection services. The plan calls for a "blue bag" recycling system, with separation at an existing MRF. The region will operate its existing balefill until 1996, then contract for out-of-region disposal. An existing Class III/IV landfill will be maintained as a part of the regional strategy. Education efforts will be initiated or expanded.

Components of the proposed system are described, but Chapter XI includes no summary of regional needs, goals or objectives. There are no ten-year waste estimates. Neither Chapter III, Chapter IV nor Chapter XI displays a proportional flow diagram explaining the disposition and reduction of regional wastes, and there is no explanation for the omission. A base map is found in Chapter II, but the plan contains no map of the existing solid waste management system, nor of the proposed system. An institutional structure to implement the plan is not described in this chapter.



**Chapter XI (continued)**

While we strongly encourage you to develop the suggested narrative as noted above and include it in your regional plan, we do not require any action on this subject at this time.

However, the following items will require a response:

**IMMEDIATE ATTENTION**

**BUDGET AND FUNDING** - The region's budget and funding plan is inadequate. T.C.A. 68-211-815(b)(2) states: "At a minimum, each plan submitted by a municipal solid waste region shall include the following: (D) Costs, using a full cost accounting model developed by the state planning office, including costs of collection, disposal, maintenance, contracts and other costs;" and "(E) Revenues, including cost reimbursement fees, appropriations, and other revenue sources."

Chapter XI includes a ten-year budget, which consists of cost estimates only. The summary budget table is not uniformly consistent with the budget tables in previous chapters (Table IV-5 (c), page IV-8; Table V-5, page V-5; Table VI-28, page VI -36 and Table IX-18, page IX-15). For instance, Table V-5 is inconsistent for the years 1994 and 1995, but consistent for 1996 through 2003. No budget is included in Chapter VII. The Disposal/Transportation figures in the summary budget do not agree with the figures in Chapter VIII. There is no explanation of the numbers for 1994, 1995 or 1996; the numbers for 1997 and 1998 are identical; and the estimated costs for the years 1999 through 2003 are close to those in Table VIII-4 (b), but not identical. Differences are not explained.

There is only a perfunctory discussion of revenues and funding. The current system is financed by local governments, from usual revenue sources. There is no tipping fee at the landfill. In Chapter V (page V-5), a possible collection fee is proposed for 1996 and after, but there is no timetable for adoption or initiation of this revenue source.

**ACTION REQUIRED:** A master budget must be developed and integrated for the region over the ten-year planning period. The budget and funding plan should be broken out by jurisdiction and include all solid waste programs for the region over the ten-year period. A sample budget, intended only as a guide (not a mandate), is attached for your convenience (Attachment D). Please note the review comments regarding the budget

**Chapter XI (continued)**

marked in bold in Chapters V, VI, VII, VIII, and IX. The requested budget and additional clarifying information is to be forwarded to the Division of Solid Waste Assistance within thirty (30) days of receipt of this letter.

**ANNUAL REPORT**

**IMPLEMENTATION SCHEDULE** - T.C.A. 68-211-815(b) states: "At a minimum, each plan submitted by a municipal solid waste region shall include the following: (13) A timetable for implementation of the plan."

The nine-item implementation schedule on page XI-4 is not complete. A comprehensive schedule for all solid waste programs in the region extending through the year 2003 is needed. Scheduled milestones from previous chapters should be included in the comprehensive schedule.

**Action Required:** Develop a comprehensive schedule as described above. This schedule should be prepared in such a fashion with enough detail so that the region can use it to measure progress toward meeting the plan's goals and objectives. **This information should be forwarded to the Division of Solid Waste Assistance at the time of submission of the Annual Progress Report in March of 1996.**

**CHAPTER XII**

Implementation responsibility rests primarily with the City of Lawrenceburg/Lawrence County Solid Waste System (CLLCSWS) which controls the blue bag (recycling) collection system, the MRF, and the balefill. Lawrenceburg owns the Class III/IV facility; however, it has been suggested that the CLLCSWS take it over.

The Regional Planning Board approval (first page) and planning commission recognition (Appendix E) are properly documented and addressed. County Commission approval is also in Appendix E.

**Action Required: None.**

## CHAPTER XIII

**Flow Control** - The plan does not address flow control under the Solid Waste Management Act directly. It states that the region does not elect to pursue flow control policies at this time.

**Action Required: None.**

**Permit Review** - The plan includes some specific language regarding rationale for permit review and the basis the regional planning board will use to determine if an application is "consistent with the plan." While this language is a positive step, further language tying the goals of the plan to the permit review process would be useful to the region in the long term. Rationale must be based on ten-year disposal goals found in the plan. A copy of a Department of Environment and Conservation fact sheet on rational criteria for out-of-region bans, flow control, and permit review is attached (Attachment E).

The plan describes a review process that is similar to T.C.A. 68-211-814 with some extra steps. Prescribing extra steps is certainly permissible. However, the region should be aware that the process must follow the outline for permit procedure found in the statute with regard to major points and timing.

**Action Required:** The region should consider these comments as permit review policy is developed.

The following issue will require further action by the regional planning board:

### ANNUAL REPORT

**PERMIT REVIEW** - Procedure under the Solid Waste Management Act of 1991 requires that the Solid Waste Regional Planning Board be given the right to review permits for consistency with the plan by law [T.C.A. 68-211-814(b)(1)(D)] not local host governments. The plan allows the host county commission and any host city to review proposed permits [page XIII-3, 1.(9) - 2.]. **The Department is unable to approve this portion of the plan.** This part needs to be removed or revised. One suggestion would be to give the host governments the right to review permit decisions (without the right of approval or rejection). The language, as it stands, has the effect of giving the host jurisdictions final say over the Solid Waste Regional Planning Board.

**Action Required:** This chapter is acceptable if the language granting permit review authority under the Solid Waste Management Act to affected local jurisdictions is omitted or revised to simply allow the host jurisdiction to review proposed permits without giving them the right to accept or reject the permit based on consistency with the region's disposal needs identified in the plan. This right of approval or rejection belongs to the regional solid waste board alone under the Solid Waste Management Act.

**Chapter XIII (continued)**

**Please note:** The General Assembly passed Public Chapter No. 5 in March of 1995 amending the law with regard to permit review under the "Jackson Law" [T.C.A. 68-211-701 et seq.]. Among other things, the new law will extend permit review by local governments (county commissions and city councils) under the Jackson Law indefinitely **in counties where the Jackson Law has been adopted.** A copy of the new law is attached (Attachment F). **Permit review provisions under the Solid Waste Management Act of 1991 have not been amended.**

Please forward the revised permit review procedure under the Solid Waste Management Act to the Division of Solid Waste Assistance as part of the region's annual report due in March of 1996. In addition, please advise the Department if the Jackson Law has been adopted in the region.

The region is also asked to note that all decisions by the region are to be reviewed by the Chancery Court of Davidson County not the Chancery Court of the host jurisdiction [Compare page XIII-3, third paragraph under 1. with T.C.A. 68-211-814(b)(2)(D)]. Any language to the contrary should be stricken.

**APPENDIX A**

The appendix is adequate with the following exceptions:

**IMMEDIATE ATTENTION**

**CONFIRMATION LETTERS** - There is no evidence of appointment or confirmation of any of the seven (7) solid waste regional planning board members. T.C.A. 68-211-813(b)(1) states: "The members of the board shall be appointed by the county executive and municipal mayors, respectively, of the counties and eligible municipalities within the region, whose appointments must be approved by the legislative or governing bodies of the respective counties and eligible municipalities within the region...." The Guidelines for Preparation of a Municipal Solid Waste Regional Plan, Appendix A, Section 1.2.b. specifically requests copies of appointment letters and records of the board members' confirmation.

**ACTION REQUIRED:** At a minimum, the region must submit a letter from the County Executive (in the case of the two county members) or the appointing mayor (in the case of members representing Lawrenceburg, Loretto, St. Joseph, Iron City, and Ethridge) confirming that the appointments have been made and the date of confirmation by

**Appendix A (continued)**

the county commission (for county members) or city council (for each of the city members). Copies of resolutions or minutes showing confirmation would also be useful documentation. This information should be forwarded to the Division of Solid Waste Assistance within thirty (30) days of receipt of this letter.

- **UNIFORM FINANCIAL ACCOUNTING** - The plan must include evidence that the local governments within the region have adopted the financial accounting requirements that are mandated in the Solid Waste Management Act of 1991 [(T.C.A. 68-211-874(a) and T.C.A. 68-211-815(b)(3)], and requested in the Guidelines for Preparation of a Municipal Solid Waste Regional Plan, page 56 (Paragraph II). Any county, solid waste authority or municipality that operates a landfill shall account for financial activities related specifically to the landfill in an enterprise fund. It appears that the county executive's letter, dated August 3, 1994, is stating that the city/county landfill utilizes an enterprise fund. A letter confirming this is needed from the City of Lawrenceburg. For collection services, recycling services, and other solid waste processing activities, a named special revenue fund is sufficient.

Although the county has included a letter certifying compliance with the state's financial accounting system, there are no letters from cities in the region with collection services. According to Chapter II, there are three (3) cities providing collection services: Lawrenceburg, Loretto, and Ethridge.

**ACTION REQUIRED:** The region must submit letters from the relevant city governments certifying that each jurisdiction has complied with financial accounting requirements to establish a special revenue fund for collection and recycling activities. In addition, Lawrenceburg's letter must confirm that an enterprise fund is being used at the city/county landfill. This information is to be forwarded to the Division of Solid Waste Assistance within thirty (30) days of receipt of this letter.

**APPENDIX B**

The appendix is not applicable since no base year adjustment was requested.

**Action Required: None.**

**APPENDIX C**

Appendix C is complete and adequate. Information on workshops, public information meetings and subcommittees was found in Appendix A. A public hearing was held May 3, 1994.

**Action Required: None.**

**APPENDIX D**

The region is currently not exporting or importing, but the plan calls for exports in the future. Please refer to review comments in Chapter VII.

**Action Required: None.**

**APPENDIX E**

All the necessary information is included.

**Action Required: None.**

**ADDENDUM I**

**SECTION TWO**

**Budget and Funding Plan**

**ESTIMATED 10 YEAR BUDGET**

LAWRENCE COUNTY	1994/95	1995/96	1996/97	1997/98	1998/99	1999/100	2000/01	2001/02	2002/03	2003/04	2004/05
<b>1. Waste Reduction:</b> Graphics Packaging, Inc. Contract between Graphics Packaging, Inc. & Shotas of Huntsville, AL  MRF/Blue Bag Recycling Program Discussed in Section 3: Recycling  Waste Reduction Manager See Section 3: Recycling											
<b>2. Contract with Collection Services</b> Approx. 7,000 persons per franchise zone Tonnage Hauled @ 0.545 tons/person/yr in 1997 Miles per Trip (One Way) 30 Tonnage x Miles 592,500 Unit Cost (\$/ton-mile) \$0.31 Total \$183,675 Franchise Zone 1 \$183,675 Franchise Zone 2 \$183,675 Franchise Zone 3 \$183,675 Franchise Zone 4 \$183,675 Franchise Zone 5 \$183,675 Total <b>\$918,375</b>	\$0	\$918,375	\$964,294	\$1,012,508	\$1,063,134	\$1,116,291	\$1,172,105	\$1,230,710	\$1,292,246	\$1,356,858	\$1,424,701
<b>Operating Cost (1999)</b> Salary and benefits \$50,000 Overhead \$5,000 Supplies \$5,000 Office Equipment \$2,000 Postage \$75,000 Printing \$10,000 Advertising \$1,000 Total <b>\$148,000</b>	\$0	\$148,000	\$155,400	\$163,170	\$171,329	\$179,895	\$188,890	\$198,334	\$208,251	\$218,663	\$229,597
<b>Subtotal - Collection and Transportation</b>	\$0	\$1,066,375	\$1,119,694	\$1,175,678	\$1,234,462	\$1,296,185	\$1,360,995	\$1,429,044	\$1,500,497	\$1,575,522	\$1,654,298
<b>3. Recycling</b> <b>Materials Recovery Facility (1994)</b> Labor \$38,454 Utilities \$7,500 Equipment/Fuel \$2,500 Maintenance \$4,000 Total \$52,454  <b>Transportation (1994)</b> Tonnage Hauled 1254 Miles per Trip (One Way) 30 Tonnage x Miles \$37,620 Unit Cost (\$/ton-mile) \$0.31 Total \$11,662	\$52,454	\$55,077	\$57,831	\$60,722	\$63,758	\$66,946	\$70,293	\$73,808	\$77,498	\$81,373	\$85,442
<b>Total</b>	\$11,662	\$14,578	\$18,222	\$22,778	\$28,472	\$35,590	\$44,488	\$55,610	\$69,512	\$86,890	\$108,613





**ESTIMATED 10 YEAR FUNDING PLAN**

LAWRENCE COUNTY	1994/95	1995/96	1996/97	1997/98	1998/99	1999/100	2000/01	2001/02	2002/03	2003/04	2004/05
<b>1. Waste Reduction:</b>											
Subtotal - Waste Reduction - Not Used	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0
<b>2. Collection and Transportation</b>											
General Fund	\$0	\$1,066,375	\$1,119,694	\$1,175,678	\$1,234,462	\$1,296,185	\$1,360,995	\$1,429,044	\$1,500,497	\$1,575,522	\$1,654,298
Subtotal - Collection and Transportation	\$0	\$1,066,375	\$1,119,694	\$1,175,678	\$1,234,462	\$1,296,185	\$1,360,995	\$1,429,044	\$1,500,497	\$1,575,522	\$1,654,298
<b>3. Recycling</b>											
General Fund	\$91,116	\$95,672	\$100,456	\$105,478	\$110,752	\$116,290	\$122,104	\$128,210	\$134,620	\$141,351	\$148,419
Subtotal - Recycling	\$91,116	\$95,672	\$100,456	\$105,478	\$110,752	\$116,290	\$122,104	\$128,210	\$134,620	\$141,351	\$148,419
<b>4. Composting (Not Used)</b>											
<b>5. Disposal</b>											
General Fund	\$564,286	\$592,500	\$622,125	\$653,231	\$685,893	\$720,187	\$756,197	\$794,007	\$833,707	\$875,392	\$919,162
Subtotal - Disposal	\$564,286	\$592,500	\$622,125	\$653,231	\$685,893	\$720,187	\$756,197	\$794,007	\$833,707	\$875,392	\$919,162
<b>6. Education</b>											
Subtotal - Education Not Used	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0
<b>7. Problem Waste</b>											
General Fund	\$4,000	\$2,100	\$2,205	\$22,500	\$23,625	\$24,806	\$26,047	\$27,349	\$28,716	\$30,152	\$31,660
Subtotal - Problem Wastes	\$4,000	\$2,100	\$2,205	\$22,500	\$23,625	\$24,806	\$26,047	\$27,349	\$28,716	\$30,152	\$31,660
<b>TOTAL</b>	\$659,402	\$1,756,647	\$1,844,479	\$1,966,888	\$2,054,732	\$2,157,469	\$2,265,343	\$2,378,610	\$2,497,540	\$2,622,417	\$2,753,538

**ESTIMATED 10 YEAR BUDGET**

CITY OF LAWRENCEBURG	1994/95	1995/96	1996/97	1997/98	1998/99	1999/100	2000/01	2001/02	2002/03	2003/04	2004/05
<b>1. Waste Reduction:</b>											
Class III/IV Landfill											
Operating Cost (1993)											
Maintenance	\$ 24,000										
Fuel	\$ 5,000										
Groundwater Monitoring	\$ 7,500										
Net Cost	\$ 41,500										
Capital Cost											
1993 Heavy Equipment Cost	\$125,000										
Full-Time Equipment 1994-1998	\$31,250										
Annualized Cost	\$7,218										
1998 Heavy Equipment Cost	\$160,000										
Full-Time Equipment 1994-1998	\$40,000										
Annualized Cost	\$9,239										
Subtotal	\$ 50,793	\$ 52,972	\$ 55,259	\$ 57,662	\$ 60,184	\$ 64,853	\$ 67,634	\$ 70,553	\$ 73,619	\$ 76,858	\$ 80,218
<b>2. Collection and Transportation</b>											
Continue Municipal Curbside Program	\$852,712										
1995/96 Costs											
Subtotal	\$812,107	\$852,712	\$895,348	\$940,115	\$987,121	\$1,036,477	\$1,088,301	\$1,142,716	\$1,199,851	\$1,259,844	\$1,322,836
<b>3. Recycling</b>											
No Proposed Programs											
<b>4. Composting</b>											
No Proposed Programs											
<b>5. Disposal</b>											
No proposed Programs											
<b>6. Education</b>											
No Proposed Programs											
<b>7. Problem Wastes</b>											
Waste Tires											
Construct Tire Storage Area	\$ 10,000										
Maintain Tire Storage Area	\$1,500	\$1,575	\$1,654	\$1,736	\$1,823	\$1,914	\$2,010	\$2,111	\$2,216	\$2,327	\$2,443
Education/Illegal Dump Investigation	\$750	\$788	\$827	\$868	\$912	\$957	\$1,005	\$1,055	\$1,108	\$1,163	\$1,222
Subtotal	\$ 12,250	\$ 12,863	\$ 13,506	\$ 14,181	\$ 14,890	\$ 15,634	\$ 16,416	\$ 17,237	\$ 18,099	\$ 19,004	\$ 19,954
<b>TOTAL BUDGET</b>	\$875,150	\$918,546	\$964,113	\$1,011,957	\$1,062,194	\$1,116,964	\$1,172,350	\$1,230,506	\$1,291,569	\$1,355,686	\$1,423,008

**ESTIMATED 10 YEAR FUNDING PLAN**

CITY OF LAWRENCEBURG	1994/95	1995/96	1996/97	1997/98	1998/99	1999/100	2000/01	2001/02	2002/03	2003/04	2004/05
<b>1. Waste Reduction:</b>											
Sanitation Fund	\$ 50,793	\$ 52,972	\$ 55,259	\$ 57,662	\$ 60,184	\$ 64,853	\$ 67,634	\$ 70,553	\$ 73,619	\$ 76,838	\$ 80,218
<b>Subtotal</b>	<b>\$ 50,793</b>	<b>\$ 52,972</b>	<b>\$ 55,259</b>	<b>\$ 57,662</b>	<b>\$ 60,184</b>	<b>\$ 64,853</b>	<b>\$ 67,634</b>	<b>\$ 70,553</b>	<b>\$ 73,619</b>	<b>\$ 76,838</b>	<b>\$ 80,218</b>
<b>2. Collection and Transportation</b>											
Sanitation Fund	\$ 812,107	\$ 852,712	\$ 895,348	\$ 940,115	\$ 987,121	\$ 1,036,477	\$ 1,088,301	\$ 1,142,716	\$ 1,199,851	\$ 1,259,844	\$ 1,322,836
<b>Subtotal</b>	<b>\$ 812,107</b>	<b>\$ 852,712</b>	<b>\$ 895,348</b>	<b>\$ 940,115</b>	<b>\$ 987,121</b>	<b>\$ 1,036,477</b>	<b>\$ 1,088,301</b>	<b>\$ 1,142,716</b>	<b>\$ 1,199,851</b>	<b>\$ 1,259,844</b>	<b>\$ 1,322,836</b>
<b>3. Composting</b>											
Not Used											
<b>4. Disposal</b>											
Sanitation Fund	\$243,004	\$259,154	\$267,912	\$281,307	\$295,373	\$310,141	\$325,648	\$1,009,211	\$663,810	\$695,238	\$728,236
<b>Subtotal</b>	<b>\$243,004</b>	<b>\$259,154</b>	<b>\$267,912</b>	<b>\$281,307</b>	<b>\$295,373</b>	<b>\$310,141</b>	<b>\$325,648</b>	<b>\$1,009,211</b>	<b>\$663,810</b>	<b>\$695,238</b>	<b>\$728,236</b>
<b>5. Education</b>											
Not Used											
<b>6. Problem Wastes</b>											
Sanitation Fund	\$ 12,250	\$ 12,863	\$ 13,506	\$ 14,181	\$ 14,890	\$ 15,634	\$ 16,416	\$ 17,237	\$ 18,099	\$ 19,004	\$ 19,954
<b>Subtotal</b>	<b>\$ 12,250</b>	<b>\$ 12,863</b>	<b>\$ 13,506</b>	<b>\$ 14,181</b>	<b>\$ 14,890</b>	<b>\$ 15,634</b>	<b>\$ 16,416</b>	<b>\$ 17,237</b>	<b>\$ 18,099</b>	<b>\$ 19,004</b>	<b>\$ 19,954</b>
<b>TOTAL</b>	<b>\$1,118,153</b>	<b>\$1,177,700</b>	<b>\$1,232,024</b>	<b>\$1,293,265</b>	<b>\$1,357,567</b>	<b>\$1,427,105</b>	<b>\$1,497,999</b>	<b>\$2,239,717</b>	<b>\$1,955,380</b>	<b>\$2,050,924</b>	<b>\$2,151,244</b>

**ESTIMATED 10 YEAR BUDGET**

CITY OF ETHRIDGE	1994/95	1995/96	1996/97	1997/98	1998/99	1999/100	2000/01	2001/02	2002/03	2003/04	2004/05
<b>1. Waste Reduction:</b>											
Subtotal - Waste Reduction not Used											
<b>2. Collection and Transportation</b>											
Continue Municipal Curbside Program		\$13,582									
1995/96 Costs		\$13,582									
Subtotal	\$ 12,935	\$ 13,582	\$ 0	\$ 0	\$ 0	\$ 0	\$ 0	\$ 0	\$ 0	\$ 0	\$ 0
<b>3. Recycling</b>											
No Proposed Programs											
<b>4. Composting</b>											
No Proposed Programs											
<b>5. Disposal</b>											
No proposed Programs											
<b>6. Education</b>											
No Proposed Programs											
<b>7. Problem Wastes</b>											
No Proposed Programs											
<b>TOTAL BUDGET</b>	<b>\$ 12,935</b>	<b>\$ 13,582</b>	<b>\$ 0</b>	<b>\$ 0</b>	<b>\$ 0</b>	<b>\$ 0</b>	<b>\$ 0</b>	<b>\$ 0</b>	<b>\$ 0</b>	<b>\$ 0</b>	<b>\$ 0</b>

Note: Collection costs are shown as \$0 after fiscal year 1995/96 since Ethridge will participate in the franchise zones with the county.



**ESTIMATED 10 YEAR BUDGET**

	1994/95	1995/96	1996/97	1997/98	1998/99	1999/100	2000/01	2001/02	2002/03	2003/04	2004/05
<b>CITY OF LORETTO</b>											
<b>1. Waste Reduction:</b>											
Subtotal - Waste Reduction not Used											
2. Collection and Transportation											
Continue Municipal Curbside Program		\$77,000									
1995/96 Costs		\$77,000									
Subtotal		\$ 73,333	\$ 77,000	\$ 0	\$ 0	\$ 0	\$ 0	\$ 0	\$ 0	\$ 0	\$ 0
3. Recycling											
No Proposed Programs											
4. Composting											
No Proposed Programs											
5. Disposal											
No proposed Programs											
6. Education											
No Proposed Programs											
7. Problem Wastes											
No Proposed Programs											
<b>TOTAL BUDGET</b>		\$ 73,333	\$ 77,000	\$ 0	\$ 0	\$ 0	\$ 0	\$ 0	\$ 0	\$ 0	\$ 0

Note: Collection costs are shown as \$0 after fiscal year 1995/96 since Ethridge will participate in the franchise zones with the county.





**ADDENDUM I**

**SECTION THREE**

Disposal Capacity Assurance

Letter from  
Sanifill Cedar Ridge Landfill



CEDAR RIDGE LANDFILL

---

March 6, 1996

Mr. Ed Martin  
County Executive  
Lawrence County, Tn..

Dear Mr. Martin,

This letter is to inform you that Sanifill's Cedar Ridge Landfill Located in Marshall County is prepared to handle the total waste stream of Lawrence County for the required (10) ten year period as specified in the State Of Tennessee 1991 solid waste act.

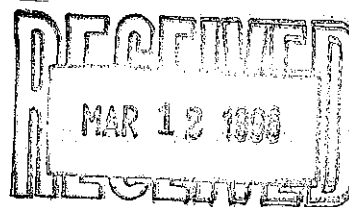
Cedar Ridge Landfill is a 281 acre class (1) one subtitle "D" Landfill of which 67 acres are currently permitted.

I am inclosing the latest site life report sent to the State Of Tennessee to confirm our remaining capacity.

Sanifill Of Tennessee is looking forward to working with Lawrence County in their future solid waste needs.

Respectfully,

J. Eddie Derryberry  
Marketing Manager



ESTIMATE OF REMAINING LANDFILL LIFE

Registration No. SNL 59-102-0238

Name of Site CEDAR RIDGE LANDFILL

Location LEWISBURG, TENNESSEE County MARSHALL

Owner SANIFILL OF TENNESSEE, INC.

Number of Usable Acres Originally 35

Remaining Number of Usable Acres 23

Estimated Remaining Life of Site in Years 18 Months 0

Average Daily Weight (in tons) or Volume (cubic yards) of Waste Received:     

     tons per day, or  
1,000 cubic yards per day 285,000 GY/YR  
~ 286 days of operation

Report Prepared By GREGORY C. CEKANDER

Title REGIONAL ENGINEERING/ENVIRONMENTAL MANAGER

Signature of Registrant if Different From Person Preparing Form

*Gregory C. Cekander*

Title     

Date Prepared     

Spaces Below This Line For Office Use Only

Reviewed by Solid Waste Representative     

Agree With Estimate Yes      No     

If Disagree With Estimate Give Own Estimate      Years      Months

Date of Review

**ADDENDUM I**

**SECTION FOUR**

Confirmation of  
Board Appointments

**ED MARTIN**  
County Executive of Lawrence County

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NBU #1  
Lawrence County Courthouse  
Lawrenceburg, TN 38464

Phone (615) 762-7700  
Fax (615) 766-2219

January 25, 1996

Mr. Paul Evan Davis, Director  
Tennessee Department of Environment and Conservation  
Division of Solid Waste Assistance  
401 Church Street  
L & C Tower, 14th Floor  
Nashville, TN 37243-0455

Dear Mr. Davis,

Please be advised that the Lawrence County representatives of the Lawrence County Regional Solid Waste Board are Mr. Jerry Henson and Mr. Jack Benefield. Mr. Benefield was appointed in May 1995 and his term expires in January 2001. Mr. Benefield replaced Mr. Wayne Richardson whose term was expired. Mr. Henson was appointed in 1993 and his term expires in January 1999.

If you have any further questions, please feel free to contact me.

Sincerely,



Ed Martin  
County Executive

EM/ejb

JACK N. FORSYTHE  
COMMISSIONER

EDDIE BREWER  
FIRE CHIEF

# TOWN OF IRON CITY

P. O. BOX 38  
34 N. WALNUT ST.  
IRON CITY, TENNESSEE 38463  
615-845-4520

LOYS G. SLEDGE  
MAYOR

TERRY KELLY  
COMMISSIONER

January 24, 1996

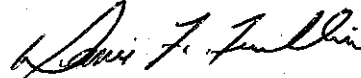
Mr. Paul Evan Davis, Director  
Division of Solid Waste Assistance  
TN Dept. of Environment & Conservation  
401 Church Street  
Nashville, TN 37243

Dear Mr. Davis,

This is to confirm the appointment of Gary D. Horton as our representative to the Lawrence County Solid Waste Authority. He was appointed at a special meeting of the Commissioners on January 22, 1996. A copy of the minutes of that meeting is enclosed.

If we can be of further assistance, please let us know.

Sincerely,



Dennis F. Franklin  
City Manager

DFE/plr

RESOLUTION 40

BE IT RESOLVED that the Town of Iron City, Tennessee does hereby indicate their willingness to participate in the Lawrence County Solid Waste Authority.

WHEREAS the Commissioners of Iron City, at a Special City Meeting on January 22, 1996, appointed City Commissioner Gary D. Horton to represent the Town of Iron City at all meetings of the Lawrence County Solid Waste Authority.

Town of Iron City, Tennessee

Gary D. Horton  
Vice Mayor

1-29-96  
Date

Attest:  
Pat L. Rhoades  
City Recorder

MINUTES OF A SPECIAL MEETING OF THE  
DULY CONSTITUTED AND QUALIFIED COMMISSIONERS  
OF THE TOWN OF IRON CITY, TENNESSEE

A special meeting of the duly constituted and qualified commissioners of the Town of Iron City was held at the regular place of meeting on January 22, 1996 at 9:00 AM.

Present at this meeting were Commissioner Gary D. Horton, Commissioner Jack K. Meigs, City Manager Dennis F. Franklin and City Recorder Pat L. Rhodes.

Visitors to the meeting were Jim Gabel, Alma Horton, Benny Looney, Gilford Hurst and Donnie Long.

The purpose of this meeting was to discuss the Solid Waste issue and the floor was turned over to Mr. Gabel.

Mr. Gabel said that the Town of Iron City has to pick someone to represent the town in the Lawrence County Solid Waste Authority. He said some of the members serve two years, some four years and some six years. He said Iron City's representative will serve for four years. The Authority will meet once a month and the representatives are expected to attend.

Mr. Gabel said that the county will be divided into nine franchise areas and each city will join a franchise area. He said that garbage pickup is mandatory and each household will be billed for the garbage whether or not it is picked up.

Mr. Gabel said at the present time it cost \$300,000.00 per year to dump garbage. He said that the City of Lawrenceburg's share of the total cost is 18%, Ethridge, St. Joseph and Iron City, each, is 1% and Loretto is 4%. The balance belongs to the county.

Mr. Gabel said it was up to the Authority to raise its own money to operate on.

Jerry Gray was our past representative to the Solid Waste Board but does not want to continue as such. Joel Gray has the garbage pick-up for Iron City but he can't be our representative because of conflict of interest.

City Commissioner Jack K. Meigs made a motion that City Commissioner Gary D. Horton represent Iron City. Motion seconded by Commissioner Horton.

Commissioner Jack K. Meigs - AYE  
Commissioner Gary D. Horton - AYE

City Commissioner will represent the Town of Iron City for the next four years. City Manager Dennis F. Franklin said that Gary would be a good representative because he doesn't mind speaking up and will be objective.

Commissioner Horton made a motion to adjourn the meeting and was seconded by Commissioner Meigs.

Meeting adjourned at 10:20 AM.

ATTEST

Patricia L. Rhodes  
CITY RECORDER

Gary D. Horton  
Jack K. Meigs  
COMMISSIONERS



# City of Lawrenceburg



CLAYTON EZELL, MAYOR

P.O. BOX 590  
LAWRENCEBURG, TENNESSEE 38464  
PHONE (615) 762-4459

January 25, 1996

Mr. Paul Evan Davis, Director  
Division of Solid Waste Assistance  
TN Dept. of Environment & Conservation  
401 Church Street  
Nashville, TN 37243

Dear Mr. Davis:

This is to confirm the appointment of Buddy Howell as the City of Lawrenceburg's representative to the Lawrence County Municipal Solid Waste Regional Planning Board. Mr. Howell is replacing Roy Powell, as he has tendered his resignation. Mr. Howell will complete the unexpired term for Mr. Powell, with his term expiring on November 16, 1998.

Mr. Buddy Howell was appointed by me and confirmed and approved by the City of Lawrenceburg Board of Commissioners on this date, January 25, 1996. A copy of the Resolution appointing Mr. Howell is enclosed.

If I can be of further assistance, please let me know.

Sincerely,

Clayton Ezell, Mayor  
City of Lawrenceburg

CE/jd

RESOLUTION NUMBER 96-25-1

A RESOLUTION FOR THE CITY OF LAWRENCEBURG TO APPOINT BUDDY HOWELL AS THE CITY OF LAWRENCEBURG'S REPRESENTATIVE TO THE LAWRENCE COUNTY MUNICIPAL SOLID WASTE REGIONAL PLANNING BOARD.

WHEREAS, Lawrence County, Tennessee provided for Lawrence County Municipal Solid Waste Regional Planning Board on November 16, 1992; and

WHEREAS, Roy Powell was appointed as the City of Lawrenceburg's representative to said Board; and

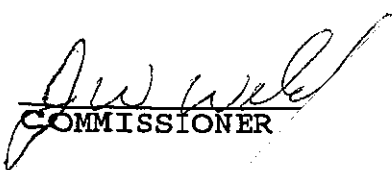
WHEREAS, Roy Powell has tendered his resignation from said Board and the City of Lawrenceburg needs to appoint a successor to Roy Powell to fill out his unexpired term; and

WHEREAS, the Mayor is to make the appointment subject to the approval of the Board of Commissioners of the City of Lawrenceburg.

NOW, THEREFORE, BE IT RESOLVED BY THE BOARD OF COMMISSIONERS OF THE CITY OF LAWRENCEBURG, TENNESSEE, that Buddy Howell is hereby appointed as the City of Lawrenceburg's representative to the Lawrence County Municipal Solid Waste Regional Planning Board to fill the unexpired of term of Roy Powell. Said term to expire November 16, 1998.

This Resolution shall take effect immediately the Public Welfare requiring it.

PASSED AND ADOPTED BY THE BOARD OF COMMISSIONERS OF THE CITY OF LAWRENCEBURG, TENNESSEE THIS 25th day of January, 1996.

  
COMMISSIONER

COMMISSI

ATTES



RONALD J. McMASTERS, MAYOR

# City of Loretto

RUTH REEVES, ALDERPERSON  
JUDY PETTUS, ALDERWOMAN

P.O. BOX 176  
LORETTO, TENNESSEE 38469

KEITH L. SMITH, CITY MANAGER  
KATHY WEATHERS, RECORDER

• • •  
TELEPHONE: 853-6797

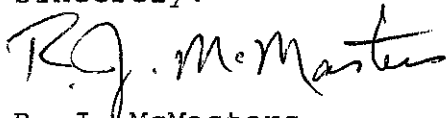
Mr. Paul Davis Director  
Division of solid waste Assistance  
TN Dept. of Environment and Conservation  
401 Church St.  
Nashville, TN

Dear Mr. Davis:

This is to confirm the appointment of Keith Smith City Manager to the Lawrence County Solid Waste Planning Board. He was appointed by the Mayor and Board of Aldermen of the City of Loretto on Nov. 17, 1992.

Thank you.

Sincerely:



R. J. McMasters  
Mayor

Regular Meeting  
November 17, 1992

The Mayor and Board of Aldermen met in regular session at the regular meeting place with the following members present: Mayor McMasters, Alderperson Reeves and Alderperson Pettus.

Motion was made by Alderperson Reeves and seconded by Alderperson Pettus that the minutes of the last meeting be approved. All members voted aye.

Motion was made by Mayor McMasters and seconded by Alderperson Pettus to accept the petitions on annexation into the city limits on Riddle Lane and Methvin property and to refer it to the planning commission. All members voted aye.

Motion was made by Alderperson Reeves and seconded by Alderperson Pettus to appoint the city manager representative to the solid waste regional board. All members voted aye.

Motion was made by Alderperson Pettus and seconded by Alderperson Reeves to accept bids on building the street near South Lawrence School. All members voted aye.

Motion to adjourn was made by Alderperson Pettus and seconded by Alderperson Reeves. Meeting adjourned at 7:35.

R. J. McMasters  
Mayor

Judy Pettus  
Alderperson

Burt Reeves  
Alderperson

(Attest:  
Kathy Weather City Recorder

*City of St. Joseph*

*P.O. Box 37*

*St. Joseph, Tennessee 38481*

*615-845-4141*

*Fax 615-845-4131*

TO WHOM IT MAY CONCERN

RESOLUTION

NOW, THEREFORE, BE IT RESOLVED BY THE BOARD OF COMMISSIONERS OF THE CITY OF ST. JOSEPH, TENNESSEE, THAT ERPHA WILLIAMS IS HEREBY APPOINTED AS THE CITY OF ST. JOSEPH'S REPRESENTATIVE TO THE LAWRENCE COUNTY MUNICIPAL SOLID WASTE PLANNING BOARD.

  
RAYMON CHANDLER, MAYOR

  
WILEY C. PETTUS, VICE-MAYOR

  
WILLIAM L. BRADLEY, JR.-COMMISSIONER

**ADDENDUM I**

**SECTION FIVE**

**Uniform Financial  
Accounting**

# City of Ethridge

P.O. Box 173  
Ethridge, TN. 38456  
Phone 615-829-2150

February 27, 1996

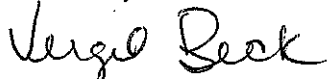
Mr. Paul Evan Davis  
Solid Waste Assistance Division  
14th Floor, L & C Tower  
401 Church St.  
Nashville, TN 37243

Dear Mr. Davis:

This letter is to certify that the City of Ethridge has complied with the financial accounting requirements of T.C.A. 68-31-874 (a) as amended. The name of the special revenue fund established by the City for this purpose is : City of Ethridge Sanitation Fund.

If you should need further information, please do not hesitate to contact me.

Sincerely,



Virgil Beck, Mayor  
City of Ethridge

# City of Lawrenceburg



CLAYTON EZELL, MAYOR

P.O. BOX 590  
LAWRENCEBURG, TENNESSEE 38464  
PHONE (615) 762-4459

January 25, 1996

Mr. Paul Evan Davis  
Solid Waste Assistance Division  
14th Floor, L&C Tower  
401 Church Street  
Nashville, TN 37243

Dear Mr. Davis:

This letter is to certify that the City of Lawrenceburg has complied with the financial accounting requirements of T.C.A. 68-31-874(a), as amended. The name of the special revenue fund established by the city for this purpose is: City of Lawrenceburg Sanitation Department.

If you should need further information, please do not hesitate to contact me.

Sincerely,

Clayton Ezell, Mayor  
City of Lawrenceburg

CE/jd



RONALD J. McMASTERS, MAYOR

# City of Loretto

RUTH REEVES, ALDERPERSON  
JUDY PETTUS, ALDERWOMAN

P.O. BOX 176  
LORETTO, TENNESSEE 38469

KEITH L. SMITH, CITY MANAGER  
KATHY WEATHERS, RECORDER

TELEPHONE: 853-6797

Feb. 12, 1996

Mr. Paul Evan Davis  
Solid Waste Assistance Division  
14th Floor, L & C Tower  
401 Church St.  
Nashville, TN 37243-0455

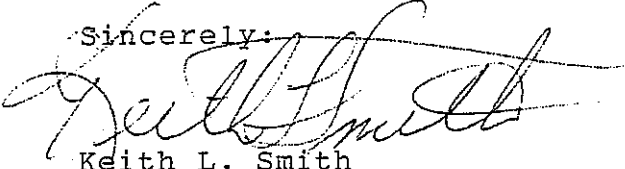
Dear Mr. Davis:

This letter is to certify that the City of Loretto has complied with the financial accounting requirements of T.C.A. 68-31-874(a), as amended. The name of the special revenue fund is The City of Loretto Sanitation Dept.

If you need additional information, please feel free to contact me.

Thank you.

Sincerely:



Keith L. Smith  
City Manager

# City of Ethridge

P.O. Box 173  
Ethridge, TN. 38456  
Phone 615-829-2150

February 8, 1996

Mr. Paul Evan Davis, Director  
Division of Solid Waste Assistance  
TN Dept. of Environment & Conservation  
401 Church Street  
Nashville, TN 37243

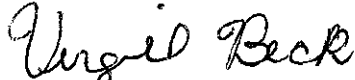
Dear Mr. Davis:

This letter is to confirm the appointment of Bryson Keeter as the City of Ethridge's representative to the Lawrence County Solid Waste Regional Planning Board. Mr. Keeter's term expiring on May 16, 2001.

Mr. Keeter was appointed by me and confirmed and approved by the City of Ethridge Board of Commissioners on May 16, 1995.

If I can be of further assistance, please let me know.

Sincerely,

  
Virgil Beck, Mayor  
City of Ethridge

VB/jy