

MUNICIPAL SOLID WASTE  
REGIONAL PLAN  
FOR

HAYWOOD, LAUDERDALE & TIPTON  
SOLID WASTE PLANNING REGION

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**PART I**  
**EXECUTIVE SUMMARY**

## EXECUTIVE SUMMARY

### General Information

The Municipal Solid Waste Regional Plan for the Haywood, Lauderdale and Tipton Solid Waste Planning Region was prepared in accordance with the State of Tennessee, Solid Waste Management Act of 1991. State guidelines for preparation of regional plans were used to insure uniformity and compliance with State requirements.

The HLT Region, as it is referred to in this Plan, was formed for solid waste planning due to a number of considerations such as geographic location, transportation routes, landfill availability, solid waste volumes, and various other aspects of political and economic commonality. A Regional Solid Waste Planning Board representing all counties and municipalities with solid waste collection services was formed to coordinate the planning efforts. The engineering consulting firm of Grace and Associates, Inc. of Bartlett, Tennessee was contracted to prepare the Plan under the guidance of the Regional Board.

### Regional Needs and Goals

The existing solid waste management services in the HLT Region will be upgraded to meet the requirements of the State. Of equal or greater importance will be the consideration to provide needed and reasonable solid waste services to all residents in each county. The Regional goals are as follows:

- \* To provide solid waste collection services to all residents, businesses, industries and institutions which presently do not have adequate collection service,
- \* To ensure that each county in the Region has long term access to a Class I landfill for final disposal of solid waste at a reasonable cost,
- \* To ensure that each county in the Region has the ability to transport solid waste to a Class I landfill in an economical manner,
- \* To reduce the amount of solid waste disposed of in Class I landfills by 25% prior to 1996,
- \* To properly manage problem waste materials such as waste tires, waste oil, waste batteries, and household hazardous waste,
- \* To educate and inform the general public, businesses, industries and institutions about the Plan and about solid waste issues pertinent to each individual county. Special emphasis will be placed on solid waste reduction and recycling.

## Key Elements of the Regional Plan

Collection - A formal bid for Regional door-to-door collection of household solid waste will be taken during the late summer of 1995. The collection bid will include all residents which are presently unserved or served by a green-box drop-off system and also any businesses, industries or municipalities which choose to be included in the bid.

Transfer and Transport - Each county in the Region will construct a multi-purpose facility which will include a solid waste transfer station. This station will facilitate the transfer of solid wastes from smaller collection trucks to larger transport trucks for hauling to a Class I landfill for disposal.

Class I Disposal - Each county in the Region will cease to operate a Class I landfill on or before October of 1996. Prior to that date, a formal bid will be taken for a Regional Class I disposal contract. At this time there is a large capacity of Class I landfill disposal space in the West Tennessee area. There is also ample competition in the disposal industry to protect against rapidly escalating costs. If possible, each county in the Region will maintain its Class I landfill permit for unused acreage in the event that a Regional landfill or individual county facilities become more economical in the future.

Class III/IV Disposal - Each county in the Region plans to permit and operate a Class III/IV landfill for the disposal of brush, land clearing waste, construction/demolition waste, etc. Materials taken to a Class III/IV landfill will be credited toward the 25% reduction goal.

Problem Waste Management - Each county in the Region will construct a multi-purpose facility which will include a problem waste collection area. Problem wastes include waste oil and waste automotive batteries. A waste tire collection facility already exists in each county.

Recycling and Waste reduction - Each county in the Region will construct a recycling center in conjunction with the multi-purpose facilities. In addition, the Regional door-to-door solid waste collection system will offer residential recycling opportunities. Business and industrial waste reduction and recycling will be strongly encouraged and an organized effort to obtain waste reduction information from businesses and industries will be initiated.

Public Education and Education - The Regional Solid Waste Planning Board along with an Educational Advisory Committee will begin to formulate programs for bringing solid waste information and education to various sectors of each county community. A strong emphasis will be placed on bringing solid waste information and education to school children, civic organizations

and clubs, scouts, churches, etc. in an effort to reach as much of the community as possible.

#### Implementation Schedule and Funding

See Chapter XI.

#### Responsibilities

The ultimate responsibility for implementation of the Plan lies with each of the county governments. The Regional Board is responsible for Plan development, updates, modifications, and documentation. Each municipality which continues to operate a solid waste collection system will be responsible for documenting all of its solid waste management practices to the Regional Board. In addition, each of these municipalities will be responsible for developing and documenting efforts and achievements toward the 25% reduction goal, public information and education, and problem waste management.

PART II  
REGIONAL MUNICIPAL  
SOLID WASTE MANAGEMENT PLAN

CHAPTER I  
DESCRIPTION OF THE  
MUNICIPAL SOLID WASTE REGION

A. GENERAL DESCRIPTION

The Haywood, Lauderdale and Tipton (HLT) Region is a triangular shaped area of 1,463 square miles in west Tennessee bounded on the west by the Mississippi River, on the north and east by Dyer, Crockett and Madison Counties and on the south by Shelby County. The Hatchie River forms a boundary for each of the counties, and roughly bisects the HLT Region. See Map I-1.

The HLT Region is characterized by the rolling terrain of West Tennessee blending into the lowlands and bluffs of the Mississippi basin. The land remains heavily wooded where not cleared for agricultural activities. Agriculture, though employing a small percentage of the total population, is a significant economic activity in the counties.

The Hatchie River, designated a Scenic River, has not been channelized, and remains a free-flowing river from its origin to the Mississippi River. The bottomlands in all three counties are known for their excellent wildlife habitat, and several wildlife refuges and management areas are found in the region.

B. RATIONALE FOR REGION FORMATION

The HLT Region was formed after several alternatives were evaluated by the three counties and by other counties in their respective development districts. Haywood County is in the extreme northwest corner of the Southwest Tennessee Development District which also includes Madison, Hardeman, Chester, McNairy, Henderson, Hardin and Decatur Counties respectively. Lauderdale County and Tipton County are in the northern portion of the Memphis Area Association of Governments district which includes Shelby County and Fayette County also. As discussed in the Needs Assessments, the basis for defining the rational waste management area include: combined waste volumes, landfill availability, geographic location, political considerations, economic base, transportation routes and various other aspects of commonality. Formation of the HLT Region is expected to offer the most advantages for effective and efficient solid waste management in lieu of all other potential regional options considered.

C. INSTITUTIONAL STRUCTURE

As required by State regulations, the HLT Region established a Regional Solid Waste Board which represents each county in the region. The Board is ultimately responsible for development of this Municipal Solid Waste Regional Plan and for coordination of all planning efforts with various local government agencies. The Board members and their representation are listed below.

Haywood County

Ed Ellington  
William King  
Louis P. Stuart  
Joe L. Taylor  
Curt Waddell

Representation

Haywood County  
Haywood County  
City of Stanton  
City of Brownsville  
Haywood County

Lauderdale County

Richard Douglas  
Robert Flagg  
H. Gwinn Matthews  
Eugene Pugh  
Rob Reviere

Cities of Henning and Ripley  
Lauderdale County  
Lauderdale County  
Cities of Gates and Halls  
Lauderdale County

Tipton County

L.K. Dyson  
Norris Glass  
Kenny Gunn  
Jim Hayes  
Howard Twisdale

Tipton County  
City of Covington  
Tipton County  
Tipton County  
Tipton County

The first board meeting was held on March 11, 1993 and the following officers were nominated and elected.

Board Officers

Chairman - H. Gwinn Matthews (Lauderdale Co.)  
Vice-Chairman - Kenny Gunn (Tipton Co.)  
Secretary - Curt Waddell (Haywood Co.)

The Board decided to form three Advisory Committees to help establish and direct the Region's solid waste planning in specific areas and to involve the public in solid waste management decisions. The committees, their members and their county affiliation are listed below along with the board member acting as liaison between the committees and the Board.

Educational Advisory Committee

P.J. Angotti (Haywood Co.)  
Billy Brooks (Tipton Co.)  
Dr. Susan Farris (Lauderdale Co.)

Board Representative

Kenny Gunn (Tipton Co.)

General Public Advisory Committee

Gene Davis (Lauderdale Co.)  
Susan Owen (Tipton Co.)  
Elizabeth Reid (Haywood Co.)

Curt Waddell (Haywood Co.)

Industrial Advisory CommitteeBoard Representative

Mike Clement (Haywood Co.)  
 Edd Lambert (Lauderdale Co.)  
 Bobby White (Tipton Co.)

Ed Ellington (Haywood Co.)

D. DEMOGRAPHIC CHARACTERISTICS

The Region's population was estimated to be 81,420 in 1993.\* The population is not uniformly distributed, as shown in Table I-1, with the Tipton County population density roughly twice that of Haywood and Lauderdale Counties combined.

TABLE I-1

H-L-T REGION AREA, POPULATION AND DENSITY  
 1993

<u>County</u> <u>Miles</u>	<u>Area*</u> <u>(Sq. Miles)</u>	<u>1993*</u> <u>Population</u>	<u>Avg. Density</u> <u>Population/Sq</u>
Haywood	533	19,097	35.829
Lauderdale	471	23,152	49.155
Tipton	<u>459</u>	<u>39,171</u>	<u>85.340</u>
Regional Total	1,463	81,420	55.653

\* Solid Waste Needs Assessment: Haywood County, Southwest Tennessee Development District. Lauderdale and Tipton County, Memphis Area Association of Governments

While the total population determines future disposal needs, the density of population is important in it's impact on the feasibility of rural collection routes. Overall the HLT Region's population density is 55.6 persons per square mile. The population density of 85.3 persons per square mile in Tipton County may make the per household collection cost less than that of Haywood County with 35.8 persons per square mile. Lauderdale, with a density of 49.1 falls in between the other two counties.

The concentration of the population is also a factor in collection costs, and the Haywood population is much more concentrated in urban areas (51.6%) than is either Lauderdale (26.3%) or Tipton (19.9%). Overall, as shown in Table I-2, only 29.1 percent of the population, or 23,759 persons were classified as urban, based on the Needs Assessment. The remaining 57,661 persons, 70.8 percent of the total population, reside in rural areas.

TABLE I-2

DISTRIBUTION OF THE TOTAL POPULATION  
BY URBAN AND RURAL AREAS, 1993

<u>County</u>	<u>Urban Population</u>	<u>%*</u>	<u>Rural Population</u>	<u>%*</u>
Haywood	9,853	51.594	9,244	48.406
Lauderdale	6,099	26.342	17,053	73.658
Tipton	<u>7,807</u>	<u>19.930</u>	<u>31,364</u>	<u>80.070</u>
Regional Total	23,759	29.181	57,661	70.819

\* Based on 1991 percentage distribution in Needs Assessment

The distribution of the population by sex and age is typical of the pattern in rural counties. Females, by virtue of their longer life span, predominate by approximately 52 to 48 percent, with the Over 65 age group accounting for most of the total difference. However, males predominate in the population less than 20 years of age.

This overall distribution in the three counties may reflect the pattern of young men leaving the rural areas for better job opportunities at a higher rate than young women. Table I-3 gives the distribution for the Region.

TABLE I-3  
DISTRIBUTION OF THE TOTAL REGIONAL POPULATION  
BY SEX AND AGE, 1993\*

<u>Age</u>	<u>Total</u>	<u>Male</u>	<u>%</u>	<u>Female</u>	<u>%</u>
0-4	6,478	3,258	50.29	3,220	49.71
5-19	19,821	10,221	51.57	9,600	48.43
20-44	29,419	14,239	48.40	15,180	51.60
45-64	15,352	7,336	47.79	8,016	52.21
65+	<u>10,468</u>	<u>4,127</u>	<u>39.42</u>	<u>6,341</u>	<u>60.58</u>
Regional Total	81,538	39,181	48.05	42,357	51.95

\* Population estimates for the State of Tennessee, provided and adjusted by the Division of Information Services, TDH

The educational achievement level of adults (over 25 years) in the Region indicate more than half have a high school degree, with approximately 15 percent holding high degrees. Table I-4 also shows that one-third of the total adults have less than a 9th grade level of education. To be effective, campaigns to encourage recycling must be developed to meet the target population, as in all good advertizing and promotion programs.

TABLE I-4

EDUCATIONAL ACHIEVEMENT  
HLT REGION\*

	<u>Number</u>	<u>%</u>
Less than 9th Grade	10,884	33.5
High School Degree	16,792	51.7
Associate Degree	1,389	4.3
College Degree	2,281	7.0
Post Graduate/Professional (>4)	<u>1,153</u>	<u>3.5</u>
Regional Total	32,499	

\* Needs Assessment, Haywood, Lauderdale and Tipton Counties

To arrive at a current estimate of the number of households in the Region in 1993, the 1993 population projections for each county were divided by the persons/unit in 1990 for that county. Based on this, there are 28,782 households estimated for 1993. Haywood accounted for 6,891, Lauderdale for 8,297 and Tipton for 13,594.

The distribution by housing type and occupancy is shown in Table I-5.

TABLE I-5  
HOUSING TYPE AND OCCUPANCY CHARACTERISTICS  
HLT REGION, 1993\*

	<u>Total Units</u>	<u>Occupied</u>	<u>Owner</u>	<u>Rented</u>
<b>Single Family</b>				
1, Detached	22,800	21,634	16,699	4,935
1, Attached	533	508	160	348
<b>Multi-Family</b>				
2	1,007	924	55	869
3-4	672	618	35	583
5-9	770	713	20	693
10-19	267	251	7	244
20-49	90	59	0	59
50 or more	0	0	0	0
Mobile Home/ Trailer	4,276	3,746	2,761	985
Other	<u>354</u>	<u>329</u>	<u>218</u>	<u>111</u>
Regional Total	30,769	28,782	19,955	8,827

\* Solid Waste Needs Assessments, Haywood, Lauderdale and Tipton Counties. (Haywood County data was revised).

The institutional population of the three counties is 1,357 persons. The two major institutional housing facilities are Ft. Pillow Prison and Farm, and West Tennessee High Security Facility Prison, which together house more than one thousand persons.

Population projections for the ten year planning period must be used to scale the solid waste plan developed for the Region. The University of Tennessee and the Division of Information Services, TDH, have developed the projections used for this study. Table I-6 presents the population projected for the counties, extrapolated from the 1993 population estimate of 81,420.

TABLE I-6  
 HLT REGION POPULATION PROJECTIONS  
 1994 - 2003

Regional Population 1993: 81,420

County	<u>Projection Year</u>									
	<u>1994</u>	<u>1995</u>	<u>1996</u>	<u>1997</u>	<u>1998</u>	<u>1999</u>	<u>2000</u>	<u>2001</u>	<u>2002</u>	<u>2003</u>
Haywood	19,097	18,874	18,764	18,654	18,545	18,437	18,330	18,209	18,090	17,972
Lauderdale	23,040	22,929	22,818	22,708	22,598	22,489	22,382	22,266	22,152	22,038
Tipton	<u>39,718</u>	<u>40,274</u>	<u>40,836</u>	<u>41,407</u>	<u>41,986</u>	<u>42,573</u>	<u>43,162</u>	<u>43,667</u>	<u>44,173</u>	<u>44,684</u>
Regional Total	81,855	82,077	82,418	82,769	83,129	83,499	83,874	84,142	84,415	84,694

Source: Prepared by the UT Department of Sociology, and the Division of Information Services, TDH Feb. 6, 1992 Revision

The 2003 population of 84,694 represents a growth of about 4.0 percent for the Region. However, the table indicated that growth will not be distributed evenly over the Region. Both Haywood and Lauderdale are projected to experience declines in population. Haywood is projected to decline from 19,097 to 17,972, a 5.9 percent decline. Lauderdale is projected to decline from 23,040 to 22,038, a decline of 4.3 percent.

Tipton, with a population base of 39,718 is projected to grow by almost 5,000 persons, or 12.5 percent for a 2003 population of 44,684. This growth can largely be attributed to the spill over from the Memphis area, as the trend of persons leaving the central city for outlying areas continues.

Obviously, the projections are based on past trends and will be subject to the unforeseen events in the next decade. However, the projections will become the basis for development of the Solid Waste Plan for the Haywood, Lauderdale and Tipton Region.

## E. ECONOMIC ACTIVITY

Economic data shown in Table I-7, supplied by the Needs Assessment for the HLT Region, presents an interesting picture of the economic health of the Counties. Haywood County has a much higher per capita income of \$12,899, compared with Lauderdale at \$8,607 and Tipton with \$9,796. However, the indicators for population below the poverty line indicates Haywood has the highest percentage, with 27.5 percent. Lauderdale and Tipton have lower percentages of 22.4 and 20.3 respectively.

With the smallest population, Haywood has the smallest reported employment 7,657, surpassed by Tipton with 9,410 and Lauderdale with 10,113. As shown in Table I-8, Lauderdale has over twice as many manufacturing jobs as do Tipton and Haywood. Tipton has a much stronger base in the finance, construction and service sectors. All three counties have strong agricultural activity and employment as shown in Table I-9.

Tables I-10, I-11 and I-12 are included to show the number of potentially large solid waste generators. Table I-10 is a listing of the number of commercial/industrial establishments with 10 or more employees. Large institutions such as prisons and large health care facilities are quantified in Table I-11 and I-12 respectively. Estimated quantities of solid wastes generated by these sources is not provided in this Chapter. For more detailed information on large waste generators see Chapter II.

Summaries of the revenue sources and revenue amounts in 1991 for each county and for the HLT Region are provided in Tables I-13 and I-14 respectively. These tables give an indication of the economic strength of local governments and provide some insight into the ability of local governments to establish and maintain solid waste programs and services which are self supporting.

TABLE I-7  
 ECONOMIC INFORMATION, HLT REGION  
 1990\*

<u>County</u>	<u>Population</u>	<u>MSA County (yes/no)</u>	<u>Total** Employment</u>	<u>Total Earnings (000)</u>	<u>Per Capita Income</u>	<u>% Population Below the Poverty Line</u>
Haywood	19,437	No	7,657	250,710	12,899	27.5
Lauderdale	23,491	No	10,113	109,728	8,607	22.4
Tipton	37,568	Yes	<u>9,410</u>	<u>91,795</u>	<u>9,796</u>	<u>20.3</u>
Regional Total	80,496		21,906			

\* Solid Waste Needs Assessment, 1990

\*\*Does not include Agricultural Employment

TABLE I-8  
% OF TOTAL EMPLOYMENT  
(NON-AGRICULTURAL)

<u>County</u>	<u>Manufacturing</u>	<u>Construction</u>	<u>Trade</u>	<u>Finance</u>	<u>Service</u>	<u>Govt.</u>	<u>Transp. Public Utilities</u>
Haywood	2,390	325	1,897	290	1,456	1,053	246
Lauderdale	4,729	308	1,708	297	1,213	1,476	382
Tipton	<u>2,042</u>	<u>840</u>	<u>1,858</u>	<u>614</u>	<u>2,266</u>	<u>1,544</u>	<u>246</u>
Regional Total	9,161	1,473	5,463	1,201	4,935	4,073	874
%	33.70	5.42	20.10	4.42	18.16	14.98	3.22

Source: Solid Waste Needs Assessments, Haywood, Lauderdale and Tipton Counties.

TABLE I-9  
AGRICULTURAL EMPLOYMENT\*

<u>County</u>	<u>Employment</u>
Haywood	1,008
Lauderdale	1,179
Tipton	<u>1,211</u>
Regional Total	3,398

\* Solid Waste Needs Assessments, Haywood, Lauderdale and Tipton Counties.

TABLE I-10  
POTENTIAL MAJOR COMMERCIAL & INDUSTRIAL  
NON-HAZARDOUS SOLID WASTE GENERATORS

<u>County</u>	<u>Screening Criteria</u>	<u>Number of Generators</u>	<u>Estimated Waste Quantity</u>
Haywood	(All generators with 10 or more employees)	78	(See Chapter II)
Lauderdale		87	
Tipton		<u>106</u>	
Regional Total		271	

\* Solid Waste Needs Assessments, Haywood, Lauderdale and Tipton Counties.

TABLE I-11  
 INSTITUTIONS  
 (HOUSING > 100 PERSONS)\*

<u>County</u>	<u>Total Number of Institutions</u>	<u>Total Persons Housed</u>	<u>Estimated Waste Quantity</u>
Haywood	0	0	
Lauderdale	2	1057	Not Available
Tipton	<u>0</u>	<u>0</u>	
Regional Total	2	1057	

\* Solid Waste Needs Assessments, Haywood, Lauderdale and Tipton Counties.

TABLE I-12  
 HEALTH CARE FACILITIES  
 (MORE THAN 50 BEDS)\*

<u>County</u>	<u>No. of Facilities</u>	<u>No. of Beds</u>	<u>Infectious Waste Management</u>	<u>Estimated Waste Quantity</u>
Haywood	2	202	Incineration	NA
Lauderdale	3	323	Incineration	NA
Tipton	<u>2</u>	<u>296</u>	Incineration	NA
Regional Total	7	821		

\* Solid Waste Needs Assessments, Haywood, Lauderdale and Tipton Counties.

TABLE I-13  
SOURCES OF LOCAL REVENUE\*

County	Property Tax	Local Sales Tax	Wheel Tax	Waste Collection Fee	User Fee/ Tipping Fee**	Other
Haywood	x	x	x		x	x <sup>1</sup>
Lauderdale	x	x	x	x <sup>2</sup>	x	
Tipton	x	x	x	x <sup>3</sup>	x	x <sup>4</sup>

\*Solid Waste Needs Assessment, Haywood, Lauderdale and Tipton Counties.

\*\*Counties Only.

- <sup>1</sup> City of Brownsville only, revenue source not available.
- <sup>2</sup> Cities of Halls, Henning and Ripley only.
- <sup>3</sup> City of Covington only.
- <sup>4</sup> County only, revenue source - TVA sharing.

TABLE I-14  
COUNTY REVENUE SUMMARY\*

County	Total Appraised Property Value	Total Property Tax Revenue	Total Sales Subject to Sales Tax	Total Local Sales Tax Revenue	Total Wheel Tax Revenue
Haywood	\$250,710,000	\$3,243,000	\$ 97,160,674	\$1,121,337	\$ 347,190
Lauderdale	\$111,624,025	\$2,601,288	\$ 92,120,546	\$1,247,333	\$ 439,650
Tipton	\$ 24,965,349**	\$8,170,806	\$152,105,873	\$ 507,235**	\$ 833,490
Regional Total	\$387,299,374	\$14,015,094	\$341,387,093	\$2,875,905	\$1,620,330

\*Solid Waste Needs Assessments, Haywood, Lauderdale and Tipton Counties.

\*\*These figures from the Needs Assessment appear to be in error, however, they do not affect the overall analysis or outcome of this plan.

The two major economic/development factors expected to have the most impact on solid waste generation and management over the 10 year planning period are population and industry. Due to the HLT Region's proximity to Memphis and Shelby County, good transportation routes and urban flight, population estimates could be underestimated. In addition to population growth, the population concentration will have an impact on collection routes and the location of any new regional solid waste facilities. Industrial activity whether it increases or decreases could have major impacts on all solid waste planning. At the time of this writing a major industry in Lauderdale County was in the process of closing and at least one other industrial closing in the Region was rumored. Despite the present conditions, industrial growth could be strong. Factors such as easy access to major transportation routes, less restrictive air pollution regulations, and properly planned and managed solid waste systems in the HLT Region offer bright prospect for industrial growth.



CHAPTER II  
ANALYSIS OF THE CURRENT  
SOLID WASTE MANAGEMENT SYSTEM  
FOR THE REGION

A. WASTE STREAM CHARACTERIZATION

The waste stream for the Region can be described by a number of factors including quantity, source, disposal method, generation rate, waste composition, etc. For this Plan it is important to discuss the waste generation rate per capita for each county and for the Region. This rate can be an indication of the commercial and industrial strength of the Region and will be used in determining the waste reduction goal mandated by the State. From the District Needs Assessments, Table II-1 provides information on the total waste generation and the per capita rate for each county and for the H.L.T. Region.

TABLE II-1  
ESTIMATED QUANTITY OF SOLID WASTE  
RECEIVED FOR DISPOSAL/INCINERATION, 1991\*

<u>County</u>	<u>Tons of Waste</u>	<u>1991 Population</u>	<u>Tons Per Capita Per Year</u>
Haywood	18,000	19,322	0.94
Lauderdale	19,500	23,377	0.83
Tipton	32,542	38,098	0.85
Regional Total	70,242	80,797	0.87

\*District Needs Assessments, Haywood, Lauderdale and Tipton Counties.

The regional solid waste generation rate of 0.87 tons per capita per year is typical for predominately rural counties with commercial and industrial bases in the larger cities.

Solid wastes originate from three basic sources - residences, institutions and commercial businesses, and industries. Along with these sources, two smaller categories - special and other - include wastes such as sludges, hospital waste, tires, demolition debris and construction materials. The quantities and percentages of solid wastes from these sources are described in Table II-2.

TABLE II-2  
ORIGIN OF SOLID WASTES, 1991\*  
(TONS PER YEAR)

<u>County</u>	<u>Residential</u>	<u>Institutional Commercial</u>	<u>Non-Hazardous Industrial</u>	<u>Special</u>	<u>Other**</u>
Haywood	7,280(40%)	4,550(25%)	5,460(30%)	910(5%)	
Lauderdale	6,045(31%)	3,705(19%)	8,190(42%)	975(5%)	585(3%)
Tipton	<u>19,200(59%)</u>	<u>4,230(13%)</u>	<u>8,136(25%)</u>		<u>976(3%)</u>
Regional Total	32,525(46%)	12,485(18%)	21,786(31%)	1,885(3%)	1,561(2%)

\*District Needs Assessments, Haywood, Lauderdale and Tipton Counties.  
\*\*Demolition Waste

Table II-2 indicates that approximately 31 percent of the total solid waste stream for the region originates from major industries. Considering this large volume and the relatively small number of industries, it is apparent that the average industry generates a large volume of solid waste. Therefore, a large potential exists for waste reduction and recycling in the industrial sector. With this in mind, an industrial non-hazardous solid waste survey was conducted in each county to determine the types and volumes of waste being generated by major industry. The results of these surveys are presented in Table II-2A.

TABLE II-2A  
INDUSTRIAL SOLID WASTE SURVEY  
DATA ACCUMULATED AS OF MARCH, 1994  
(TONS/YEAR)

			<u>Haywood</u>	<u>Lauderdale</u>	<u>Tipton</u>
Major Industrial Waste Generators			14	21	19
Number of Employees			NA	NA	2,717
Number of Industries Responding*			12	12	15
Number of Employees			NA	3,000+/-	2,372
<u>Waste Generation</u>	<u>%</u>	<u>Total</u>			
Paper	19	4,625	697	1,476	2,452
Cardboard	21	5,049	569	1,140	3,340
Glass	6	1,355	1	624	730
Metals	2	566	50	204	312
Plastics	13	3,179	1,360	324	1,495
Resins	1	242	136	96	10
Rubber & Leather	3	602	542	48	12
Textiles	2	508	69	312	127
Pallets	10	2,322	366	1,644	312
Other Wood	4	944	37	192	715
Yard Waste	1	143	1	84	58
Food Waste	4	971	115	348	508
Dirt	1	199	53	60	86
Other	<u>13</u>	<u>3,246</u>	<u>171</u>	<u>1,764</u>	<u>1,311</u>
Total	100	23,951	4,167	8,316	11,468

\*Total as of March 1994, Specific industry names are not identified in the Plan

The District Needs Assessments provided preliminary information on the types of solid wastes which could be easily diverted from final disposal in sanitary landfills. See Table II-3. These wastes were mostly categorized as Special and Other in Table II-2. In addition, the Needs Assessments calculated the composition of various components of each county's waste stream based on national averages. This waste stream characterization for each county is aggregated for the H.L.T. Region in Table II-4.

TABLE II-3  
WASTE TYPES ACCEPTED FOR CLASS I DISPOSAL  
WHICH COULD BE DIVERTED, 1991\*  
(TONS/YEAR)

<u>County</u>	<u>Yard Waste</u>	<u>Sewage Sludge</u>	<u>Construction Demolition</u>	<u>Tires</u>	<u>White Goods</u>
Haywood	81	**	5,648	2	116
Lauderdale	3,900	**	585	360	**
Tipton	1,302	108	976	**	0
Regional Total	5,283	108	7,209	362	116

\*District Needs Assessments, Haywood, Lauderdale, and Tipton Counties.

\*\*Waste Not Accepted for Disposal at Class I Facility

TABLE II-4  
REGIONAL WASTE CHARACTERIZATION

<u>Waste Category</u>	<u>Percentage (National Average)</u>	<u>Calculated Tons</u>
Paper & Paperboard	40.0	28,096.80
Glass	7.0	4,916.94
Ferrous Metals	6.5	4,565.73
Aluminum	1.4	983.39
Other Non-Ferrous Metals	0.6	421.45
Plastics	8.0	5,619.36
Rubber & Leather	2.5	1,756.05
Textiles	2.1	1,475.08
Wood	3.6	2,528.71
Food Waste	7.4	5,197.91
Yard Waste	17.6	12,362.59
Misc. Inorganic Waste	1.5	1,053.63
Other	1.8	1,264.36
Total	100.0	70,242.00

\*District Needs Assessments, Haywood, Lauderdale, and Tipton Counties.

An accurate characterization of the solid waste stream is important in efforts to reduce disposal volumes in sanitary landfills. For the development of this Plan, a waste characterization study was conducted in Haywood and Tipton County respectively. Lauderdale County's waste characterization is expected to be very similar to the other two counties. The waste characterization study consisted of separating a portion of the solid waste received at each county's landfill into the various components and weighing each component. Separation and weighing programs were conducted for two consecutive days at the county landfills. An attempt was made to analyze waste from typical collection days and routes. The results of the study are provided in Table II-4A and compared with national averages and ranges.

TABLE II-4A  
RESULTS OF WASTE CHARACTERIZATION  
WEIGHING PROGRAM

<u>Waste Category</u>	<u>% National Avg/Range</u>	<u>% Haywood</u>	<u>% Tipton</u>
Paper & Paperboard	40.0/28-60	38.2	26.7
Glass	7.0/4-16	11.6	5.1
Ferrous Metals	6.5/3-12	9.8	1.0
Aluminum	1.4/0-1	1.7	1.0
Other Non-Ferrous Metals	0.6/0-1	0.0	0.0
Plastics	8.0/2-8	5.0	7.1
Rubber & Leather	2.5/0-4	0.0	0.0
Textiles	2.1/0-4	16.1	1.5
Wood	3.6/1-4	0.0	3.0
Food Waste	7.4/6-26	3.8	54.6*
Yard Waste	17.6/0-20	2.3	0.0*
Misc. Inorganic Waste	1.5/0-5	11.5	0.0*
Other	1.8/0-5	0.0	0.0
Total	100.0	100.0	100.0

\*Due to none-typical loads in the weighing program

Another important factor in the waste stream analysis is determining the portion of solid waste which is considered unmanaged. This component includes wastes which are disposed of illegally in open dumps, illegally incinerated, placed in green-boxes outside the county of origin, or otherwise not accounted for in the established collection and disposal systems of the county. In an effort to quantify these wastes, the District Needs Assessments computed the potential waste generation for each county based on a per capita generation rate of 1.095 tons per capita per year. These figures are presented in Table II-5, however they are not considered to be valid for the H.L.T. Region or the individual counties. A generation rate of over 1.0 ton per capita per year is most likely too high for predominately rural counties. For the purposes of this Plan, no unmanaged

solid wastes will be considered. When the individual counties develop more comprehensive county-wide collection services, it is assumed that the unmanaged solid waste stream will be insignificant.

TABLE II-5  
UNMANAGED WASTES, 1991\*  
(TONS/YEAR)

<u>County</u>	<u>Potential** Waste Generation</u>	<u>Estimated Waste Disposal</u>	<u>Unmanaged Waste</u>	<u>Percent of Potential</u>
Haywood	21,158	18,200	2,958	14.0
Lauderdale	25,598	19,500	6,098	23.8
Tipton	41,717	32,542	9,175	22.0
Regional Total	88,473	70,242	18,231	20.6

\*District Needs Assessments, Haywood, Lauderdale and Tipton Counties

\*\*Estimated Based on 1.095 Tons/Capita/Year Generation (This Generation Rate is believed to be too high for these rural counties.)

#### B. WASTE COLLECTION AND TRANSPORTATION SYSTEMS

The District Needs Assessment for each county provided an overview of the solid waste collection and transportation system presently in operation. Municipal waste management planning begins with developing a comprehensive and efficient collection system. The existing collection systems are strong in some areas and require some improvement in other areas in order to meet the minimum level of service required by the Solid Waste Management Act of 1991. Table II-6 describes the level of household waste collection service now available in the H.L.T. Region. Map II-1 outlines the various service areas and level of service in each area.

TABLE II-6

#### HOUSEHOLD SOLID WASTE COLLECTION SERVICE\*

<u>County</u>	<u>No. of Households</u>	<u>Household Pickups</u>	<u>Green-Box Service</u>	<u>Contract Service</u>	<u>No Service</u>
Haywood	7014	3886	3128	0	0
Lauderdale	8423	4294	0	330	3799
Tipton	13033	2490	10543	0	0

\*District Needs Assessments, Haywood, Lauderdale and Tipton Counties

All of the existing household collection services (with the exception of some private contract services in Lauderdale County) are provided in incorporated areas. Haywood and Tipton Counties provide green-box drop off points in rural areas for residents outside the city limits of Brownsville, Stanton and Covington respectively. These green-box locations are shown on Map II-2 along with the major transportation routes. Tipton County has also opened a convenience center in the City of Brighton. The facility is not fully operational at this time, however the County plans to add 2 convenience centers per year and phase out the green-boxes in 3 years. Lauderdale County has the largest number of household pickups due to fact that all the incorporated areas provide the service (i.e. Gates, Halls, Henning, and Ripley). However, there is essentially no collection service for roughly 45 percent of the county's households which are in rural areas. The Solid Waste Management Act of 1991 mandated that each county provide as a minimum level of service either county-wide household collection or green-box drop off points with at least one staffed convenience center. Each county in H.L.T. Region will be required to upgrade their existing level of service to meet or exceed this standard.

The collection service available in the various municipalities and by private collection contractors is summarized in Table II-7 below.

TABLE II-7  
MUNICIPAL/PRIVATE COLLECTION SERVICES\*

<u>City</u>	<u>Households</u>	<u>Collection Frequency</u>	<u>Businesses</u>	<u>Collection Frequency</u>	<u>Pickups Per Route</u>
Brownsville	3698	2/wk	200	2/wk	1300
Covington	2490	1/wk	50	1/wk	620
Gates	289	2/wk	18	2/wk	307
Halls	980	1/wk	67	2/wk	211
Henning	325	1/wk	29	2/wk	177
Ripley	2700	1/wk	200	1-5/wk	550
Stanton	188	-	11	-	-
Private Contractors	330	1/wk	19	2-3/wk	-

\*District Needs Assessments, Haywood, Lauderdale and Tipton Counties.

Just as the collection systems are slightly different in each county, the methods of transporting solid waste from the point of generation to the point of final disposal vary. Municipal collection and transportation is performed by vehicles ranging in capacity from less than 5 cubic yards to 31-40 cubic yards. One private waste hauler uses a vehicle with a capacity of greater than 40 cubic yards. There are no solid waste transfer stations in the region at this time, therefore all waste collected by these vehicles is taken directly to a landfill. The average haul distance from the municipality to the final disposal site in each county ranges from 4 miles in Brownsville to 13 miles in Henning. As mentioned earlier, Haywood and Tipton Counties provide green-box collection sites throughout the rural areas in each county. County crews empty these containers from 1 to 5 times per week and haul the waste to the landfill. The average haul distance is 8 miles for Haywood County and 13 miles for Tipton County. The haul distances discussed above are considered short by national standards for transporting solid waste, however they do reflect a significant cost of the overall waste management system. Should any of the three counties cease operating its own landfill and begin transporting wastes longer distances, the feasibility of constructing and operating a transfer facility would require investigation. Waste collection and transportation system options for the planning period are evaluated in Chapters III, V, and XI respectively.

### C. SOURCE REDUCTION AND RECYCLING SYSTEMS

In order for the State municipal solid waste reduction and recycling goal of 25 percent to be achieved, the H.L.T. Region will need to quantify its existing reduction/recycling efforts and also establish additional programs. At this time there are very few waste reduction/recycling efforts in the region. Each county has a highway litter control program which uses prison labor to clean up waste along the road right-of-ways. These programs produce some recyclable materials such as aluminum cans, however the recycled volume is relatively small. There were no other public or private waste reduction/recycling collection systems mentioned in the District Needs Assessments.

The majority of all waste reduction and recycling programs in the region are being sponsored by businesses, industries or service providers. Several of the larger industrial solid waste generators have ongoing programs in-house to reduce their waste stream and thus reduce their waste management costs. Commonly reused or recycled materials include wood pallets, cardboard, paper, aluminum, plastics, and scrap metals. As a result of the industrial solid waste survey in each county discussed previously, the Center for Industrial Services sponsored by the University of Tennessee was able to establish an Industrial Solid Waste Focus Group in each county. The goal of these focus groups is to look for additional ways to reduce the overall waste stream going to the landfill and also to realize an economic benefit for the industry. A report prepared by the Center for Industrial Services for each county is provided in the Appendix.

Each county also has a limited number of small businesses which will reclaim specific waste materials such as waste oil, automobile batteries, various automobile parts, recyclable paper and plastics, aluminum and scrap metals from individuals. Some of these businesses are strictly operating as recycling centers, and others provide outlets for recyclable materials as an extra service for their customers. They basically act as brokers of recyclable materials which are sent elsewhere for processing and reuse. Chapters IV and VI provide information on the overall impact of these industrial and small business solid waste reduction efforts. The regional approach to all source reduction and recycling systems is evaluated in Chapters III, IV, VI and XI respectively.

#### D. WASTE PROCESSING, COMPOSTING AND WASTE-TO-ENERGY/INCINERATION SYSTEMS\*

According to the District Needs Assessments for each county, there are no existing municipal solid waste processing or composting facilities in the region. The City of Covington in Tipton County has plans to begin composting yard waste during the planning period, however estimated quantities and capacities were not available.

Only one(1) incineration facility was listed for the region. This facility is an infectious waste incinerator for the county hospital in Lauderdale County with a permitted capacity of 10 tons/year. The general location of the incinerator is shown on Map II-4. Chapters III, VII and XI provide evaluation of composting, processing, waste-to-energy and incineration alternatives.

\*The Plan guidance document requested tables listing composting and incineration facilities in the region as Table II-6 and Table II-7 respectively. Since these type facilities do not exist in the region, these tables are not included, and these table numbers were used previously.

#### E. DISPOSAL FACILITIES - LANDFILLS AND BALEFILLS

Each county in the H.L.T. Region has a county owned and operated landfill at this time. Within three years there will most likely be only one remaining landfill in the region, and its remaining life will then be less than 7 years. These projections are based on no waste being transferred from one county to another for disposal. If any of the existing landfill space is regionalized as existing landfills begin closing, the remaining landfill space in the region will not last more than 7 years. Information on the existing landfills and their respective capacities is presented in Table II-8. These facilities are located on Map II-3. The anticipated closure date for each landfill is provided in Table II-9.

TABLE II-8

## EXISTING SOLID WASTE LANDFILLS\*

<u>Landfill Name**</u>	<u>Permitted Area</u>	<u>1991 Disposal Rate, (T/D)</u>	<u>Remaining Capacity</u>
Haywood Co. Landfill	37.5	65	5 yrs
Lauderdale Co. Landfill	100.0	75	>10 yrs
Tipton Co. Landfill	<u>55.0</u>	<u>104</u>	< 1 yr
Regional Total	192.5	244	***

\*District Needs Assessments, Haywood, Lauderdale and Tipton Counties.

\*\*Landfill locations are shown on Map II-3.

\*\*\*Remaining capacity for the region as a whole cannot be obtained from adding the capacities at each facility.

TABLE II-9

## ANTICIPATED CLOSURE DATE OF EXISTING LANDFILLS\*

<u>Landfill Name</u>	<u>Anticipated Date of Closure</u>
Haywood County Landfill	2003
Lauderdale County Landfill	1996
Tipton County Landfill	1994

\*District Needs Assessments, Haywood, Lauderdale and Tipton Counties.

The only planned expansion of a landfill in the region is at the Lauderdale County Landfill (See Table II-10). The State has issued a permit for an expansion area of approximately 100 acres (50 useable landfill acres) adjacent to and west of the existing landfill area. The entire landfill area would have an estimated life of 40-50 years if it only received Lauderdale County solid waste. A disposal cell in this area could be opened as soon as 1996. The advantages and disadvantages associated with operating this or other county landfills in the region versus other disposal options are discussed further in Chapters III, VIII and XI respectively.

TABLE II-10

PLANNED EXPANSIONS/NEW FACILITIES  
WITH GREATER THAN 10 YEARS OPERATING LIFE\*

<u>County</u>	<u>New or Expansion</u>	<u>Facility Name</u>	<u>Capacity (Acres)</u>	<u>Operating Date</u>	<u>Disposal Rate(T/D)</u>
Haywood	-	-	-	-	-
Lauderdale	Exp.	Co. Landfill	50	NA	NA
Tipton	-	-	-	-	-

\*District Needs Assessments, Haywood, Lauderdale and Tipton Counties.

TABLE II-11

EXISTING AND PLANNED  
REGIONAL SOLID WASTE CAPACITY

SEE CHAPTER VIII

F. COSTS OF THE CURRENT SYSTEM

Each county in the Region has adopted the State's uniform accounting system for solid waste management revenues and expenditures. Anticipated total costs for the 1993 fiscal year for solid waste management services in each county are provided below.

	<u>Haywood</u>	<u>Lauderdale</u>	<u>Tipton</u>
Expenditures	\$469,599	\$819,451	\$842,016

G. REVENUES FOR THE CURRENT SYSTEM

The anticipated revenues for the 1993 fiscal year are as follows:

<u>Source</u>	<u>Haywood</u>	<u>Lauderdale</u>	<u>Tipton</u>
Taxes	\$240,000	\$500,000	\$303,557
Tipping Fees, Surcharges	241,255	525,000	25,000
Service Charges	0	166,667	
Transfers			305,000
Grants, Revenue Sharing, Etc.	0	34,000	283,100
TOTAL	\$481,255	\$1,225,667	\$916,657

## H. PUBLIC INFORMATION AND EDUCATION PROGRAMS

According to the District Needs Assessment, there are no public information and education programs in the Region at this time. It is obvious that development of information and education programs will be critical to the success of future solid waste management activities in the Region. Plans for public information and education programs are described in Chapter IX. A large component of these programs will involve public and private schools in the Region.

## I. SYSTEM MAP - 1993

Map II-4 indicates all of the existing solid waste management systems in the Region.

CHAPTER III  
GROWTH TRENDS,  
WASTE PROJECTIONS AND  
PRELIMINARY SYSTEM STRUCTURE

A. GROWTH TRENDS AND WASTE PROJECTIONS

The District Needs Assessment completed for each county includes a chapter on solid waste generation projections. These projections are made up to the year 1991. Base projections are calculated using population projections and an annual per capita solid waste generation rate in tons per person per year. These rates vary slightly from county to county depending primarily on the commercial, industrial and institutional solid waste contribution. The base solid waste projections are then modified by an economic growth factor per year, an estimated waste reduction percentage, conditions related to regulatory changes or other specific county influences, and any solid waste imports to or exports from the county. Ultimately a projection of the total quantity of solid waste requiring collection, transportation, processing or treatment and disposal is calculated for each year in the planning period. The tables that follow (Table III-1 through III-8) summarize these projections for each county from the District Needs Assessments and extend the projections to the year 1993. The aggregate data for the entire HLT Region is also provided.

TABLE III-1

ANNUAL PER CAPITA GENERATION RATES\*

<u>County</u>	<u>Total Waste Disposed in FY 1993, Tons</u>	<u>Projected Population 1993</u>	<u>Annual Per Capita Generation Tons/Person/Year</u>
Haywood	17,988	19,097	0.942
Lauderdale	19,312	23,152	0.834
Tipton	33,458	39,171	0.854

\*District Needs Assessments: Haywood, Lauderdale and Tipton Counties

TABLE III-2

TOTAL WASTE GENERATION (TONS)  
 BASED ON POPULATION GROWTH  
 AND 1993 PER CAPITA RATES\*

<u>Year</u>	<u>Haywood</u>	<u>Lauderdale</u>	<u>Tipton</u>	<u>Total</u>
1994	17,882	19,219	33,926	71,027
1995	17,778	19,126	34,400	71,304
1996	17,674	19,034	34,880	71,588
1997	17,571	18,942	35,368	71,881
1998	17,468	18,850	35,863	72,181
1999	17,366	18,759	36,364	72,489
2000	17,266	18,670	36,867	72,803
2001	17,152	18,573	37,299	73,024
2002	17,039	18,478	37,732	73,249
2003	<u>16,928</u>	<u>18,383</u>	<u>38,168</u>	<u>73,479</u>
Total	174,124	188,034	360,867	723,025

\*District Needs Assessments: Haywood, Lauderdale and Tipton Counties (Data Projected to Year 2003)

Table III-3 provides an estimated quantity of solid wastes that will be generated in each county during the planning period without any waste reduction efforts. Both population changes and economic growth are factored into the analysis. Except for the wastes that are removed from the waste stream at the point of waste generation, these quantities reflect the total waste tonnage requiring collection and/or transportation systems.

TABLE III-3

TOTAL WASTE GENERATION (TONS)  
ADJUSTED FOR POPULATION CHANGE  
AND 3.2 % ANNUAL ECONOMIC GROWTH\*

<u>Year</u>	<u>Haywood</u>	<u>Lauderdale</u>	<u>Tipton</u>	<u>Total</u>
1994	18,503	19,883	35,035	73,421
1995	18,418	19,812	35,545	73,775
1996	18,335	19,742	36,062	74,139
1997	18,252	19,672	36,587	74,511
1998	18,172	19,604	37,121	74,897
1999	18,092	19,537	37,663	75,292
2000	18,015	19,473	38,207	75,695
2001	17,925	19,402	38,682	76,009
2002	17,837	19,333	39,159	76,329
2003	<u>17,752</u>	<u>19,265</u>	<u>39,640</u>	<u>76,657</u>
Total	181,301	195,723	373,701	750,725

\*District Needs Assessments: Haywood, Lauderdale and Tipton Counties (Data Projected to Year 2003)

The Solid Waste Management Act of 1991 established a minimum solid waste reduction goal of 25% to be in place by December 31, 1995. The goal is to reduce the amount of solid waste currently being disposed of in Class I landfills across the state. Calculations of the waste reduction tonnage are to be based on the 1989 per capita solid waste generation rate as published in the 1990 University of Tennessee report entitled "Managing Our Waste: Solid Waste Planning in Tennessee". The tonnage of waste calculated by multiplying twenty-five percent (25%) of the 1989 per capita generation rate by the projected populations in 1995 through 2003 is to be diverted from the Class I landfill waste stream each year. These calculations are provided for each county in the HLT Region in Tables III-4(a), (b) and (c) along with an adjusted total waste quantity requiring disposal. Waste reduction goals are aggregated for the Region in Chapter IV.

TABLE III-4(a)

TOTAL WASTE GENERATION REQUIRING DISPOSAL (TONS)  
ADJUSTED FOR POPULATION CHANGE, ECONOMIC GROWTH  
AND WASTE REDUCTION\*

HAYWOOD COUNTY					
<u>Year</u>	<u>Population</u>	<u>Reduction %</u>	<u>Reduction Tonnage</u>	<u>Table III-3 Generation Estimate</u>	<u>Disposal Tonnage</u>
1994	19,097	5.0	592	18,503	17,911
1995	18,874	15.0	1,755	18,418	16,663
1996	18,764	25.0	2,908	18,335	15,427
1997	18,654	25.0	2,891	18,252	15,361
1998	18,545	25.0	2,874	18,172	15,298
1999	18,437	25.0	2,857	18,092	15,235
2000	18,330	25.0	2,841	18,015	15,174
2001	18,209	25.0	2,822	17,925	15,103
2002	18,090	25.0	2,804	17,837	15,033
2003	17,972	25.0	<u>2,786</u>	<u>17,752</u>	<u>14,966</u>
Total			25,130	181,301	156,171

\*Reduction tonnage is based on percentages of the 1989 base rate for per capita generation. This per capita rate for waste reduction is multiplied by the projected population for each year in the planning period. The 1989 base rate is 0.62 for Haywood County.

TABLE III-4(b)

TOTAL WASTE GENERATION REQUIRING DISPOSAL (TONS)  
ADJUSTED FOR POPULATION CHANGE, ECONOMIC GROWTH  
AND WASTE REDUCTION\*

LAUDERDALE COUNTY					
<u>Year</u>	<u>Population</u>	<u>Reduction %</u>	<u>Reduction Tonnage</u>	<u>Table III-3 Generation Estimate</u>	<u>Disposal Tonnage</u>
1994	23,040	5.0	1,175	19,883	18,708
1995	22,929	15.0	3,508	19,812	16,304
1996	22,818	25.0	5,819	19,742	13,923
1997	22,708	25.0	5,790	19,672	13,882
1998	22,598	25.0	5,762	19,604	13,842
1999	22,489	25.0	5,735	19,537	13,802
2000	22,382	25.0	5,707	19,473	13,766
2001	22,266	25.0	5,678	19,402	13,724
2002	22,152	25.0	5,649	19,333	13,684
2003	22,038	25.0	<u>5,620</u>	<u>19,265</u>	<u>13,645</u>
Total			50,443	195,723	145,280

\*Reduction tonnage is based on percentages of the 1989 base rate for per capita generation. This per capita rate for waste reduction is multiplied by the projected population for each year in the planning period. The 1989 base rate is 1.02 for Lauderdale County.

TABLE III-4(c)

TOTAL WASTE GENERATION REQUIRING DISPOSAL (TONS)  
 ADJUSTED FOR POPULATION CHANGE, ECONOMIC GROWTH  
 AND WASTE REDUCTION\*

## TIPTON COUNTY

<u>Year</u>	<u>Population</u>	<u>Reduction %</u>	<u>Reduction Tonnage</u>	Table III-3 <u>Generation Estimate</u>	<u>Disposal Tonnage</u>
1994	39,718	5.0	1,589	35,035	33,446
1995	40,274	15.0	4,833	35,545	30,712
1996	40,836	25.0	8,167	36,062	27,895
1997	41,407	25.0	8,281	36,587	28,306
1998	41,986	25.0	8,397	37,121	28,724
1999	42,573	25.0	8,515	37,663	29,148
2000	43,162	25.0	8,632	38,207	29,575
2001	43,667	25.0	8,733	38,682	29,949
2002	44,173	25.0	8,835	39,159	30,324
2003	44,684	25.0	<u>8,937</u>	<u>39,641</u>	<u>30,704</u>
Total			74,919	373,702	298,783

\*Reduction tonnage is based on percentages of the 1989 base rate for per capita generation. This per capita rate for waste reduction is multiplied by the projected population for each year in the planning period. The 1989 base rate is 0.80 for Tipton County.

In some instances local, state or federal regulatory changes or other influences such as major industrial relocations can have a significant impact on the solid waste quantities requiring disposal. None of the counties in the HLT Region anticipate any noticeable impacts of these type changes on their waste disposal capacity needs.

TABLE III-5

TOTAL WASTE GENERATION REQUIRING DISPOSAL (TONS)  
ADJUSTED FOR REGULATORY CHANGES

This Table is not needed for the HLT Region

TABLE III-6

TOTAL WASTE GENERATION REQUIRING DISPOSAL (TONS)  
ADJUSTED FOR SPECIAL FACTORS

This Table is not needed for the HLT Region

The Tipton County Landfill is expected to reach capacity in late 1994 or early 1995, and all solid waste from the County will be exported elsewhere. The Haywood and Lauderdale landfills have enough permitted capacity to last well into the Planning period, however, both are expected to cease operating Class I facilities due to economics (See Chapter 8). Based on this scenario the amount of waste disposal capacity needed for the HLT Region is significant. The regional waste generation quantity requiring waste disposal capacity is provided in Table III-7.

TABLE III-7

TOTAL WASTE GENERATION REQUIRING DISPOSAL (TONS)  
ADJUSTED FOR IMPORTS/EXPORTS\*

<u>Year</u>	<u>Haywood</u>	<u>Lauderdale</u>	<u>Tipton</u>	<u>Imports(+)/ Exports(-)</u>	<u>Adjusted Total</u>
1994	17,911	18,708	33,446	0	70,065
1995	16,663	16,304	30,712	0	63,679
1996	15,427	13,923	27,895	0	57,245
1997	15,361	13,882	28,306	0	57,549
1998	15,298	13,842	28,724	0	57,864
1999	15,235	13,802	29,148	0	58,185
2000	15,174	13,766	29,575	0	58,515
2001	15,103	13,724	29,949	0	58,776
2002	15,033	13,684	30,324	0	59,041
2003	<u>14,966</u>	<u>13,645</u>	<u>30,704</u>	<u>0</u>	<u>59,315</u>
Total	156,171	145,280	298,783	0	600,234

\*Data taken from Tables III-4(a), (b) and (c) respectively

After making all foreseeable adjustments to the waste generation projections for the planning period, the total waste quantity requiring disposal capacity was determined for the region.

TABLE III-8

TOTAL WASTE GENERATION REQUIRING DISPOSAL (TONS)  
 IN THE HLT REGION  
 INCLUDING ALL ADJUSTMENT FACTORS\*

<u>Year</u>	<u>Haywood</u>	<u>Lauderdale</u>	<u>Tipton</u>	<u>Adjusted Total</u>
1994	17,911	18,708	33,446	70,065
1995	16,663	16,304	30,712	63,679
1996	15,427	13,923	27,895	57,245
1997	15,361	13,882	28,306	57,549
1998	15,298	13,842	28,724	57,864
1999	15,235	13,802	29,148	58,185
2000	15,174	13,766	29,575	58,515
2001	15,103	13,724	29,949	58,776
2002	15,033	13,684	30,324	59,041
2003	<u>14,966</u>	<u>13,645</u>	<u>30,704</u>	<u>59,315</u>
Total	156,171	145,280	298,783	600,234

\*Data taken from Table III-7.

## B. PRELIMINARY SYSTEM DESIGN

All of the current solid waste management systems in each county in the HLT Region will require upgrading to some degree. Even those municipal systems which may have adequate collection, transportation and disposal arrangements will need to introduce new waste reduction and public information programs. Listed below are the major system components that may be a part of the regional solid waste plan.

- Waste collection and transportation
- Waste reduction
- Recycling
- Waste Processing, composting, waste-to-energy and/or incineration
- Disposal
- Public information and Education
- Problem wastes management

Each of these system components will be evaluated in Chapters IV through X that follow. It is anticipated that each of these component categories in some form or another will become an integral part of the HLT Region Plan. Managing wastes by waste-to-energy or incineration methods is expected to receive the least attention due to a number of disadvantages which will be discussed in Chapter VII.

In addition to these waste management systems, the county and regional staffing, scheduling, funding, and statutory controls necessary to make them effective will also be discussed.

## C. EVALUATION CRITERIA FOR THE REGION

Evaluation criteria for each of the waste management system components will include: institutional compatibility, number and size of facilities needed, regional markets for recovered materials or energy, capital and annual operating costs, unit costs, siting and regulatory requirements, environmental impacts, public acceptance and any other criteria selected by the HLT Solid Waste Planning Region Board.

CHAPTER IV  
WASTE REDUCTION

A. ESTABLISHING A BASE YEAR QUANTITY

The State established the following statutory requirement for waste reduction as part of the Solid Waste Management Act of 1991: "The goal of the State is to reduce by twenty-five percent (25%) the amount of solid waste disposed of at municipal solid waste disposal facilities and incinerators, measured on a per capita basis within Tennessee by weight, by December 31, 1995." The base year for calculating progress toward that goal is 1989.

The annual solid waste quantity and population figure used to calculate the per capita waste generation in 1989 are documented in the UT report entitled "Managing Our Waste: Solid Waste Planning in Tennessee" (February 1990). Based on this report, the Regional statistics are provided in Table IV-1.

Table IV-1

<u>County</u>	<u>1989 Population</u>	<u>1989 Waste Generation</u>
Haywood	21,200✓	13,156✓
Lauderdale	25,150✓	25,740✓
Tipton	39,050✓	31,174✓

The base year per capita solid waste generation rates are 0.621 for Haywood, 1.023 for Lauderdale, and 0.798 for Tipton respectively. For the entire Region, the base rate is 0.820 tons/capita/year. As stated previously, the entire region is not served by solid waste collection at this time, therefore the 1989 per capita base rates are expected to be invalid. During the first year of the Planning period as additional commercial, industrial and residential waste generation data are accumulated, the Region will submit documentation to the State to adjust the base rate if necessary. If this is done, the waste reduction goals calculated below will be modified accordingly.;

B. TARGET 1995 WASTE REDUCTION PER CAPITA DISPOSAL RATE

The statutory solid waste reduction tonnage per capita is calculated as follows:

$$1989 \text{ per capita rate} \times 0.25 = \text{Target 1995 per capita reduction}$$

$$0.820 \text{ tons/capita/yr} \times 0.25 = 0.205 \text{ tons/capita/year}$$

The statutory tonnage of waste that must be reduced at the source or otherwise diverted from Class I landfills by December 31, 1995 is calculated as follows:

$$\text{Target 1995 per capita reduction} \times \text{1995 projected population}$$

$$0.205 \text{ tons/capita/yr} \times 82,077 = \underline{\underline{16,826}} \text{ tons/yr reduction tonnage}$$

### C. MEETING THE SOLID WASTE REDUCTION GOAL

1. Statement of Regional Goals - The goal of the HLT Solid Waste Planning Region is to develop and implement at least one(1) waste reduction strategy in each on the following sectors by December 31, 1995: residential, industrial, commercial, institutional and governmental. By the same date, the Region will have a more comprehensive data base of the Region's total waste generation and full documentation of all significant waste reduction efforts between 1985 and 1993 contributing toward the 25% goal. By the end of the initial 10 year planning period a comprehensive waste reduction program for the entire Region on a county-by-county basis will be in place with ongoing efforts to further increase waste reduction.

2. Allocations for the 25% Reduction Goal - The 25% reduction in solid waste taken to Class I facilities will be achieved by allocating the reduction percentages between different materials (yard wastes, paper, metals, etc.), economic sectors (residential, industrial, etc.) and counties. As indicated in Tables III-4(a), III-4(b) and III-4(c) respectively, the region will attempt to achieve at least 5% reduction during 1994 (3,356 tons) and 15% reduction during 1995 (10,096). The goal for 1996 will be the full 25% reduction of the 1989 base per capita rate (16,894). The reduction goal for each county for each year is indicated in Tables III-4(a), (b) and (c).

Based on the regional waste characterization provided in the District Needs Assessment for all three counties and the reduction goal for specific materials, the 1996 reduction tonnage in each waste category is estimated in the following table.

<u>Waste Category</u>	<u>Est. %</u>	<u>1996 Tons</u>	<u>Reduction %</u>	<u>Reduction Tons</u>
Paper & Paperboard	40.0	29,656	10.0	2,966
Glass	7.0	5,190	0.0	0
Ferrous Metals	6.5	4,819	5.0	241
Aluminum	1.4	1,038	5.0	52
Other Non-Ferrous	0.6	445	0.0	0
Plastics	8.0	5,931	5.0	297
Rubber & Leather	2.5	1,853	0.0	0
Textiles	2.1	1,557	0.0	0
Wood	3.6	2,669	75.0	2,002
Food Waste	7.4	5,486	0.0	0
Yard Waste	17.6	13,048	95.0	12,396
Misc. Organic	1.5	1,112	0.0	0
Other	1.8	1,335	0.0	0
Total		74,139		
Solid Waste Reduction Achieved				17,954
Solid Waste Reduction Goal				16,894

Waste reduction from all sources (i.e. residential, industrial, etc.) will be necessary to achieve the 25% goal. The following waste reduction percentages from each economic sector will be targeted initially, however modification of these estimates will likely be included in the annual Plan updates.

<u>Economic Sector</u>	<u>% of Total Waste Stream*</u>	<u>x</u>	<u>Reduction Goal</u>	<u>=</u>	<u>% Reduction of Waste Stream</u>
Residential	35	x	25%	=	8.75%
Commercial	15	x	25%	=	3.75%
Industrial	35	x	25%	=	8.75%
Institutional	5	x	25%	=	1.25%
Governmental	<u>10</u>	x	25%	=	<u>2.5%</u>
Total	100				25.00%

\* Estimated

### 3. Strategies for Solid Waste Reduction

a. Credits for Previous Waste Reduction (1985-1993) - Although it is known that several waste reduction and recycling activities were taking place between 1985 and 1993, the Plan does not attempt to address those activities or quantify them at this time. After additional data is obtained during the first year of the Plan, the Region may request credit for reduction and recycling activities conducted between 1985 and 1993. When this is done, the base year and per capita base rate will be modified accordingly.

b. Materials Recycling and Source Reduction - As stated previously, the Region's goal for solid waste reduction is 5% in 1994, 15% in 1995 and 25% in 1996. Reductions based on residential recycling should be successful if the public information and education efforts are successful. Reductions based on commercial and industrial waste recycling and source reduction should be significant if adequate data on past waste reduction efforts can be obtained and if businesses and industries are receptive to new reduction efforts. Recycling and source reduction strategies are discussed in Chapter VI.

c. Solid Waste Diversion from Class I Facilities - The majority of waste reduction achieved during the first few years of the Plan will be due to waste diversion from Class I facilities into Class III/IV facilities. The costs associated with constructing, operating and maintaining a Class III/IV landfill are discussed in Chapter VIII.

The goals for solid waste recycling and source reduction vs. waste diversion for the first three years of the Plan are provided below.

<u>Year</u>	<u>Overall Waste Reduction</u>	<u>% Diverted</u>	<u>% Recycled</u>
1994	5%	4%	1%
1995	15%	12%	3%
1996	25%	20%	5%

d. Economic Strategies for Waste Reduction - The Region does not plan to pursue any economic incentives or disincentives for increasing overall solid waste reduction at this time.

e. Other Waste Reduction Strategies - There are no other waste reduction strategies planned at this time.

f. A summary of the estimated waste reduction quantities is provided in Table IV-2 below.

Table IV-2  
Estimated Quantities of Waste Reduction

<u>Year</u>	<u>Previous Reductions</u>	<u>Recovered/ Recycled</u>	<u>Diverted</u>	<u>Economic Strategy</u>	<u>Other</u>	<u>Total*</u>
1985-1993	NA	NA	0	0	0	4,500**
1994	4,500**	0	0	0	0	4,500**
1995	4,500**	1,119	4,477	0	0	10,096
1996	4,500**	2,479	9,915	0	0	16,894
1997	4,500**	2,492	9,970	0	0	16,962
1998	4,500**	2,507	10,026	0	0	17,033
1999	4,500**	2,521	10,086	0	0	17,107
2000	4,500**	2,536	10,144	0	0	17,180
2001	4,500**	2,547	10,186	0	0	17,233
2002	4,500**	2,558	10,230	0	0	17,288
2003	4,500**	2,569	10,274	0	0	17,343
Total	45,000	21,328	85,308	0	0	151,636

\*Reduction totals are based on Tables III(a), (b) and (c) respectively. These estimates will be updated annually as data is accumulated.

\*\*Based on industrial waste reduction information.

#### D. STAFFING, BUDGET AND FUNDING

Staffing, budget and funding for various waste reduction strategies are discussed in other chapters as follows.

Recycling and source reduction	- Chapter VI
Waste diversion	- Chapter VIII
Public information and education	- Chapter IX
Problem waste reduction	- Chapter X

#### E. IMPLEMENTATION SCHEDULE

Implementation schedules for each waste reduction strategy are discussed in the respective chapters listed above.

#### F. SPECIFIC RESPONSIBILITIES FOR ACHIEVING GOALS

It will be the responsibility of each county and municipality within the Region operating or providing solid waste collection services to account for its waste reduction activities and achievements. Municipalities will be encouraged and welcomed to participate in the overall Regional solid waste Plan. Participation in the overall Plan would place specific responsibility for achieving the 25% reduction goal on the county in which the municipality is located. However, if a municipality wishes to continue its own solid waste collection services, the responsibility for the 25% reduction goal will belong to the individual municipality. Other specific responsibilities for waste reduction goals are discussed in the respective chapters listed above.

#### G. COLLECTION AND PREPARATION OF ANNUAL REPORTS

The Region will request that all municipalities submit pertinent solid waste data to the Regional Solid Waste Board or to the county in which it is located by January 15 of each year. A general survey form for obtaining this information will be mailed to each municipality by December 1 of each year. Information from other major generators of solid waste in the Region will be obtained in a similar manner each year. This data along with information from the approved Regional solid waste system will be aggregated and used to update and/or modify the Plan annually as required by the State.



## CHAPTER V

### WASTE COLLECTION AND TRANSPORTATION

#### A. MINIMUM REQUIREMENTS OF REGIONAL COLLECTION SYSTEMS

The Solid Waste Management Act designates that counties or regions will bear the primary responsibility for providing solid waste collection and transportation services to all residents. The three primary options for providing these services are: 1) to provide services through county or regional operations, 2) to provide services through agreement with another unit of government, or 3) to provide services through contract with private companies.

The level of service is also established by the Solid Waste Management Act. The minimum level of service is to provide a network of staffed convenience centers throughout each county. A higher level of service would be to provide door-to-door collection throughout each county.

#### B. REGIONAL NEEDS

At this time the H.L.T. Region has a combination of solid waste collection and transportation services as described in Chapter II. In addition to the collection of solid wastes by municipal crews, a number of private collection companies operate throughout the Region. Haywood and Tipton Counties also have extensive green-box collection sites (See Map II-5). Despite this variety of solid waste services, the three counties do not meet the minimum level of service as required by the Act.

Several alternatives for solid waste collection and transportation were considered for the Region. These options were determined after discussions with state and local solid waste administrators, private waste management companies and members of the Regional Board. An effort was made to integrate these options with existing solid waste management systems while also exploring other systems of collection and transportation conducive to predominately rural areas. A description and cost estimate for each of the options is provided on the following pages. When information is available, a cost comparison of providing the services through public vs. private companies is also included.

#### C. DISCUSSION OF OPTIONS

OPTION 1 - provide green-box convenience centers for rural residents with transport to disposal by front-end loader.

OPTION 2 - provide uncompacted roll-off convenience centers for rural residents with transport to disposal in roll-off container.

OPTION 2A - provide compacted roll-off convenience centers for rural residents with transport to disposal in roll-off container.

OPTION 3 - provide door-to-door collection for rural residents with transport to disposal by collection vehicle.

OPTION 4 - provide door-to-door collection for rural residents, transport to one regional transfer facility and transport to disposal by transfer vehicle.

OPTION 5 - provide door-to-door collection for rural residents, transport to one transfer facility in each county and transport to disposal by transfer vehicle.

#### Option 1, Option 2 and Option 2A

Options 1, 2 and 2A involve the construction and operation of convenience centers. Like the existing green-box system in many counties, these systems require the resident to bring their solid waste to the county facility. Unlike the present green-box system, convenience centers will have full time staffing, controlled access, security fencing, paving, lighting, and will also be conducive to waste segregation (i.e. yard waste, recyclables, tires, problem wastes, white goods, etc.) For many county residents who are already accustomed to taking their solid waste to green-box collection sites, convenience centers offer the same type of service with many improvements. Disadvantages include longer travel distances for most residents and limited drop-off times (typically 10-14 hours daily). Uncontrolled dumping after operating hours outside the fenced area can be a problem. Also, residents who already have a waste collection service will not likely to use the convenience centers.

The Solid Waste Management Act requires a minimum number of convenience centers based on one(1) per 180 square mile service area or one(1) per 12,000 population service area. Based on these criteria the minimum number of centers for each county in the H.L.T. region is three(3) or a total of 9 for the region. Realistically these numbers are probably too small to adequately serve county residents due to longer driving distances. Studies have shown that driving distances over 3-5 miles will result in decreased participation. Using this information, the minimum number of convenience centers for each of the H.L.T. counties is seven(7) for a total of 21 in the region. A cost analysis for Option 1, Option 2 and Option 2A follows.

**CONVENIENCE CENTER COST ANALYSIS**

OPTION 1 - GREEN-BOX CENTER

OPTION 2 - ROLL-OFF CENTER

OPTION 2A - ROLL-OFF CENTER WITH COMPACTION

<u>Item</u>	<u>Green-Box</u>	<u>Roll-Off</u>	<u>w/Comptn</u>
<b>Capital Cost</b>			
Land	\$4,000	\$4,000	\$4,000
Grading/Earthwork	10,000	13,000	13,000
Paving	30,000	35,000	35,000
Drainage Structures	3,000	3,000	6,000
Fencing and Gates	5,000	5,000	5,000
Building	8,000	8,000	8,000
Utilities	4,000	4,000	4,000
Signs and Landscaping	1,500	1,500	1,500
Engineering, Legal	7,000	8,000	8,500
Green-Boxes (28)	14,000	-	-
Roll-Offs	-	16,000	8,000
Compactor (1)	-	-	14,000
<b>Total</b>	<b>\$86,500</b>	<b>\$97,500</b>	<b>\$107,000</b>
<b>Annualized Capital Cost @ 6% for 5 Years</b>	<b>\$20,535</b>	<b>\$23,147</b>	<b>\$25,402</b>
<b>Annual Labor and Supply Cost</b>			
Center Staffing	\$15,600	\$15,600	\$15,600
Benefits, Etc.	3,120	3,120	3,120
Administration	5,000	5,000	5,000
Supplies, Mntnce, Etc	1,000	1,000	2,000
Utilities	1,200	1,200	1,200
<b>Total Annual O &amp; M</b>	<b>\$25,920</b>	<b>\$25,920</b>	<b>\$26,920</b>
<b>Total Annual Cost/Center</b>	<b>\$46,455</b>	<b>\$49,067</b>	<b>\$52,322</b>
<b>Average Tons/Yr/Center</b>	<b>1,000</b>	<b>1,000</b>	<b>1,000</b>
<b>Average Regional Cost/Ton</b>	<b>\$46.45</b>	<b>\$49.07</b>	<b>\$52.32</b>

**CONVENIENCE CENTER COST ANALYSIS (cont.)**

- OPTION 1 - GREEN-BOX CENTER  
 OPTION 2 - ROLL-OFF CENTER  
 OPTION 2A - ROLL-OFF CENTER WITH COMPACTION

<u>Item</u>	<u>Green-Box</u>	<u>Roll-Off</u>	<u>w/Comptn</u>
<b>Transportation Costs</b>			
Total Units\Center	28	4	2
Storage Capacity\Center	168 CY	168 CY	168 CY
Units/Haul Truck	22	1	1
Hauls/Center	1.27	4	1
Avg. Daily Vol. Received	50 CY	50 CY	50 CY
Days To Fill Center	3	3	3
Hauls/Week	2	2	2
Hauls/Week/Center	2.54	8	2
Hauls/Year/Center	132	416	104
Avg. Haul Distance	40 Mi	40 Mi	40 Mi
Avg. Round Trip Haul Time	2 Hr	2 Hr	2 Hr
Haul Time/Year/Center	264 Hr	832 Hr	208 Hr
Cost Per Hour Run Time*	\$49.42	\$40.64	\$40.64
Cost/Year/Center	\$13,047.00	\$33,812.00	\$8,453.00
Avg. Regional Cost/Ton	\$13.05	\$33.81	\$8.45

\*From Solid Waste: Transportation and Other Costs, UT County Technical Assistance Service. Based on Driver Pay @ \$10/Hour

Summary of Total Capital, Operating and Transportation Costs\*

	<u>Option 1 Green-Box</u>	<u>Option 2 Roll-Off</u>	<u>Option 2A w/Comptn</u>
Total Regional Cost/Year	\$1,249,542	\$1,740,459	\$1,276,275
Average Regional Cost/Ton	\$59.50	\$82.88	\$60.77
Cost/Household/Month	\$5.51	\$7.67	\$5.63

\*Figures are based on 21 Convenience Centers in the Region and approximately 900 households served by each Center.

### Option 3, Option 4 and Option 5

All three options involving door-to-door collection of residential solid waste will require determination of which service provider can do it for the best price. The best price not only being the cheapest but also the most effective level of service, most dependable, cleanest, etc. This Plan cannot determine which collection service provider is the best for any individual county or for the H.L.T. Region, but typical costs for providing these services are discussed below.

Numerous proposals, both formal and informal, for county-wide door-to-door collection of residential solid waste have been made in and around west Tennessee in recent months. Some collection services were bid, some were negotiated with one hauler and other quotes were provided by private haulers for rough estimating only. The primary factors that affect door-to-door collection costs are collection frequency, collection efficiency or worker productivity, equipment, haul time and distance, population density and administrative cost. A typical proposal for collection will include the cost for disposal, thus making it somewhat difficult to determine the exact cost proposed for collection only. Other proposals include the option of collecting recyclables for solid waste reduction. The table on the following page of collection costs per household per month reflects recent bids, negotiated prices, quotes and municipal collection expenses for various entities in the west Tennessee area.

**Note:** Some of these costs may be slightly outdated or they may be the mid-point of an approximate price range given verbally or in an actual proposal. In addition, the specific factors used to establish these prices vary (i.e. collections frequencies vary, disposal sites vary, etc.). None of the prices from private waste management companies should be considered as current firm cost proposals for any solid waste management services.

TYPICAL COLLECTION COSTS - WEST TENNESSEE AREA  
COST/HOUSEHOLD/MONTH

<u>Collection Area</u>	<u>Proposal Type</u>	<u>Collection</u>	<u>Recycling Option*</u>	<u>Disposal</u>	<u>Total</u>
Lauderdale Co.	WMI <sup>1</sup> -Bid	\$3.43	\$1.98	\$1.76	\$7.17
Lauderdale Co.	BFI <sup>2</sup> -Bid	4.81	1.98	0.90	7.69
Lauderdale Co.	BB <sup>3</sup> -Bid	6.71	1.64	2.70	11.05
Tipton Co.	BFI-Quote	Yes	No	Yes	7.50
Haywood Co.	BFI-Quote	7.50	No	No	7.50
Haywood Co.	WMI-Prop.	5.00	2.50	No	7.50
Tipton Co.	WMI-Prop.	Yes	No	Yes	6.50
DeSoto Co. (MS)	Co.-Rate	7.50	No	No	7.50
DeSoto Co. (MS)	BFI-Negotiated	Yes	Yes	No	5.00
Somerville	BFI-Bid	4.46	No	2.52	6.98
Somerville	City-Bid	7.35	No	2.99	10.34
Covington	City-Rate	8.00	No	No	8.00
Covington	WMI-Prop.	Yes	No	Yes	7.00
Ripley	WMI-Prop.	Yes	No	Yes	6.89
H.L.T.	BFI-Quote	6.00	1.75	No	7.75
H.L.T.	WMI-Quote	6.50	No	No	6.50
Average		\$6.11	\$1.97	\$2.17 =	\$10.25

\*Involves a separate collection vehicle and route for the collection of recyclables.

<sup>1</sup> Waste Management Inc.

<sup>2</sup> Browning Ferris Industries

<sup>3</sup> Barker Brothers

## County and Regional Transfer Stations

Option 4 and Option 5 include the construction and operation of transfer stations - facilities where solid wastes can be transferred from collection vehicles to larger capacity transport equipment. Option 4 includes a centrally located regional transfer station capable of handling the maximum daily residential solid waste generation from the H.L.T. Region. Option 5 includes a smaller transfer station centrally located in each county in the region capable of handling each county's maximum daily residential waste generation. The cost estimate for the regional transfer station and for the individual county transfer stations are provided below.

### REGIONAL TRANSFER STATION COST ESTIMATE RESIDENTIAL SOLID WASTE ONLY

General Discussion - During the 10-year planning period, the maximum annual solid waste generation from the H.L.T. Region before any waste reduction is approximately 76,657 tons/year. For cost estimating, it is assumed that one third of the total waste stream is from residential sources. Therefore any regional transfer facilities should be designed for approximately 30,000 tons/year or 115 tons/day (based on 5-day work week). The operating costs are based on the actual tonnage transferred or approximately 25,550 tons/year. Depending on the complexity of design and facility layout, the cost for facilities of this size can vary significantly. For cost estimating purposes the following typical costs from national data are used.

Typical regional transfer station costs:

Total Capital Cost = \$3,500 - \$10,500/ton of daily capacity  
Annual O & M = \$1.50 - \$4.00/annual tonnage  
Haul Cost = \$0.05 - \$0.30/ton/mile

For estimating purposes the following assumptions are used.

Total Capital Cost = \$5,000/ton @ 115 tons/day capacity  
= \$575,000  
@ 6% for 10 years = \$78,125/year

Annual O & M = \$2.5/ton @ 25,550 tons/year  
= \$63,875/year

Haul Cost = \$0.15/ton/mile @ 25,550 t/yr & 80 miles  
= \$306,600/year

Total Annual Regional Transfer Station Cost = \$448,600/yr  
Total Regional Cost Per Ton = \$17.56/ton

Estimated Cost/Household/Month = \$1.58

**COUNTY TRANSFER STATION COST ESTIMATES  
RESIDENTIAL SOLID WASTE ONLY**

General Discussion - There is significant variation in the solid waste generation from the three counties in the H.L.T. Region. There are also differences in haul distances. Therefore individual estimates for three county transfer stations are necessary. Each facility would be much simpler to construct and operate than a large regional facility, however the construction and O & M cost/ton will be higher. Typical costs for smaller transfer facilities are as follows.

Typical small transfer station costs:

Bldg & Site Cost = \$5,000 - \$15,000/ton of daily capacity  
 Equipment Cost = \$2,500 - \$7,500/ton of daily capacity  
 Annual O & M = \$3.00 - \$8.00/annual tonnage  
 Haul Cost = \$0.05 - \$0.30/ton/mile

The county transfer station costs are estimated as follows.

<u>Item</u>	<u>Haywood</u>	<u>Lauderdale</u>	<u>Tipton</u>
Maximum County Tons/Year	18,503	19,883	39,640
Maximum Residential Tons/Yr	6,168	6,628	13,213
Facility Design Capacity	6,500	7,000	13,500
Max. Tons/Day	25	27	52
Bldg & Site Cost/ton/day	\$6,000	\$6,000	\$6,000
Total Bldg & Site Cost	\$150,000	\$162,000	\$312,000
Cost/Yr @ 6% for 10 years	\$20,380	\$22,011	\$42,391
Equipment Cost/ton/day	\$3,000	\$3,000	\$3,000
Total Equipment Cost	\$75,000	\$81,000	\$156,000
Cost/Yr @ 6% for 10 years	\$10,190	\$11,005	\$21,196
O & M Cost/annual tonnage	\$4	\$4	\$4
Total O & M Cost	\$24,672	\$26,512	\$52,852
Haul Cost/Mile	\$0.15	\$0.15	\$0.15
Round-Trip Haul Miles	90	75	40
Total Haul Cost	\$83,268	\$74,565	\$79,278
Total Cost/Year	\$138,510	\$134,093	\$195,717
Total Cost/Ton	\$22.46	\$20.23	\$14.81
Cost/Household/Month	\$2.02	\$1.82	\$1.33

If the transfer stations in Options 4 and 5 are sized to handle the total solid waste generation from the region or from each county, the facility costs are estimated as follows. Note that the total cost per ton is relatively constant, however the residential, commercial, industrial and institutional users will all have to share the cost.

**REGIONAL TRANSFER STATION COST ESTIMATE  
TOTAL REGIONAL SOLID WASTE**

General Discussion - During the 10-year planning period, the maximum annual solid waste generation from the H.L.T. Region before any waste reduction is approximately 76,657 tons/year. Therefore any regional transfer facilities should be designed for approximately 80,000 tons/year or 300 tons/day (based on 5-day work week). Depending on the complexity of design and facility layout, the cost for facilities of this size can vary significantly. For cost estimating purposes the following typical costs from national data are used.

Typical regional transfer station costs:

Total Capital Cost = \$3,500 - \$10,500/ton of daily capacity  
 Annual O & M = \$1.50 - \$4.00/annual tonnage  
 Haul Cost = \$0.05 - \$0.30/ton/mile

For estimating purposes the following assumptions are used.

Total Capital Cost = \$5,000/ton @ 300 tons/day capacity  
 = \$1,500,000  
 @ 6% for 10 years = \$203,805/year

Annual O & M = \$2.5/ton @ 76,000 tons/year  
 = \$190,000/year

Haul Cost = \$0.15/ton/mile @ 76,000 t/yr & 80 miles  
 = \$912,000/year

Total Annual Regional Transfer Station Cost = \$1,305,805/yr  
 Total Regional Cost Per Ton = \$17.18/ton

Cost/Household/Month = \$1.55

**COUNTY TRANSFER STATION COST ESTIMATE  
TOTAL COUNTY SOLID WASTE**

Typical small transfer station costs:

Bldg & Site Cost = \$5,000 - \$15,000/ton of daily capacity  
 Equipment Cost = \$2,500 - \$7,500/ton of daily capacity  
 Annual O & M = \$3.00 - \$8.00/annual tonnage  
 Haul Cost = \$0.05 - \$0.30/ton/mile

The county transfer station costs are estimated as follows.

<u>Item</u>	<u>Haywood</u>	<u>Lauderdale</u>	<u>Tipton</u>
Maximum Tons/Year	18,503	19,883	39,640
Facility Design Capacity	20,000	20,000	40,000
Max. Tons/Day	77	77	154
Bldg & Site Cost/ton cap.	\$6,000	\$6,000	\$6,000
Total Bldg & Site Cost	\$462,000	\$462,000	\$924,000
Cost/Yr @ 6% for 10 years	\$62,772	\$62,772	\$125,544
Equipment Cost/ton cap.	\$3,000	\$3,000	\$3,000
Total Equipment Cost	\$231,000	\$231,000	\$462,000
Cost/Yr @ 6% for 10 years	\$31,385	\$31,385	\$62,772
O & M Cost/annual tonnage	\$4	\$4	\$4
Total O & M Cost	\$74,012	\$79,532	\$158,560
Haul Cost/Mile	\$0.15	\$0.15	\$0.15
Round-Trip Haul Miles	90	75	40
Total Haul Cost	\$249,790	\$223,684	\$237,840
Total Cost/Year	\$417,959	\$397,373	\$584,716
Total Cost/Ton	\$22.59	\$19.99	\$14.75
Cost/Household/Month	\$2.03	\$1.80	\$1.33

SUMMARY OF OPTION COSTS  
INCLUDES RESIDENTIAL WASTE ONLY

<u>Option</u>	<u>Description</u>	<u>Cost/ Household/Month</u>	<u>Total Annual System Cost</u>
Option 1 - Green-Box Conv. Centers		\$5.51	\$1,249,542
Option 2 - Roll-Off Conv. Centers		\$7.67	\$1,740,459
Option 2A - Option 2 w/Compaction		\$5.63	\$1,276,275
Option 3 - Collection w/Direct Haul			
	Private	\$6.00	\$1,368,000*
	Public**	\$8.00	\$1,824,000*
Option 4 - Collection - Regional Transfer & Haul			
	Private - Public	\$7.58	\$1,908,360*
	Public** - Public	\$9.58	\$2,364,360*
Option 5 - Collection - County Transfer & Haul			
Haywood	Private - Public	\$8.02	\$418,080*
	Public** - Public	\$10.02	\$500,880*
Lauderdale	Private - Public	\$7.82	\$546,162*
	Public** - Public	\$9.82	\$666,882*
Tipton	Private - Public	\$7.33	\$965,480*
	Public** - Public	\$9.33	\$1,217,960*

\*Based estimated households in District Needs Assessments

\*\*Public collection estimated to be \$2.00/household/month higher than private collection

D. PROPOSED COLLECTION AND TRANSPORTATION SYSTEM

1. System Goals and Service Area - Based on the analysis of collection and transportation options, the H.L.T. Region plans to incorporate a door-to-door collection system with the capacity to transfer solid wastes into larger transport vehicles, as needed, to adequately serve each county. The goal is to provide collection services to all unserved residents and businesses. Another goal of the system is to enhance recycling efforts throughout the Region and to facilitate any intermediate processing and/or storage of recyclables, problem wastes, etc.

2. Proposed Facilities - One multi-purpose facility which will include a transfer area, a staffed convenience center, a collection area for recyclables and a problem waste storage area will be constructed and operated in each county. The convenience center area will be designed and operated in accordance with the State guidelines. A tentative layout for these facilities is shown as Exhibit 5-1. The problem waste storage area is described in more detail in Chapter X - Problem Wastes. The transfer area design at each county's facility may vary depending

upon the relative need for waste transfer (i.e. distance to landfill, accessibility to municipal collection trucks, etc.).

3. Implementation Schedule - A formal bid for collection and transportation services will be let by the Region prior to August 31, 1995. All unserved, unincorporated areas, any municipality and any business or industry which wishes to do so will be included in the bid. Bid documents will include several alternative bid proposals for collection and transportation systems such as collection with direct haul, collection with transfer and haul, collection with blue bag recycling, etc. in order to select the best system for each county and the Region.

Prior to October of 1996, each county will continue to operate its existing Class I landfill if capacity is available. When the private collection contract is awarded prior to October, 1996, all wastes from an individual county will be directed to that county's landfill. After that date, wastes will be collected by a private contractor and hauled directly to the most economical Class I landfill or collected and taken to the individual county transfer facilities for transfer and hauling. The multipurpose facility containing the transfer station will be constructed at the each county landfill site prior to awarding the Regional collection contract.

#### E. 10 YEAR STAFFING AND TRAINING

It is anticipated that a minimum of two (2) and a maximum of four (4) additional staff will be needed in each county for the proposed collection and transportation system. The staffing positions required for the system are described below. All staff positions will require training for specific responsibilities as well as cross training to handle other positions. Training will include basic operations, safety, policy, regulations, and emergency response. Any required State training will be achieved after the State announces requirements and availability of training courses.

<u>Position Description</u>	<u>Staff Required Per County</u>
Convenience Center Operator	1 full time
Recyclables Collection Area Operator	No additional staff
Problem Waste Area Operator	No additional staff
Blue Bag Separators	2 part time
Transfer Station Operator	1 full time

#### F. COST ESTIMATES AND 10-YEAR BUDGET

The anticipated door-to-door private collection cost for the Region is approximately \$6.00 per household per month. Based on an estimated 19,000 households in the Region which will be served by the door-to-door collection system, the total cost per year is approximately \$1,368,000. The 8-year budget (1996-2003) for the

Regional collection and transportation system by county is provided below. Increases in costs due to salary, fuel costs, utility costs, etc. are not included in the estimates.

**8-YEAR BUDGET, 1996-2003**  
**COSTS INCLUDE TOTAL SOLID WASTE STREAM FROM EACH COUNTY**

<u>County</u>	<u>Multi-Purpose Facility</u>		<u>Collection Cost</u>	<u>Total Cost</u>
	<u>Capital Cost</u>	<u>Operating Cost</u>		
Haywood	\$94,157	\$323,802	\$248,400	\$666,359
Lauderdale	94,157	303,216	362,160	759,533
Tipton	188,316	396,400	757,440	1,342,156

**G. 10-YEAR IMPLEMENTATION PLAN**

The implementation plan for the collection and transportation system is described below. A complete implementation schedule for the Regional Plan is provided in Chapter XI.

February 1, 1995 - Complete design of multi-purpose facilities

August 15, 1995 - Funding sources finalized; monthly household fee for residential services; tipping fee at the facility for other private haulers, industries, etc.

September 1, 1995 - Open bids for Regional collection

October 15, 1995 - Award contract for Regional collection; service to begin January 1, 1996

November 1, 1995 - Multi-purpose facilities completed

December 1, 1995 - Hire additional staff for facility

December 15, 1995 - Mail survey forms to municipalities with collection systems to obtain annual information

January 1, 1996 - Begin private collection contract

January 1, 1996 - Initiate billing system for monthly residential service fee; initiate tipping fee at multi-purpose facility

March 1, 1995-2003 - Annual progress report due to State

**H. COLLECTION AND TRANSPORTATION SYSTEM MAP**

Existing and new elements of the regional collection and transportation system are depicted on Map No. 5-1.



## CHAPTER VI

### RECYCLING AND SOURCE REDUCTION

#### A. GENERAL

As stated in Chapter V, the Region will attempt to reach the 25% waste reduction goal by using a combination of activities including diversion of wastes to Class III/IV landfills, recycling and source reduction. Recycling refers to separating specific materials out of the solid waste stream in order to reuse them in some manner. This can be done at any time between the point of waste generation and final disposal at the landfill. Source reduction refers to modifying an activity which produces solid waste in order to generate less waste. Examples include changing an industrial process resulting in less waste or buying reusable containers for home use. Source reduction is most effective when it eliminates a waste material which is difficult to recycle.

#### B. REGIONAL NEEDS

The Regional needs for recycling and source reduction are as follows:

- 1) Determine the amount of waste which was reduced at the source and recycled between 1985 and 1993.
- 2) Establish residential recycling programs and activities.
- 3) Establish industrial and commercial recycling programs and activities.
- 4) Establish recycling programs for government offices and institutions.
- 5) Encourage source reduction through public information and education programs.

#### C. SPECIFIC ACTIONS PLANNED

##### 1. Regional Goals

Regional goals for overall waste reduction are presented in Chapter IV. This Chapter specifically addresses waste recycling and source reduction options which will be a part of the Regional Plan. As mentioned in Chapter IV, these options are not expected to be as productive initially as waste diversion in reaching the 25% reduction goal, but the long term benefits are considered very important.

The Regional goals are to establish recycling opportunities in each of the economic sectors mentioned above and to promote source reduction of wastes which are difficult to recycle.

## 2. Regional Strategies

a. **Residential Recycling** - As part of the county-wide house-to-house collection system to be implemented in each county, a residential blue-bag recycling program will be initiated. This system requires the homeowner to separate specific recyclables and place them into a collection bag of a different color than regular household garbage. The bag is typically blue. The private contractor providing house-to-house collection will collect both regular garbage bags and these blue bags. The collection vehicle will then unload both the regular bags and blue bags on a concrete pad at the transfer station or other approved site. Blue bags will then be pulled out manually and loaded into another vehicle for hauling to a recycling facility. Both the Class I materials and the blue-bag materials will be weighed at the county facilities and at the facilities accepting the materials for disposal or processing. Documentation of all recycled materials will be required. Due to the present nature of recycling markets, the Region will not attempt to directly market these recyclable materials to end users.

It is anticipated that the effectiveness of this blue-bag system will start small and gradually improve as public information and education efforts become effective. Although the system will serve all county residents in unincorporated areas and municipalities included in the collection contract, it will take considerable time to change the general reluctance to household recycling. These efforts are described in Chapter IX. The Regional goal for waste recycling tonnage is presented in Table IV-2.

In addition to the blue-bag system, the Region also plans to provide a collection area for residential recyclables at each proposed multi-purpose facility. This collection area will be staffed for assisting and educating the public. Drop-off bins will be provided for aluminum and specific plastics, metal, cardboard, and paper. A proposed layout for the multi-purpose facility is shown as Exhibit V-1.

At the time of this writing, Haywood County is also siting a recycling center on county property in the City of Brownsville. The facility will accept cardboard, aluminum, ferrous metals, newspaper, computer paper, glass and plastics from homeowners, businesses, industries, etc. The site will be completely fenced and staffed during operating hours. Equipment includes 3-42 cubic yard roll-off receivers, 4-20 cubic yard roll-off receivers, 1 glass crusher and 1 baler in an enclosure. Haywood County will attempt to find markets for all recycled materials. Additional information on this facility and the quantities of materials handled will be provided in annual Plan updates.

b. **Commercial and Industrial Recycling** - Efforts to encourage and assist businesses and industries in waste recycling and source reduction are addressed in Chapter IX. As stated in previous chapters, some solid waste reduction information from industries

in the Region has been accumulated as of March, 1994. This information is presented in Table VI-1. It is obvious from the data that many industries have the potential to recycle and reduce waste generation, although few are realizing that potential. It also obvious that some industries have reduced large tonnages of solid waste since 1985, and these should be accounted for by the Region. Annual Plan updates will include additional information as it becomes available.

TABLE VI-1  
INDUSTRIAL SOLID WASTE SURVEY  
RECYCLING AND SOURCE REDUCTION BETWEEN 1985 AND 1993  
DATA ACCUMULATED AS OF MARCH, 1994  
(TONS/YEAR)

	<u>Haywood</u>	<u>Lauderdale</u>	<u>Tipton</u>
Major Industrial Waste Generators	14	21	19
Number of Employees	NA	NA	2,717
Number of Industries Responding*	9	14	15
Number of Employees	NA	3,000+/-	2,372
 <u>Waste Recycling and Source Reduction</u>			
Paper		320	64
Cardboard	498	395	455
Glass			
Aluminum		10	1
Other Metals	170	40	
Plastics			
Resins			
Rubber & Leather			
Textiles			
Pallets		605	40
Other Wood		3,600	
Yard Waste			
Food Waste			
Dirt			
Other	---	---	---
 Total	 668	 4,970	 560

\*Total as of March 1994, Specific industry names are not identified in the Plan

### 3. Staffing

No additional staffing is needed for the recycling and source reduction programs. Residential blue-bag recycling will be staffed by the private collection contractor and the additional staff discussed in Chapter V. Other residential, industrial, commercial, governmental and institutional programs will be initiated by existing county public works staff or by volunteers, civic organizations, county agricultural extension office personnel, etc.

### 4. 10 - Year Budget

The majority of the budget for the programs discussed in this chapter is included in Chapter V. Additional funds needed for public information and education are included in Chapter IX.

### 5. Funding

See Chapters V and IX.

### 6. Collection and Submitting Data

As stated previously, each county will keep records at their multi-purpose facility of all incoming wastes and outgoing wastes and recyclable materials. In addition, documentation will be required from the recycling facility of all wastes which were actually recycled. This data will be submitted annually to the State as required for Plan updates and progress reports. The Region will continue to obtain data from local businesses and industries via mail and direct phone contact. Governmental agencies and institutions will also be contacted directly on an annual basis (minimum) to obtain recycling data.

### 7. Implementation Schedule

See Chapters V and IX.

### 8. Allocation of Responsibilities

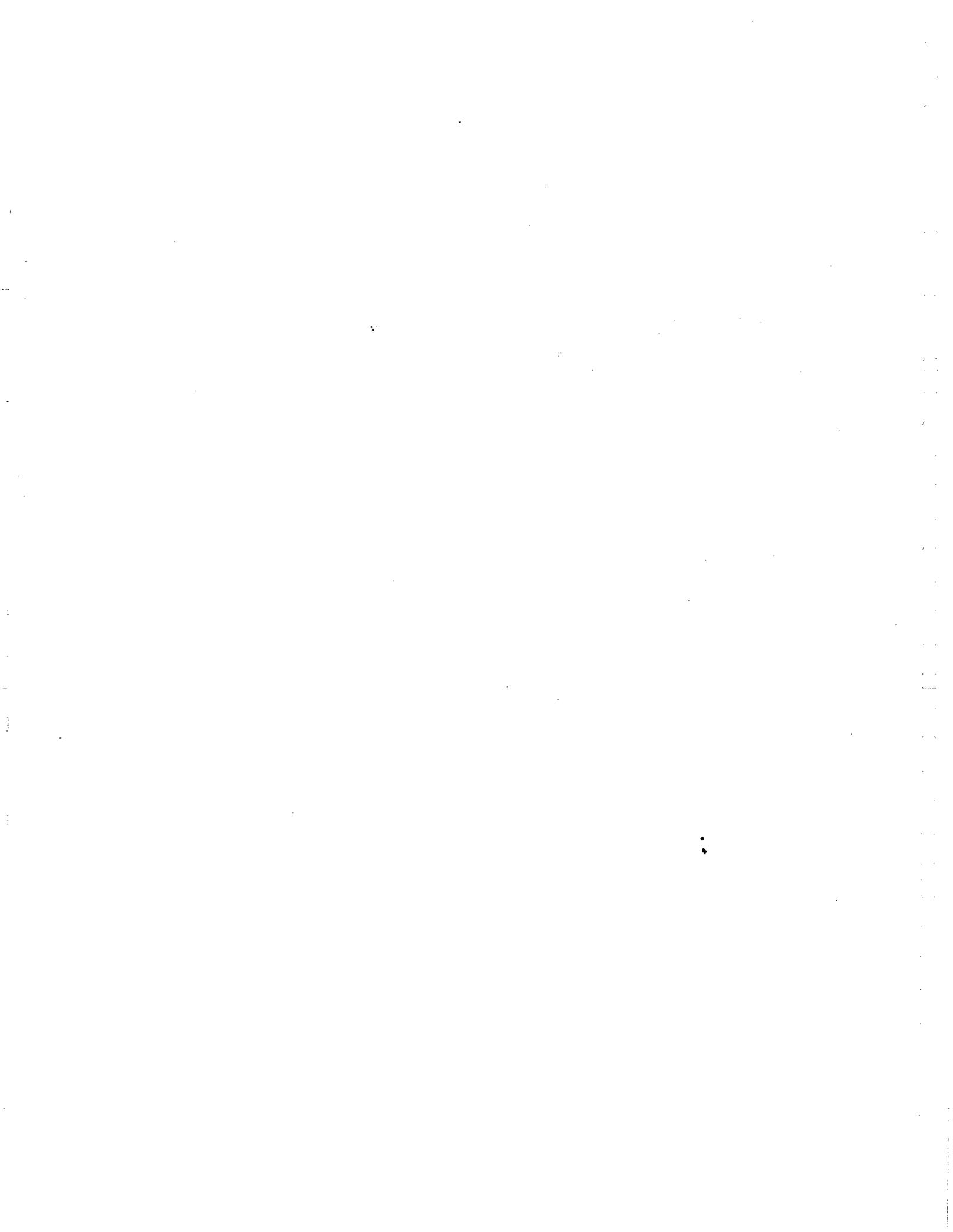
Each county in the Region is responsible for all recycling and source reduction programs described herein and for reporting information back to the Regional Board. Individual municipalities providing separate collection and transportation services are responsible for developing, implementing, documenting and reporting recycling activities to the Regional Board on an annual basis for State reporting purposes. Each county in the Region is responsible for collecting and reporting recycling and source reduction information documented by private waste generators (i.e. businesses, industries, etc.).

CHAPTER VII  
COMPOSTING, SOLID WASTE PROCESSING,  
WASTE-TO-ENERGY AND  
INCINERATION CAPACITY

A. REGIONAL NEEDS FOR COMPOSTING, WASTE-TO-ENERGY AND  
INCINERATION

The majority of all waste processing, waste-to-energy and incineration processes require larger amounts of solid waste than are presently available in the HLT Region to make them feasible and beneficial. In addition, many processes are very difficult to permit and operate in an environmentally acceptable manner. The most feasible options for waste processing include composting of leaves and chipping of tree limbs to produce mulch. These are potentially easy operations which could count toward the 25% reduction goal, however, the overall reduction in tonnage from diverting these materials from Class I landfills is normally small.

At this time the Region does not plan to incorporate any waste processing options. Any municipal or private waste processing operations such as those discussed above which affect the Regional Plan will be reported annually in Plan updates.



## CHAPTER VIII

### DISPOSAL

#### A. GENERAL DISCUSSION

##### 1. Class I Landfills

The State - Solid Waste Management Act along with the Federal - Subtitle D Landfill Regulations have significantly altered the way local communities view solid waste disposal. The siting, design, development, operation, closure and post-closure of solid waste landfills are all very technical and expensive. Therefore the solid waste disposal alternatives for the H.L.T. Region must be evaluated very carefully for effective long range waste management planning.

It is certain that the H.L.T. Region will need access to a Class I Landfill for disposal of the vast majority of its solid waste regardless of the how effective its reduction/recycling programs may become. In addition, there is a great need for access to a Class III/IV Landfill facility for disposal of landscaping and land clearing waste, construction/demolition waste and other similar types of waste. Diversion of these types of waste from Class I facilities will be credited toward the 25% waste reduction goal.

At this time, the Region has two primary alternatives for long term Class I disposal - 1) development of a regional Class I landfill, or 2) contract with a privately owned landfill for disposal. The most accessible private landfill facilities are either of the two BFI sites located in Shelby County, Tennessee, the Waste Management facility near Houston, Mississippi, the Waste Management facility in Benton County, Tennessee or the Barker Brothers facility in Obion County, Tennessee. In addition, there are at least four(4) other proposed Class I landfill sites in West Tennessee in various stages of the State permitting process. Due to the economics of landfill development, operation and closure, the counties in the H.L.T. Region will experience very high costs per ton for disposal if they operate individual county landfills. The combined regional waste stream of approximately 70,000 tons/year will most likely not be enough make a regional Class I landfill feasible over the 10-year period. The size, location and existing gate tipping fees at the BFI landfill in Millington, Tennessee make it the most attractive privately operated site for the region as of this date, however the competitive edge that BFI now possesses may change in the future due to competition from other nearby facilities. The best private landfill alternative for the H.L.T. Region may change accordingly. The presence of other existing and planned Class I facilities in the area should provide adequate competition and price controls for the foreseeable future. A summary of the estimated public vs. private costs for disposal are provided below.

## H.L.T. REGIONAL CLASS I LANDFILL COST ESTIMATE

### Design Assumptions:

Annual Tonnage = 70,000 tons/year  
 Minimum Site Life = 20 years  
 In-place waste compaction = 1,000 lbs/CY  
 Volume of daily/intermediate cover = 20 % of total airspace  
 Average landfill waste depth = 40 feet  
 Average landfill excavation depth = 20 feet

### Calculation of Landfill Acreage

**Landfill Airspace**  
 70,000 T/YR x 2,000 LB/T x CY/1,000 LB = 140,000 CY/YR  
 140,000 CY/YR x 1.2 x 20 YR x 27 CF/CY = 90,720,000 CF  
 90,720,000 CF x 1/40 FT DEPTH = 2,268,000 SF  
 2,268,000 SF x 1 ACRE/43,560 SF = 52 ACRES

USE 60 ACRES FOR LANDFILL AREA  
 USE 100 ACRES FOR TOTAL LAND AREA NEEDED

### PRE-CONSTRUCTION AND CONSTRUCTION COSTS

<u>Item Description</u>	<u>Unit Cost</u>	<u>Total Cost</u>
Site Characterization	\$100,000 LS	\$ 100,000
Engineering/Design	300,000 LS	300,000
Legal	50,000 LS	50,000
Land Purchase @ \$2,500/AC	250,000 LS	250,000
Clearing, Grubbing & Access Rds	5,000/AC	500,000
Excavation	2,000/AC-FT	2,400,000
Flexible Membrane Liner	28,000/AC	1,680,000
Clay Liner (2 FT = 200,000 CY +/-)	8/CY	1,600,000
Leachate Collection System		
Pipe(600 FT/AC @ \$15/FT)	9,000/AC	
Pipe Filter Fabric(6,000 SF/AC @ \$.2/SF)	1,200/AC	
Drainage Layer(1,613 CY/AC @ \$10/CY)	16,130/AC	
Filter Fabric	8,712/AC	
Cushion(1,613 CY/AC @ \$4/CY)	6,452/AC	
Manholes(2/AC @ 1,500 EA)	3,000/AC	
Pumping Station (\$60,000)	1,000/AC	
Sub-Total	45,494/AC	2,729,640
Scales/Fencing	100,000 LS	100,000
Buildings	150,000 LS	150,000
Drainage/Sedimentation Ponds	700/AC	70,000
Utilities (500 FT)	50/LF	25,000
Gas Management Systems	3,000/AC	180,000
Groundwater Monitoring Wells(14)	4,000 EA	56,000
CQA	5,000/AC	300,000
TOTAL (1994 DOLLARS)		\$10,490,640
ANNUAL COST @ 8% FOR 20 YEARS		\$ 1,068,471

H.L.T. REGIONAL CLASS I LANDFILL COST ESTIMATE (cont.)

OPERATION COSTS

Labor (5 @ \$25,000 EA x 1.2)		\$150,000/YR
Equipment (\$3/Ton of Waste)		210,000/YR
Leachate Treatment (100 Gal/AC-Day @ \$.05/Gal)		109,500/YR
Daily Cover (\$.75/Ton of Waste)		52,500/YR
Environmental Monitoring (\$1,000/AC)		<u>60,000/YR</u>
ANNUAL COST (1994 DOLLARS)		\$582,000/YR

CLOSURE COSTS

Flexible Membrane Liner	\$28,000/AC	\$1,680,000
Clay Cap (2 FT = 200,000 CY/AC +/-)	5/CY	1,000,000
Topsoil (1 FT = 100,000 CY/AC +/-)	2/CY	200,000
Seeding	1,000/AC	60,000
Sedimentation Control	500/AC	30,000
CQA	2,000/AC	<u>120,000</u>
TOTAL (1994 DOLLARS)		\$3,090,000
ANNUAL COST @ 8% FOR 20 YEARS)		\$314,716

POST CLOSURE

Routine Maintenance	\$500/AC-YR	\$30,000/YR
Annual Inspections/Reports	5,000/YR	5,000/YR
Leachate Treatment(50 Gal/AC-DAY @ \$.05/Gal)		54,750/YR
Gas Control	15,000/YR	15,000/YR
Environmental Monitoring(\$1,000/AC-YR)		<u>60,000/YR</u>
ANNUAL COST (1994 DOLLARS)		\$164,750/YR

SUMMARY (COST PER YEAR IN 1994 DOLLARS)

Pre-Construction/Construction	\$ 1,068,471/YR
Operation	582,000/YR
Closure	314,716/YR
Post Closure	<u>164,750/YR</u>
TOTAL ANNUAL COST	\$ 2,129,937/YR

COST PER TON = \$2,129,937/YR x 1 YR/70,000 TONS = \$30.43/TON

COST/HOUSEHOLD/MONTH = \$30.43/TON X 0.09 TONS/HSE/MONTH  
= \$2.74/HOUSEHOLD/MONTH

## PRIVATE LANDFILL ESTIMATED DISPOSAL COSTS

The current gate rate at private landfills in the area for municipal solid waste is approximately \$25.00/ton (not including an additional State assessed solid waste fee of \$0.85/ton). Based on various contract rates now in effect with various municipalities in the area, the H.L.T. Region could expect a contract rate beginning at approximately \$23.00/ton. Also, typical private landfill disposal contracts with municipalities include an annual escalating factor of approximately 8% to 10% per year for 3 to 5 years followed by increases based on the Consumer Price Index(CPI) for the remainder of the contract.

If the H.L.T. Region began a disposal contract with a private disposal facility for a 10-year period beginning at \$23.00 per ton and increasing at 8% each year for 5 years followed by CPI increases of 6% for 5 more years, the disposal fees will be as follows.

<u>Year</u>	<u>Rate/Ton</u>
1994	\$23.00
1995	24.84
1996	26.83
1997	28.97
1998	31.29
1999	33.17
2000	35.16
2001	37.27
2002	39.50
2003	41.87

From the cost estimates provided above it appears that the H.L.T. Region has the potential to develop a regional Class I landfill facility which could be competitive with private landfills in the area within a few years. It should be noted that the landfill tipping fee for the H.L.T. alternative of \$30.43/ton will increase annually as do the private fees. Operation costs will increase annually, and the cost for developing new disposal cells will be higher each time additional landfill capacity is needed. The estimate in this report assumes that the entire 60 acre fill area of a Regional landfill is developed at one time, when in fact it would be developed in phases. Each new disposal cell constructed will have a life expectancy of approximately 3 to 5 years. These increases in construction and operation costs will affect both private and public facilities, but the impact on tipping fees at each facility is difficult to determine.

There are several other significant factors involved in the public vs. private decision. These include the unknown costs of unknown future liabilities, the difficulty of siting new landfills due to public opposition, the legal issues of flow control, and uncertainties about future environmental regulations. Problems in any of these areas will be a tremendous

burden for a Regional facility to resolve. The major question about contracting with private facilities is long term cost control. The presence of other private landfills in the area competing for the solid waste stream should keep future rates reasonable.

Although it is recommended that the H.L.T. Region contract with a private Class I disposal facility at this time, each county should keep its individual Class I permit active with the TDEC if possible. In the event that a public Class I landfill for the Region becomes more feasible, these existing Class I permits will be extremely valuable. The potential for the H.L.T. Region to build and operate a public landfill at any time in the future should be a factor in all price negotiations with privately owned landfills.

## 2. Class III/IV Landfills

The cost for development, operation, closure and post-closure of Class III/IV landfills is significantly lower than Class I landfills. The waste disposed of in these facilities will also be credited toward the 25% solid waste reduction goal. Even if a Class I landfill is not constructed in the Region, Class III/IV facilities should be evaluated. A summary of these costs along with a comparison to current private landfill gate rates for disposing of this type of material is provided below.

### CLASS III/IV LANDFILL COST ESTIMATES

#### Design Assumptions:

	Region	Haywood	Lauderdale	Tipton
Annual Tonnage*	16,000	4,000	4,000	8,000

\* Roughly Estimated to be 20% of Total Waste Stream (+/-)

Minimum Site Life = 20 years

In-place waste compaction = 1,000 lbs/CY

Volume of daily/intermediate cover = 5 % of total airspace

Average landfill waste depth = 40 feet

Average landfill excavation depth = 20 feet

	Region	Haywood	Lauderdale	Tipton
Landfill Acreage	16	4	4	8
Total Acreage	25	10	10	15

**PRE-CONSTRUCTION AND CONSTRUCTION COSTS - REGIONAL FACILITY**

<u>Item Description</u>	<u>Unit Cost</u>	<u>Total Cost</u>
Site Characterization	\$ 40,000 LS	\$ 40,000
Engineering/Design	70,000 LS	70,000
Legal	10,000 LS	10,000
Land Purchase @ \$2,500/AC	62,500 LS	62,500
Clearing, Grubbing & Access Rds	5,000/AC	80,000
Excavation	2,000/AC-FT	640,000
Clay Liner (2 FT = 52,000 CY +/-)	8/CY	416,000
Scales/Fencing	60,000 LS	60,000
Buildings	75,000 LS	75,000
Drainage/Sedimentation Ponds	400/AC	10,000
Utilities (500 FT)	50/LF	25,000
Gas Management Systems	1,000/AC	16,000
Groundwater Monitoring Wells(4)	4,000 EA	16,000
CQA	2,000/AC	<u>32,000</u>
<b>TOTAL (1994 DOLLARS)</b>		<b>\$ 1,552,500</b>
<b>ANNUAL COST @ 8% FOR 20 YEARS</b>		<b>\$ 158,122</b>

**OPERATION COSTS - REGIONAL FACILITY**

Labor (3 @ \$25,000 EA x 1.2)	\$ 90,000/YR
Equipment (\$2/Ton of Waste)	32,000/YR
Daily Cover (\$.25/Ton of Waste)	4,000/YR
Environmental Monitoring (\$500/AC)	<u>8,000/YR</u>
<b>ANNUAL COST (1994 DOLLARS)</b>	<b>\$134,000/YR</b>

**CLOSURE COSTS - REGIONAL FACILITY**

Clay Cap (2 FT = 52,000 CY/AC +/-)	\$ 5/CY	260,000
Topsoil (1 FT = 26,000 CY/AC +/-)	2/CY	52,000
Seeding	1,000/AC	16,000
Sedimentation Control	200/AC	3,200
CQA	1,000/AC	<u>16,000</u>
<b>TOTAL (1994 DOLLARS)</b>		<b>\$ 347,200</b>
<b>ANNUAL COST @ 8% FOR 20 YEARS)</b>		<b>\$ 35,362</b>

**POST CLOSURE - REGIONAL FACILITY**

Routine Maintenance	\$200/AC-YR	\$ 3,200/YR
Annual Inspections/Reports	3,000/YR	3,000/YR
Gas Control	5,000/YR	5,000/YR
Environmental Monitoring(\$500/AC-YR)		<u>8,000/YR</u>
<b>ANNUAL COST (1994 DOLLARS)</b>		<b>\$ 19,200/YR</b>

**SUMMARY (COST PER YEAR IN 1994 DOLLARS) - REGIONAL FACILITY**

Pre-Construction/Construction	\$ 158,122/YR
Operation	134,000/YR
Closure	35,362/YR
Post Closure	<u>19,200/YR</u>
<b>TOTAL ANNUAL COST</b>	<b>\$ 346,684/YR</b>

**COST PER TON = \$346,684/YR x 1 YR/16,000\* TONS = \$21.67/TON**

**COST PER CY = \$21.67/TON x 0.25 TONS/CY = \$5.42/CY**

\* Estimated annual Class III/IV material for the Region

**PRE-CONSTRUCTION AND CONSTRUCTION COSTS - COUNTY FACILITIES**

<u>Item Description</u>	<u>Unit Cost</u>	<u>Haywood</u>	<u>Lauderdale</u>	<u>Tipton</u>
Site Characterization	LS	\$ 20,000	\$ 20,000	\$ 30,000
Engineering/Design	LS	40,000	40,000	50,000
Legal	LS	5,000	5,000	8,000
Land	2,500 AC	25,000	25,000	37,500
Clearing\Access	5,000/AC	20,000	20,000	40,000
Excavation	2,000/AC-FT	160,000	160,000	320,000
Clay Liner	26,000/AC	104,000	104,000	208,000
Scales/Fencing	LS	50,000	50,000	55,000
Buildings	LS	50,000	50,000	60,000
Drainage/Sed.Ponds	400/AC	4,000	4,000	6,000
Utilities (500 FT)	50/LF	25,000	25,000	25,000
Gas Management	1,000/AC	4,000	4,000	8,000
Monitoring Wells(4)	4,000 EA	16,000	16,000	16,000
CQA	2,000/AC	<u>8,000</u>	<u>8,000</u>	<u>16,000</u>
<b>TOTAL (1994 DOLLARS)</b>		<b>\$531,000</b>	<b>\$531,000</b>	<b>\$879,500</b>
<b>ANNUAL COST</b>				
<b>@ 8% FOR 20 YEARS</b>		<b>\$ 54,082</b>	<b>\$ 54,082</b>	<b>\$ 89,577</b>

**OPERATION COSTS - COUNTY FACILITIES**

Labor(3 @ \$25,000 EA x 1.2)	\$90,000/YR	\$90,000/YR	\$90,000/YR
Equipment(\$2/Ton of of Waste)	8,000/YR	8,000/YR	16,000/YR
Daily Cover (\$.25/Ton of Waste)	1,000/YR	1,000/YR	2,000/YR
Monitoring(\$500/AC)	<u>2,000/YR</u>	<u>2,000/YR</u>	<u>4,000/YR</u>
<b>ANNUAL COST(1994 DOLLARS)</b>	<b>\$101,000/YR</b>	<b>\$101,000/YR</b>	<b>\$112,000/YR</b>

**CLOSURE COSTS - COUNTY FACILITIES**

Clay Cap (3,250 CY/ACRE @ \$5/CY)	\$65,000	\$65,000	\$130,000
Topsoil (1,625 CY/ACRE @ \$2/CY)	13,000	13,000	26,000
Seeding (@ \$1,000/AC)	4,000	4,000	8,000
Sedimentation Control (@ \$200/AC)	800	800	1,600
CQA (@ \$1,000/AC)	<u>4,000</u>	<u>4,000</u>	<u>8,000</u>
<b>TOTAL (1994 DOLLARS)</b>	<b>\$86,800</b>	<b>\$86,800</b>	<b>\$173,600</b>
<b>ANNUAL COST @ 8% FOR 20 YEARS)</b>	<b>\$8,840</b>	<b>\$8,840</b>	<b>\$17,681</b>

**POST CLOSURE - COUNTY FACILITIES**

Maintenance (@ \$200/AC-YR)	\$ 800/YR	\$ 800/YR	\$ 1,600/YR
Inspections/Reports (@ \$2,000/YR)	2,000/YR	2,000/YR	2,000/YR
Gas Control (@ \$3,000/YR)	3,000/YR	3,000/YR	3,000/YR
Monitoring (@ \$500/AC-YR)	<u>2,000/YR</u>	<u>2,000/YR</u>	<u>4,000/YR</u>
<b>ANNUAL COST (1994 DOLLARS)</b>	<b>\$7,800/YR</b>	<b>\$7,800/YR</b>	<b>\$10,600/YR</b>

**SUMMARY (COST PER YEAR IN 1993 DOLLARS) - COUNTY FACILITIES**

Pre-Const/Const	\$ 54,082/YR	\$ 54,082/YR	\$ 89,577/YR
Operation	101,000/YR	101,000/YR	112,000/YR
Closure	8,840/YR	8,840/YR	17,681/YR
Post Closure	<u>7,800/YR</u>	<u>7,800/YR</u>	<u>10,600/YR</u>
<b>TOTAL ANNUAL COST</b>	<b>\$171,722/YR</b>	<b>\$171,722/YR</b>	<b>\$229,858/YR</b>
<b>COST PER TON</b>	<b>\$42.93/TON</b>	<b>\$42.93/TON</b>	<b>\$28.73/TON</b>
<b>COST PER CY</b>			
(@ 0.25 TONS/CY)	\$10.73/CY	\$10.73/CY	\$7.18/CY

**CURRENT PRIVATE LANDFILL COST PER CY = \$6.00/CY\* (+/-)**

\*Does not include hauling costs

**B. DEMAND VS. SUPPLY OF DISPOSAL CAPACITY**

Due to the Regional plan to contract with a private Class I landfill for disposal services, there is a great excess of disposal capacity for the 10-year planning period and beyond. The BFI facility in Millington, Tennessee has a capacity which exceeds 40 years. When the respective capacities of the other Class I landfills in West Tennessee are included, it is obvious that there is ample Class I access for many years. The two tables requested in the State planning guidelines (Table Nos. VIII-1 and VIII-2) are not included in the Regional Plan due to information which is not available or not pertinent on existing capacity at private Class I facilities in the area.

### C. PROTECTING EXCESS CAPACITY

The vast amount of excess capacity in the West Tennessee area appears to be very stable at this time. In order to protect the Regional's interest in future capacity, the Solid Waste Board will make annual inquiries of the private landfill owner about remaining capacity. The Board will also contact the State regulatory agencies (both in Tennessee and Mississippi) and ask for similar information on all Class I facilities in the area. Should the capacity for the next 5-year period appear suspect, the Region will begin evaluation of reopening a Class I facility in one of the three counties to serve the Region or another disposal option. The Plan will be modified as needed.

### D. FUNDING

Funding for the private Class I landfill costs and for the public Class III/IV landfill costs will be obtained through user fees. Based on the estimated costs discussed above and the estimated number of residential users, the Class I landfill disposal will cost approximately \$2.00 per household per month while the Class III/IV landfill disposal will cost from \$1.00 to \$2.00 per household per month. This Class III/IV cost is based on an estimated 50% proportion of Class III/IV material originating from residential users. Tipping fees from other private haulers will account for the remainder of the Class III/IV landfill funding. The user fee system is discussed in more detail in Chapter XI.

### E. IMPLEMENTATION SCHEDULE

The implementation plan for the Class I and Class III/IV disposal system is outlined below. A complete implementation schedule for the Regional Plan is provided in Chapter XI.

August 1, 1994 - Submit request to the State for reclassification of acreage at the existing Class I site for use as Class III/IV landfill

January 1, 1995 - Initiate tipping fee at Regional Class III/IV landfill pending reclassification of Class I acreage by the State

May 1, 1996 - Open bids for Regional Class I private disposal service

July 1, 1996 - Award contract for Regional Class I disposal service; service to begin October 1, 1996

August 15, 1996 - Funding sources finalized; monthly household fee for residential disposal services; tipping fee at the Regional Class III/IV landfill for other private haulers, industries, etc.

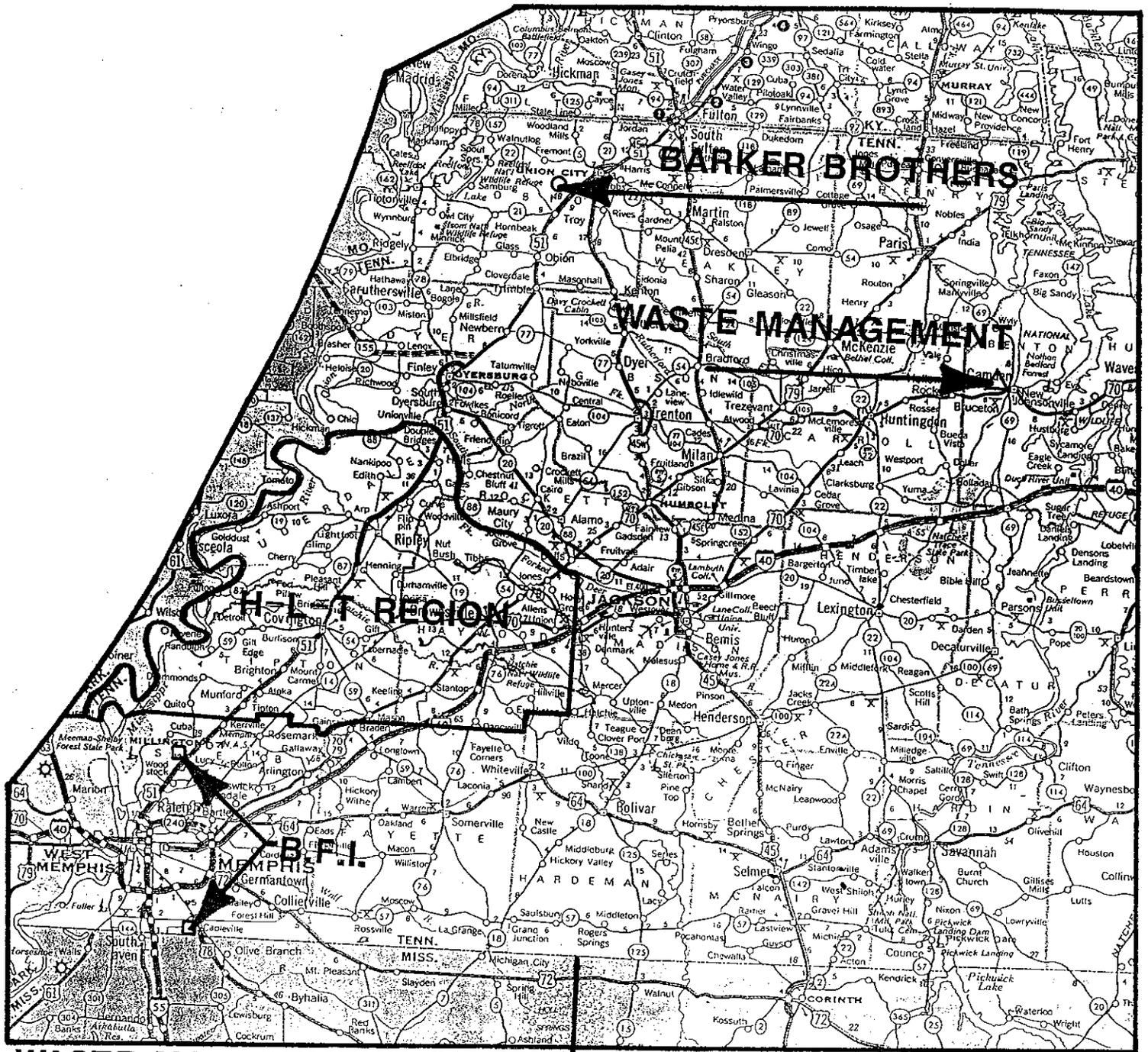
October 1, 1996 - Begin contract period for private Class I disposal

February 1, 1997-2003 - Request information from private Class I landfill contractor and Tennessee and Mississippi solid waste agencies about remaining Class I landfill capacities

March 1, 1995-2003 - Annual progress report due to State

F. LOCATION OF DISPOSAL FACILITIES

See Map VIII-1 for the location of Class I landfill facilities in the area.



**WASTE MANAGEMENT SITE**  
**HOUSTON, MS 100 MILES (+/-)**

**MAP VIII - 1**

○ BARKER BROTHERS

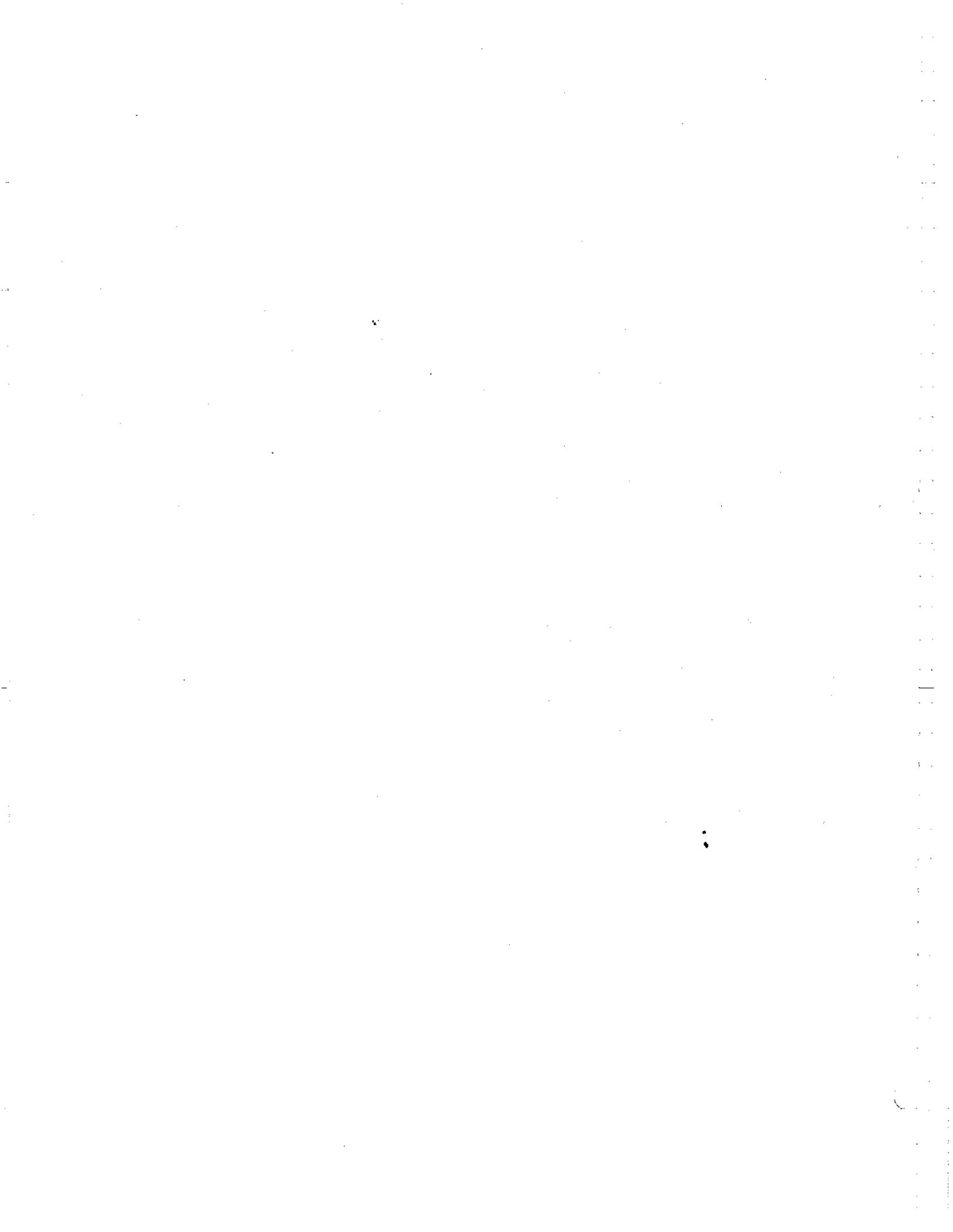
□ B.F.I.

△ WASTE MANAGEMENT



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## CHAPTER IX

### PUBLIC INFORMATION AND EDUCATION

#### A. REGIONAL NEEDS FOR INFORMATION AND EDUCATION

The HLT planning region, like all other planning regions in the State, will need to develop additional public information and education programs regarding solid waste issues, options, costs and goals. The HLT information and education programs will need to address general solid waste issues and also focus on the specific Plan adopted by the Region. Separate programs will be needed for the general public, businesses, industries, schools, government offices and other entities which are critical to the solid waste Plan.

#### B. SPECIFIC PLANS FOR INFORMING AND EDUCATING

##### 1. Regional Goals and Objectives

The primary goals of the information and education programs are as follows:

- 1) educate the general public about what solid waste is and why it is important to their County and to them personally,
- 2) inform the general public, businesses, industries, etc. about the specific components of the solid waste management plan and how the Plan affects them personally, and
- 3) strongly encourage the support and participation of all individuals and entities in each County to make the Plan a success.

##### 2. Target Groups and Audiences

As stated above the Region plans to provide solid waste information and education to the general public, businesses, industries, schools, and government entities. To accomplish this goal the Region will utilize existing government organizations and staff, public service groups, educators and volunteers to help reach as many target groups and audiences as possible. These include the University of Tennessee Center for Industrial Services, County Technical Assistance Service, Municipal Technical Assistance Service, County Extension Office's, local solid waste board members and public works staff, and selected school officials and teachers. Some of the target groups and audiences for solid waste information and education are as follows:

General Public - civic clubs, garden clubs, Boy Scouts and Girl Scouts, churches, customers at retail centers, County multi-use facility users, local radio station listeners, local newspaper readers, etc.

Businesses and Industries - Chamber of Commerce and associated groups, specific businesses and industries which generate large amounts of solid waste, local business districts, industrial parks, etc.

Schools - local public and private schools

Government Entities - local county and municipal government offices and facilities

### 3. Information to be Provided

As much as possible the Region will utilize existing solid waste information and education material developed by or accessible through the State of Tennessee. Materials include printed literature, videos, etc. which could be used for local solid waste spokesman training or provided directly to the target audience for their use.

### 4. Methods to be Utilized

The specific methods to be utilized to reach target audiences are being formulated at this time. Some of the methods to be employed are as follows:

#### General Public -

\* Development of a speaker's bureau - This bureau will actively seek an audience with local civic organizations, Chambers of Commerce, schools, etc. The goal will be to speak at least one time per year to any organization which may have direct or indirect influence on solid waste practices throughout the Region.

\* Local Advertising and Promotion - Informational material will be provided to the local radio station(s), newspaper(s) and any other local public media on a regular basis. This information will be presented in a series of articles and will cover all aspects of the Regional Plan. Annual updates to the material will be necessary in order to address any proposed and/or approved modifications to the Plan. In addition, any dates for specific events such Household Hazardous Waste collection days, waste tire shredding, etc. will be announced through the local media.

\* Public Exhibits and Demonstrations - Public exhibits and/or demonstrations will be developed for presentation at locations where large numbers of local residents are likely to gather. These include retail centers, the county courthouses, city halls, schools, the planned multi-purpose facilities, or any local event such as fairs, rodeos, festivals, etc. The exhibit may be semi-permanent and remain in one location for longer periods of time or be portable and move from location to location as the need arises. Exhibits and demonstrations will be staffed by a local volunteer knowledgeable of the Regional Plan and pertinent solid waste issues.

## **Businesses and Industries -**

\* Solid Waste Reduction Workshops - An industrial solid waste reduction workshop developed by the University of Tennessee Center for Industrial Services (UTCIS) is being scheduled for the spring of 1994 in Lauderdale County. UTCIS conducted the workshop in Haywood County during 1993 and in Tipton County in March of 1994. This workshop includes any interested local industry and is intended to assist in source reduction efforts and data gathering from industry.

\* Local Business and Industrial Meetings - The Chamber of Commerce in each county will be used as a venue for contacting and addressing local businesses and industries. The speaker's bureau described above will actively seek to address business and industrial groups through the Chamber at least one time per year.

\* Surveys and Direct Contact - Local industry will be contacted at least one time per year and asked to complete a survey questionnaire about solid waste management, recycling, source reduction, etc. Direct phone contact may be required if response to the surveys is not sufficient. Any significant changes in solid waste generation and/or management from existing industry will become a part of the annual Plan updates. All information from specific businesses and industries in the Region will be strictly confidential unless prior permission to release the information is obtained.

\* Small Business Solid Waste Reduction - Localized solid waste reduction "districts" for small businesses will be established in each county. These districts will be established in geographic areas where several businesses are in close proximity to each other. A "lead" business in each district will be designated to help with solid waste management efforts. Information and education about the Plan and other solid waste issues can be presented to these districts through that lead business rather than to individual businesses. Small business programs may include Regional district competitions for solid waste reduction, solid waste exhibits, etc.

## **Schools -**

\* Direct Contact - The speaker's bureau mentioned above will seek audiences with all local public and private school children at least one time per year.

\* Teacher Training and Materials - In-service training for classroom teachers regarding solid waste issues will be encouraged. The Educational Advisory Committee will provide local educators with a list of information and materials available from the State or other agencies which may be helpful in developing solid waste curriculum. The Board will assist the advisory committee in choosing the best available literature, videos, etc. to adequately inform children of all ages.

\* Field Trips - Schools will be invited to schedule field trips to the multi-purpose facility and the Class III/IV landfill in each county, the private Class I landfill, recyclery, etc.

\* Waste Reduction at School Facilities - Schools will be encouraged to reduce their individual waste streams and to report reduction quantities to the Region. All schools in the Region will be provided with information about potential solid waste reduction activities.

#### Local Government -

\* Solid Waste Reduction Programs - Efforts will be made to form government office paper recycling programs. Other materials which local government facilities generate in large quantities will also be addressed.

### 5. Staff and Budget Needs

The Region does not plan to add additional staff for the public information and education component of the Plan. Existing county and municipal staff, Board members, and volunteers will be called upon to support and contribute to the needs in these areas. The Regional budget for information and education will be relatively small compared to the overall management system. The primary costs will be associated with advertising, promotion, specific programs (i.e. exhibits, Chamber meetings, etc.) and purchasing materials. It is anticipated that these costs will not exceed \$20,000 per year per county.

### 6. Funding Plan

Due to the small cost associated with public information and education as it is now planned, no additional funding source will be established. Funding for the plan will come from the individual county public works budget or from the county general fund budget each year.

### 7. Evaluation and Reporting

As part of the annual updates required for the Plan, the Region will compile a list of all public information and education activities during the previous year. Where possible, an evaluation will be made of the effectiveness of a particular program (i.e. industrial waste reduction workshops, school waste reduction activities, etc.)

## C. IMPLEMENTATION SCHEDULE

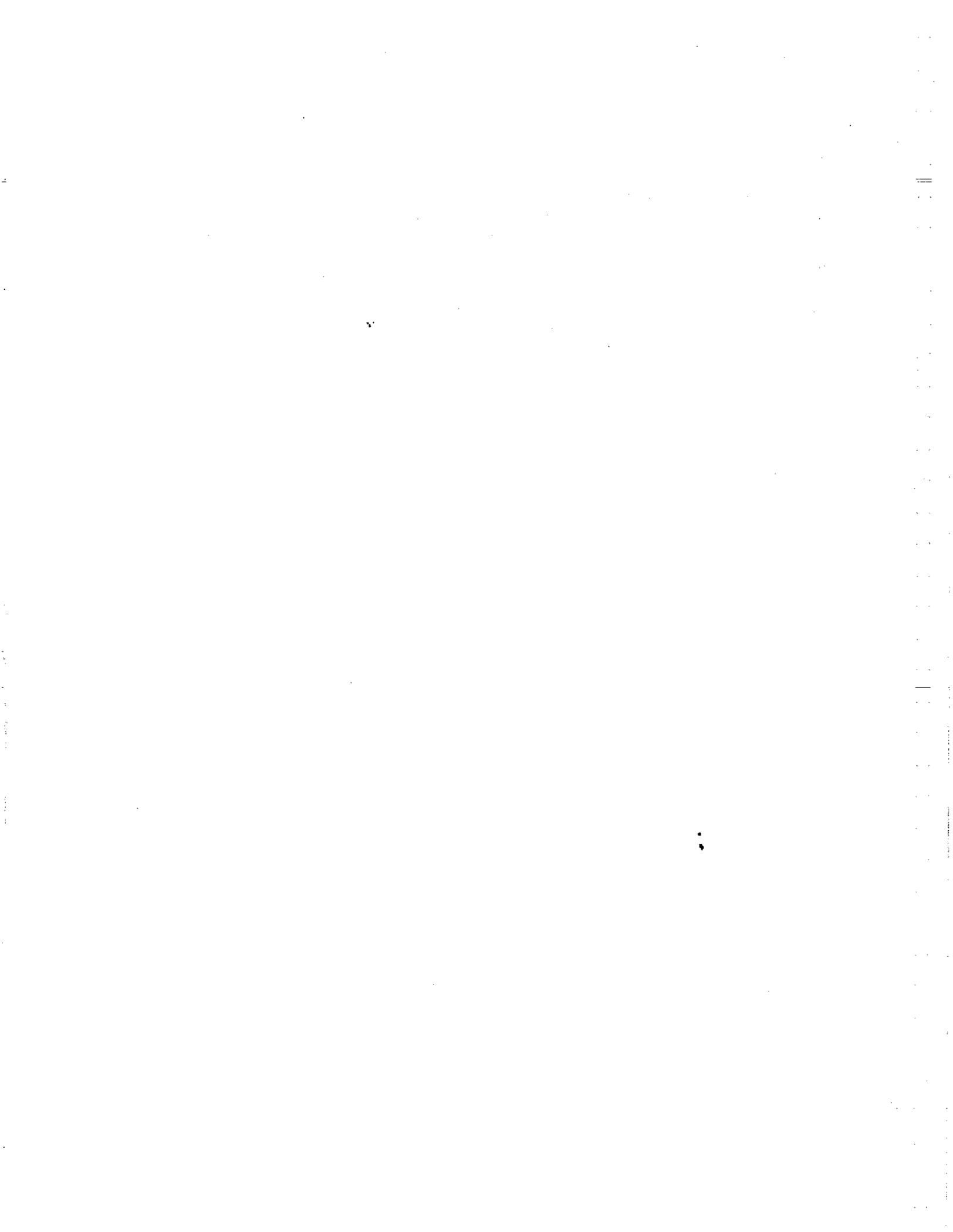
August 1, 1994 - Identify key Regional Board members, County and municipal staff and community volunteers to assist in implementation of the public information and education activities.

September 1, 1994 - Begin a series of newspaper articles describing various aspects of the Regional Plan and how the individual counties will be affected.

January, 1995 - Meeting of key individuals described above and Educational Advisory Committee members to begin developing a formal plan of various public information and education efforts.

March 1, 1995-2003 - Annual progress report due to State

January and July, 1996-2003 - Semi annual meeting of key individuals and Educational Advisory Committee members to discuss and evaluate existing programs and continue development of new programs.



## CHAPTER X

### PROBLEM WASTES

#### A. GENERAL

The Solid Waste Management Act of 1991 requires specific information for four problem wastes: 1) household hazardous waste, 2) waste tires, 3) waste oils, and 4) lead acid batteries. A minor amount of information is required for litter control and other wastes which may be of particular concern to the Region (i.e. infectious wastes, white goods, abandoned cars, pallets, etc.)

#### B. HOUSEHOLD HAZARDOUS WASTE (HHW)

##### 1. Regional Needs

It is expected that households in the H.L.T. Solid Waste Planning Region generate a fairly typical amount of HHW. In the past these wastes were allowed into Class I landfill facilities for final disposal, however the goal of the Solid Waste Act of 1991 is to dispose of these materials in a more suitable manner. There is growing concern that Class I landfills do not adequately protect the environment from releases of HHW materials.

Household wastes can generally be classified as hazardous if they are flammable, corrosive, reactive or toxic. A partial list of common household materials typically classified as hazardous is provided below.

##### I. Household Cleaners

Drain Openers, Oven Cleaners, Wood and Metal Cleaners  
Polishers, Toilet Bowl Cleaners, and Disinfectants

##### II. Automotive Products

Oil and Fuel Additives, Grease and Rust Solvents,  
Carburetor and Fuel Injector Cleaners, Air Conditioning  
Refrigerants, Starter Fluids, Body Putty, Anti-Freeze/Coolant,  
Waste Oil

##### III. Home Maintenance and Improvement Products

Paint Thinner, Paint Strippers and Removers, Adhesives,  
Paint

##### IV. Lawn and Garden Products

Herbicides, Pesticides/Rodenticides, Fungicides/Wood  
Preservatives

##### V. Miscellaneous

Batteries, Fingernail Polish Remover, Pool Chemicals,  
Photo Processing Chemicals, Medicines/Drugs, Reactives (aerosols/  
compressed gas)

## 2. Regional Plan

a. **Regional Goals** - The Regional goals for HHW management are as follows:

1. To divert HHW from the existing county operated Class I landfills and other Class I facilities,

2. To receive credit toward the 25% reduction goal by reducing HHW quantities,

3. To provide a facility for temporarily collecting, sorting and packaging HHW materials (The facility will be used in conjunction with the State approved HHW collection contractor during State-sponsored collection events.), and

4. To educate the public about HHW materials, collection facilities, "safe" substitutes, etc.

b. **HHW Collection Site** - Each county in the Region will develop a facility for collecting, sorting and packaging HHW materials. This site will most likely be located on the property which currently serves as the Class I landfill. An existing paved area of suitable size will be roped off for collecting, sorting and packaging operations. Other site criteria as described in the TDEC publication "County Responsibilities, Household Hazardous Waste Collection Events in Tennessee; Policy Guide; August 1993" will also be implemented if they are not already in place at this time.

c. **Information and Education** - The Region plans to incorporate information and brochures already available through the TDEC Division of Solid Waste Assistance into its public information and educational efforts. Local newspapers, radio stations, schools and service organizations will be the primary sources for distributing information about HHW and specific collection events. A minimum of two(2) months of notice will be given to the general public prior to a HHW collection event in each county. During these two months, public information will be provided on a regular basis, at least weekly, in order to adequately promote the event. See Chapter IX for additional information on public information and education.

d. **Coordination With State Collection Efforts** - As mandated by the 1991 Act, the State will provide periodic services for collection of HHW materials from each planning region and from each county within a multi-county region. The counties in the H.L.T. Region will coordinate their facilities, planning and personnel to make maximum usage of the State collection program. Once a collection day is established, each county will assume a support role for the State's collection contractor. Any responsibilities not a part of the contractor's duties such as notification of local emergency agencies, providing additional site security, providing additional site safety precautions, etc. will be handled by the individual county. The county will

coordinate its record keeping with the State contractor's records in order to properly document the collection activities. These records will be filled with the State as required by the Act and incorporated into the annual Plan updates for the Region.

e. **Staff and Training** - No additional staffing is anticipated for the HHW program. Each county will utilize its present staff to coordinate the collection events, assist during the collection activities and complete any record keeping and State documentation. The County will designate one(1) of its personnel to manage the program and one(1) other to assist in its implementation. Additional volunteers may be requested to assist during the collection event.

f. **Estimated Costs** - Costs associated with the HHW collection program as it is planned to operate in the near future are considered to be incidental costs to the Region and to each individual county. Funding will be provided by each county's general fund budget or public works budget. The majority of the facility and staffing costs are already in place at this time. Estimated costs for the HHW program provided below are based on staging two(2) collection events per year.

<u>Description</u>	<u>Estimated Cost/Yr/County</u>
Collection Event Staffing	\$1,400.00
Public Information/Education	1,000.00
Facility Preparation Costs	400.00
Recording Keeping/Documentation	200.00
	<u>\$3,000.00</u>

3. Implementation Schedule - The following HHW collection dates have been scheduled in the HLT Region.

Haywood County - June 25, 1994  
 Lauderdale County - September 17, 1994 and April 8, 1995  
 Tipton County - None scheduled at this time

In future years, each county in the Region plans to hold one HHW collection event during the late spring/early summer months and another during the late fall/early winter months.

C. WASTE TIRES

1. Current Waste Tire Program

a. **Permitted Tire Storage Site** - Each county currently has a permitted tire storage site capable of containing 2,500 to 5,000 tires. State grants of \$5,000 each were received to help construct the facilities which are located on the county landfill properties. In Lauderdale County and Tipton County the storage areas are approximately 125 feet long and 50 feet wide with earthen berms approximately 2 feet tall and 10 feet wide completely surrounding the areas. A 4-inch layer of gravel

covers each site. Haywood County constructed a 40 foot by 40 foot storage area on a concrete slab with a concrete dike 1.5 feet tall surrounding the slab. Stormwater falling into each of the tire storage areas drains through a valved pipe into the existing surface runoff system.

**b. Tire Shredding Operations** - Tire shredding is currently conducted two(2) times per year in each county by the State contracted tire shredder.

**d. Ultimate Use/Disposal of Shredded Tires** - At this time all shredded tires are disposed of in the Class I landfills in each county. In the future, tires will be taken to a Class III/IV facility, recycled in some way or used for erosion control and credited toward the 25% reduction goal.

**e. Operating Costs** - The operating costs for the tire storage area, shredding, final use/disposal, and record keeping are considered incidental costs to the Region and to each individual county. Funding will be provided by each county's general fund budget or public works budget. Costs would be similar to those provided above for HHW collection events or roughly \$3,000 dollars per year per county.

## 2. Current Tire Generation and Processing Rates

Based on the amount of pre-disposal fees paid to the State of Tennessee Department of Revenue for the period from July 1, 1992 through June 30, 1993, approximately 9,567 tires were sold in Haywood County, 12,199 in Lauderdale County and 21,216 in Tipton County. Studies indicate that the typical tire discard rate is approximately 0.7 tires/person/year. This generation rate would equate to approximately 13,400 tires per year in Haywood County, 16,200 in Lauderdale County and 27,500 in Tipton County. It is likely that a large number of tires used in each county are purchased outside the county. It is also believed that each county generates less than the "typical" amount of waste tires per year. Based on this and the fact that more and more tire retailers are accepting used tires when new tires are sold, the existing tire storage and processing operations are believed to be adequate for the Region at this time. State sponsored shredding operations conducted twice per year can easily handle all accumulated tires.

## 3. Illegal Waste Tire Inventory

As a part of normal operations, each county in the Region will deal with illegal waste tire piles as their locations become known. The normal procedure when a waste tire pile is identified will be to notify the land owner and request that all tires be removed by a specified date. If the request is denied, a second notice will be sent insisting that all tires be removed immediately or face possible legal action. Legal action could include civil penalties or property seizure as allowed by local, state and federal law.

## D. WASTE OIL

### 1. Current Waste Oil Management

A this time there are no publically operated waste oil management programs in the H.L.T Region. A limited number of automotive service centers or related private businesses may accept used oil from the public, but none are identified in this Plan.

### 2. Planned Regional Collection Site

As part of the planned multi-use facility in each county described in previous chapters, the Region will provide used oil collection areas. These areas will be located under a covered area with appropriate safeguards for preventing collisions, containing spills, and maintaining any necessary health and safety requirements. The areas will be accessible to the general public of each county and will be staffed at all times during operation hours.

## E. LEAD ACID BATTERIES

### 1. Current Battery Management

There are no existing public programs or operations for handling waste batteries in the Region at time.

### 2. Supporting Existing Efforts

More battery retailers are accepting used batteries when new batteries are sold. As this practice grows, the Region expects to handle fewer used batteries in the future.

### 3. Planned Regional Collection Site

A used battery collection area will be established in each of the planned multi-use facilities. As with the used oil areas, the used battery areas will be equipped with all necessary safeguards and will be staffed during all operating hours.

## F. LITTER CONTROL EFFORTS

The existing litter control programs in each county described in Chapter II will continue to operate under each county's individual direction. Each county will provide information that relates to solid waste reduction and recycling or problem wastes to the Regional Board on an annual basis. The Region will report any pertinent information to the State in annual Plan updates.

#### G. INFECTIOUS WASTE AND OTHER PROBLEM WASTES

The Region does not recognize any problems with infectious wastes or other wastes such white goods, abandoned cars, etc. at this time. All institutions in the Region which handle infectious wastes are believed to be in full compliance with all current regulations regarding proper infectious waste management. If any such specific waste should become a particular problem or concern in the future, the Region will adopt a management plan to address the situation. This section of the Plan will then be revised to include that management plan.

## CHAPTER XI

### IMPLEMENTATION:

#### SCHEDULE, STAFFING AND FUNDING

##### A. SYSTEM DEFINITION

###### 1. Components of the System

The Regional Plan for solid waste management includes collection and transportation, waste diversion, recycling, source reduction, Class I disposal, Class III/IV disposal, public information and education and problem waste management. All of the system components will be integrated together, but the overall success of the Plan will depend largely on public information and education. Key elements of the Plan along with Regional goals or objectives are described below.

Collection and transportation - The Regional goal is to provide door-to-door solid waste collection for every resident in the Region. This goal will be accomplished by establishing a Regional contract with a private collection company to collect solid waste from every resident in the Region. Businesses and municipalities will be included in the system if they so desire, however municipalities with existing solid waste collection systems are not required to participate. The private contractor will be required to transport all solid waste from each individual county in the Region to the planned multi-purpose facility in each county. These wastes will be transferred into larger vehicles for transport to a Class I landfill outside the Region. Transport to the Class I landfill may also be provided by a private contractor or by the county(s).

Waste reduction - The Regional goal is to reduce the per capita amount of solid waste presently being generated as much as possible. The State's target reduction of 25% based on 1989 rates will be used for Planning purposes, however every effort will be made to meet and exceed this target. Specific components of the reduction plan include solid waste diversion from Class I landfills to Class III/IV landfills and residential, commercial, industrial, governmental and institutional recycling and source reduction. The multi-purpose facility in each county will also be an integral part of this system as it will house a residential recycling center and the blue-bag separation area.

Waste Disposal - Both Class I and Class III/IV landfills are included in the Plan. Class I disposal will be provided under contract by the best and most economical private facility in the area. Each county also intends to maintain its Class I landfill permit in the event that these facilities become economical to operate in future years. In each county a portion of the existing permitted Class I landfills will be reclassified as a Class III/IV landfill and operated by the county. As much Class III/IV material as possible will be diverted to this facility.

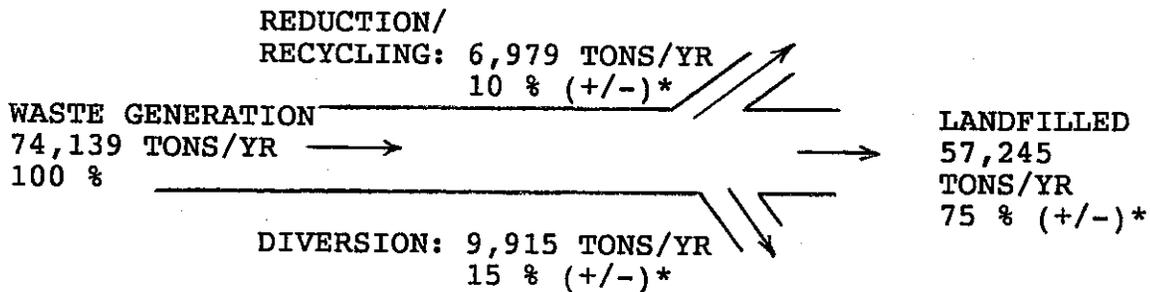
Public Information and Education - The Region considers this component of the Plan to be very critical to the overall success of the Plan. The Regional goal is to adequately inform and educate as many audiences as possible about the Regional Plan and how it affects them personally. Programs which encourage participation will be emphasized. Success will be based largely on the participation in residential and commercial recycling, household hazardous waste collection events, problem waste collection and Class III/IV material collection.

Problem Waste Collection - The multi-purpose facilities will be the key components of the Regional Plan to properly manage waste tires, used oil, and used batteries. The Regional goal is to provide a facility for collecting these materials in each county so that proper disposal can be assured.

## 2. Proportional Solid Waste Flow Diagram

An illustration of the most probable proportional solid waste flow resulting from the Regional Plan is shown below along with a table of estimated quantities for the Planning period.

### PROPORTIONAL SOLID WASTE FLOW DIAGRAM, 1996



\*Percentages are rounded to equal 25% total reduction; generation estimates and reduction goals are calculated based on different base data; base year will be modified in Plan updates

### PROJECTED QUANTITIES OF SOLID WASTE TO BE MANAGED, TONS

<u>Year</u>	<u>Projected Generation*</u>	<u>Source Reduction/ Recycling</u>	<u>Diverted</u>	<u>Landfilled</u>
1994	73,421	4,500	0	68,921
1995	73,775	5,619	4,477	63,679
1996	74,139	6,979	9,915	57,245
1997	74,511	6,992	9,970	57,549
1998	74,897	7,007	10,026	57,864
1999	75,292	7,021	10,086	58,185
2000	75,695	7,036	10,144	58,515
2001	76,009	7,047	10,186	58,776
2002	76,329	7,058	10,230	59,041
2003	76,657	7,069	10,274	59,314

\*Per Table III-3

## B. IMPLEMENTATION SCHEDULE

The implementation schedule for the Regional Plan is described below.

August 1, 1994 - Identify key Regional Board members, County and municipal staff and community volunteers to assist in implementation of the public information and education activities

August 1, 1994 - Submit request to the State for reclassification of existing Class I acreage for use as Class III/IV landfill in each county

September 1, 1994 - Begin a series of newspaper articles in each county describing various aspects of the Regional Plan and how the Region and individual counties will be affected

December 15, 1994 - Mail survey forms to municipalities with collection systems to obtain annual information; mail survey forms to major industries and other major solid waste generators to obtain annual information

January 1, 1995 - Initiate tipping fee at Regional Class III/IV landfills pending reclassification of Class I acreage by the State

January, 1995 - Meeting of key Regional Board members, County and municipal staff, Educational Advisory Committee members and interested volunteers to begin developing a formal plan of various public information and education efforts.

January and July, 1995-2003 - Semi annual meeting of individuals listed above to discuss and evaluate existing public information and education programs and to continue development of new programs.

February 1, 1995 - Complete design of multi-purpose facilities

March 1, 1995 - Annual progress report/Plan update/Plan revisions due to State

August 15, 1995 - Funding sources finalized; monthly household fee for residential collection services; tipping fee at the multi-purpose facility for other private haulers, industries, etc.

September 1, 1995 - Open bids for Regional collection

October 15, 1995 - Award contract for Regional collection; service to begin January 1, 1996

November 1, 1995 - Multi-purpose facilities completed

December 1, 1995 - Hire additional staff for facility

December 15, 1995 - Mail survey forms to municipalities with collection systems to obtain annual information; mail survey forms to industries and major waste generators to obtain annual information

January 1, 1996 - Begin private collection contract

January 1, 1996 - Initiate billing system for monthly residential service fee; initiate tipping fee at multi-purpose facility

March 1, 1996 - Annual progress report/Plan update/Plan revisions due to State

May 1, 1996 - Open bids for Regional Class I private disposal contract

July 1, 1996 - Award contract for Regional Class I disposal service; contract to begin October 1, 1996

August 15, 1996 - Funding sources finalized; monthly household fee for residential disposal services

October 1, 1996 - Begin contract period for private Class I disposal

February 1, 1997-2003 - Request information from private Class I landfill contractor and Tennessee and Mississippi solid waste agencies about remaining Class I landfill capacities

March 1, 1997-2003 - Annual progress report/Plan update/Plan revision due to State

### C. STAFFING AND TRAINING REQUIREMENTS

**Collection: Door-to-Door** - The private collection contractor will be responsible for all staffing and training. Documentation of all training will be provided to the Region by the contractor

**Multi-Purpose Facility:** The Convenience Center, Recycling Center and Problem Waste Collection Center will be staffed by one(1) full time staff in each county. It is anticipated that this position will be filled December 1, 1995.

The Transfer Station will be staffed by one(1) full time staff in each county. It is anticipated that this position will be filled December 1, 1995.

The separation of residential blue-bags for recycling will be staffed by two(2) part time staff in each county. These positions will also be filled December 1, 1995.

**Disposal: Class I Disposal** - The private Class I facility contracted with the Region will be responsible for all staffing and training.

Class III/IV - Each county in the Region will use existing staff from their Class I facilities to staff the Class III/IV facilities. Training will be provided and documented as per State requirements.

#### D. BUDGET

The 10-year budget of estimated expenses and revenues for the Plan is provided below. Collection, multi-purpose facility, Class III/IV disposal, public information, and tire and household hazardous waste costs do not reflect annual inflation. The costs for Class I disposal are based on projected waste quantities and estimated private landfill tipping fees with annual price increases.

EXPENSES							
<u>Year</u>	<u>Collect.</u>	<u>Multi-Purpose*</u>	<u>Class I Landfill</u>	<u>Class III/IV</u>	<u>Info. Educat.</u>	<u>Tires/HHW</u>	
1994	0	0	0	0	\$60,000	\$9,000	
1995	0	\$ 376,630	0	\$156,695	60,000	9,000	
1996	\$1,368,000	1,400,048	\$1,535,883	347,025	60,000	9,000	
1997	1,368,000	1,400,048	1,667,195	348,950	60,000	9,000	
1998	1,368,000	1,400,048	1,810,565	350,910	60,000	9,000	
1999	1,368,000	1,400,048	1,929,996	353,010	60,000	9,000	
2000	1,368,000	1,400,048	2,057,387	355,040	60,000	9,000	
2001	1,368,000	1,400,048	2,190,581	356,510	60,000	9,000	
2002	1,368,000	1,400,048	2,332,119	358,050	60,000	9,000	
2003	1,368,000	1,400,048	2,483,477	359,590	60,000	9,000	

\*Includes the waste oil, waste battery, waste transfer, recycling and convenience center operations.

#### REVENUES

Revenues to fund the proposed solid waste management system have not been finalized at this time, however the Regional goal is for the system to be almost fully supported by user fees and tipping fees. User fees for residents will be billed on a monthly basis, and it is anticipated that these fees will be added to the monthly electric bill. Agreements with the local electric utility companies serving each county will be negotiated prior to August, 1995. Funding sources for the various system components are described below.

**Collection** - The door-to-door collection system in the unincorporated and unserved areas of the Region will be funded entirely through user fees. The anticipated residential cost is from \$5.00 to \$7.00 per household per month.

Municipalities which continue to operate a door-to-door collection system will be responsible for funding their system. In most cases this funding will continue to be through user fees.

**Multi-Purpose Facility** - The costs associated with the multi-purpose facilities will be allocated to everyone having access to a given facility. These users include all residents in each county served by the Regional door-to-door collection system, all municipalities which operate a collection system within each county and all private waste haulers. The tipping fees for private haulers are expected to be from \$15.00 to \$25.00 per ton. The residential cost is anticipated to be from \$1.00 to \$2.25 per household per month.

**Class I Landfill Disposal** - The contract price for Class I waste disposal will dictate the user cost per month. It is anticipated that the residential cost will be from \$2.00 to \$3.50 per household per month. If municipalities operating a collection system choose to transport their waste to the county transfer station, the transfer cost and final disposal cost at the private Class I facility will be assessed to the municipality. The cost to businesses and industries will be based on the total tonnage of solid waste handled by the county and taken to the Class I facility.

**Class III/IV Landfill Disposal** - The estimated cost for disposal of Class III/IV material at the county facilities is calculated in Chapter VIII and shown below.

	Haywood County	Lauderdale County	Tipton County
COST PER TON	\$42.93/TON	\$42.93/TON	\$28.73/TON
COST/HOUSE/MO.	\$1.50-2.50	\$1.50-2.50	\$1.00-2.00

**Public Information/Education/Waste Tire Management/Household Hazardous Waste** - The costs associated with these programs will be funded through each county's general fund.

**Total Residential Cost** - The cost per household per month for the entire solid waste management system is anticipated to be from \$9.00 to \$15.00. Costs are expected to be much closer to \$9.00 per household per month due to the conservative methods of cost estimating used to develop the Regional Plan.

#### E. REGIONAL BASE MAP

Map XI-1 is a composite base map of the planned Regional solid waste management system showing waste flow patterns, major facilities, etc.

## CHAPTER XII

### ALOCATION OF IMPLEMENTATION RESPONSIBILITIES:

#### PLAN ADOPTION AND SUBMISSION

In accordance with the Solid Waste Management Act of 1991, ultimately the full responsibility for implementation of the Plan resides with the individual counties in the Region. Therefore the Plan was submitted to and reviewed by the Board of Commissioners of each county on the following dates:

Haywood County -	May 12, 1994
Lauderdale County -	May 9, 1994
Tipton County -	May 9, 1994

Each county adopted the Regional Plan by resolution. A copy of each adoption resolution is included with the Plan submittal letter to the Tennessee Department of Environment and Conservation, Division of Solid Waste Assistance.

The Plan was also approved by the Regional Board and the individual county planning commissions. Copies of the respective adoption resolutions from each of these is included in Appendix E.

## CHAPTER XIII

### FLOW CONTROL AND PERMIT APPLICATION REVIEW

#### A. FLOW CONTROL

The Solid Waste Management Act of 1991 authorizes two types of regional flow control - 1) out-of-region bans and 2) intra-region flow control. At this time, the Region chooses not to include any flow control policies in the Plan. This decision will be reviewed annually to determine if future flow control policies need to be enacted.

#### B. REGIONAL REVIEW OF PROPOSED SOLID WASTE FACILITIES

The Solid Waste Act also requires planning regions with approved plans to review proposed solid waste disposal facilities and incinerators to determine if they are consistent with the approved Regional Plan. The review process for the Region is as follows:

1. Any applicants for a permit to construct or expand a solid waste disposal or incineration facility within the Region shall submit a complete copy of the full application to the Regional Board at the same time such application is submitted to the Tennessee Department of Environment and Conservation(TDEC).
2. Upon receipt of the permit application documents, the Chairperson of the Regional Board will call a meeting of the Board within thirty(30) days.
3. After reviewing the permit application documents, the Board will determine if the proposed facility is consistent with the Regional Plan and recommend approval or denial of the application to the Board of Commissioners and the Planning Commission of the individual county(s) affected. In addition, the Regional Board will recommend a public hearing date to be set within thirty(30) days of its decision. The hearing will be held before the Board of Commissioners of the county(s) affected.
4. During the next regularly scheduled meeting of the Board of Commissioners, a decision will be made by the Commissioners to approve or deny the permit application.
5. The Regional Board will immediately notify the TDEC of the decision by the Board of Commissioners. Written documentation of the decision and the specific grounds wherein the decision was made will be submitted.
6. Appeal of the decision may be taken by an aggrieved person within thirty(30) days to the appropriate chancery court. An "aggrieved person" is limited to persons applying for a permit, persons who own property or live within a three(3) mile radius of the proposed facility, or municipalities in which the proposed facility is located.

PART III

APPENDICES

## APPENDIX A

### Legal Documentation and Organization of the Region

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Motion by Allen King and seconded by Kendall Moore that the following resolution be adopted:

**MUNICIPAL SOLID WASTE REGION**

**RESOLUTION NO. 11922**

**A RESOLUTION CREATING HAYWOOD, LAUDERDALE, and  
TIPTON COUNTIES' 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. s68-211-801 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 and desirability of reduction and minimization of solid waste, local governments in Tennessee supported and work 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. s68-211-811, 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, Haywood County's Board of County Commissioners have given consideration to the needs assessment prepared by the Memphis Area Association of Governments and Southwest Tennessee development districts; and

WHEREAS, T.C.A. s68-211-813, 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 in 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 region plans which among other requirements must identify how each region will reduce its solid waste disposal per capita by twenty-five percent (25%) by December 31, 1995, and a planned capacity assurance of its disposal 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 solid waste is in the best interest of the citizens of Haywood, Lauderdale, and Tipton Counties.

NOW, THEREFORE BE IT RESOLVED, by the Board of County Commissioners of Haywood County, Tennessee, acting pursuant to T.C.A. s68-211-801 et seq., that there is hereby established a Municipal Solid Waste Region for and by Haywood, Lauderdale, and Tipton Counties, Tennessee; and

BE IT FURTHER RESOLVED, that this Resolution by the Boards of County Commissioners of Lauderdale and Tipton Counties evidences and constitutes the agreement of Lauderdale and Tipton Counties in the joint formation of a multi-county municipal solid waste region; and

BE IT FURTHER RESOLVED, that pursuant to T.C.A. s68-211-813(b)(1), a Municipal Solid Waste Region Board hereby established to administer the activities of this Region; and

BE IT FURTHER RESOLVED, that this Municipal Solid Waste Region Board shall be comprised of 15 members; and

BE IT FURTHER RESOLVED, that pursuant to T.C.A. s68-211-813(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):

Haywood County	three members
Lauderdale County	one member
Tipton County	four members
Brownsville	one member
Stanton	one member
Gates	one member
Halls	one member

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Henning	one member
Ripley	one member
Covington	one member; and

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; and

BE IT FURTHER RESOLVED, that members of the Board of the Municipal Solid Waste Region shall serve a six (6) 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 and constituted by this Resolution, the following shall be the initial terms of office: one member from Tipton, and Haywood Counties for a two (2) year term, one member from Lauderdale, Tipton and Haywood Counties for a four (4) year term, two members from Tipton, and one member from Haywood Counties for a six (6) year term, one member from Henning, Covington, and Stanton for a two year term, one member from Halls, and Ripley for a four year term, one member from Gates and Brownsville for a six year term; and

BE IT FURTHER RESOLVED, that this Municipal Solid Waste Region Board shall have all powers and duties granted it by the T.C.A. §68-211-813 et seq. and, as part of the participating counties agreement, as evidenced and constituted 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 parties to this agreement 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 organizational 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 the 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 to apply for and receive 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, individual counties shall receive, disburse, and act as the fiscal agent for their funds unless otherwise agreed to; and

BE IT FURTHER RESOLVED, that by this Resolution the Counties may designate one County to receive and disburse funds for the Region.

BE IT FURTHER RESOLVED, that upon the passage of this Resolution and at no later date than December 31, 1992, the County Clerk of Haywood County shall transmit a copy of this Resolution to the Tennessee State Planning Office.

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, education, and disposal of solid waste; and

BE IT FURTHER RESOLVED, that the Municipal Solid Waste Region Board, will plan, when beneficial to the Municipal Solid Waste Region, in conjunction with other regions and Counties contiguous to the boundaries of the Municipal Solid Waste Region 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 if the Municipal Solid Waste Region Board recommends in its Municipal Solid Waste Region Plan that a public landfill become a regional landfill, it must be approved by that county's Board of Commissioners.

RESOLVED BY THE COUNTY COMMISSIONERS OF HAYWOOD COUNTY, TENNESSEE, this 16th day of November, 1992, the welfare of the citizens of Haywood County requiring it.

Motion passed.

A RESOLUTION CREATING LAUDERDALE, TIPTON, and  
HAYWOOD COUNTIES' 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 and 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*, Lauderdale County's Board of County Commissioners have given consideration to the needs assessment prepared by the Memphis Area Association of Governments 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 in 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 region plans which among other requirements must identify how each region will reduce its solid waste disposal per capita by twenty-five percent (25%) by December 31, 1995, and a planned capacity assurance of its disposal 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 solid waste is in the best interest of the citizens of Lauderdale, Tipton, and Haywood Counties.

*NOW, THEREFORE BE IT RESOLVED*, by the Board of County Commissioners of Lauderdale 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 Lauderdale, Tipton, and Haywood Counties, Tennessee; and

*BE IT FURTHER RESOLVED*, that this Resolution by the Boards of County Commissioners of Tipton and Haywood Counties evidences and constitutes the agreement of Tipton and Haywood Counties in the joint formation of a multi-county municipal solid waste region; and

*BE IT FURTHER RESOLVED*, that pursuant to T.C.A. §68-211- 813(b)(1), a Municipal Solid Waste Region Board hereby established to administer the activities of this Region; and

*BE IT FURTHER RESOLVED*, that this Municipal Solid Waste Region Board shall be comprised of 15 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):

Lauderdale County	three members, the County Executive and two members appointed by the County Commission
Tipton County	four members
Haywood County	three members
Gates and Halls	one member
Henning and Ripley	one member
Covington	one member
Brownsville	one member
Stanton	one member; and

*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; and

*BE IT FURTHER RESOLVED*, that members of the Board of the Municipal Solid Waste Region shall serve a six (6) 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 and constituted by this Resolution, the following shall be the initial terms of office: one member from Lauderdale, Tipton, and Haywood Counties for a two (2) year term, one member from Lauderdale, Tipton, and Haywood Counties for a four (4)

year term, two members from Tipton, one member from Haywood Counties, and the Lauderdale County Executive for a six (6) year term, one member from Halls-Gates, and Stanton for a two year term, one member from Henning-Ripley, and Covington for a four year term, one member from Brownsville for a six year term; and

*BE IT FURTHER RESOLVED*, that this Municipal Solid Waste Region Board shall have all powers and duties granted it by the T.C.A. §68-211-813 et seq. and, as part of the participating counties agreement, as evidenced and constituted 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 parties to this agreement 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 organizational 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 the 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 to apply for and receive 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, individual counties shall receive, disburse, and act as the fiscal agent for their funds, unless otherwise agreed to; and

*BE IT FURTHER RESOLVED*, that by this Resolution the Counties may designate one County to receive and disburse funds for the Region; 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 Lauderdale County shall transmit a copy of this Resolution to the Tennessee State Planning Office.

*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, solid waste education, and disposal of solid waste; and

*BE IT FURTHER RESOLVED*, that the Municipal Solid Waste Region Board, will plan, when beneficial to the Municipal Solid Waste Region, in conjunction with other regions and Counties contiguous to the boundaries of the Municipal Solid Waste Region 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 if the Municipal Solid Waste Region Board recommends in its Municipal Solid Waste Region Plan that a public landfill become a regional landfill, it must be approved by that county's Board of Commissioners.

*RESOLVED BY THE COUNTY COMMISSIONERS OF LAUDERDALE COUNTY, TENNESSEE*, this fourteenth day of December, 1992, the welfare of the citizens of Lauderdale County requiring it.

Sponsor

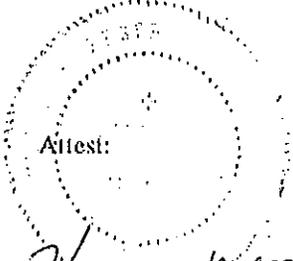
*Ed D. Cherry*

County Commissioner

Approved:

*William Matthews*

County Executive



Attest:

*Vernon McBride Jr*

County Clerk

Approved as to form:

*[Signature]*

County Attorney

Motion was made by Commissioner Cherry to adopt the foregoing resolution.

Motion was seconded by Commissioner Cutlip and approved.



MINUTES OF DECEMBER TERM, 1992  
MONDAY THE 14th.

RESOLUTION FOR A MULTI-COUNTY  
MUNICIPAL SOLID WASTE REGION

A RESOLUTION CREATING LAUDERDALE, TIPTON, AND  
HAYWOOD COUNTIES' 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 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 and desirability of reduction and minimization of solid waste, most 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, Tipton County's Board of County Commissioners have given consideration to the needs assessment prepared by the Memphis Area Association of Governments 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 in 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 region plans which among other requirements must identify how each region will reduce its solid waste disposal per capita by twenty-five percent (25%) by December 31, 1995, and a planned capacity assurance of its disposal for a ten (10) year period; and

MONDAY THE 14th.

WHEREAS, the development of a municipal solid waste regional plan that results in the most cost effective and efficient management of solid waste is in the best interest of the citizens of Lauderdale, Tipton, and Haywood Counties.

NOW, THEREFORE BE IT RESOLVED, by the Board of County Commissioners of Tipton 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 Lauderdale, Tipton, and Haywood Counties, Tennessee; and

BE IT FURTHER RESOLVED, that this Resolution by the Boards of County Commissioners of Lauderdale and Haywood Counties evidences and constitutes the agreement of Lauderdale and Haywood Counties in the joint formation of a multi-county municipal solid waste region; and

BE IT FURTHER RESOLVED, that pursuant to T.C.A. 68-211-813(b)(1), a Municipal Solid Waste Region Board hereby established to administer the activities of this Region; and

BE IT FURTHER RESOLVED, that this Municipal Solid Waste Region Board shall be comprised of fifteen (15) 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):

Lauderdale County	three members-the County Executive and two members appointed by the County Commission
Tipton County	four members
Haywood County	three members
Gates and Halls	one member
Henning and Ripley	one member
Covington	one member
Brownsville	one member
Stanton	one member; and

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; and

BE IT FURTHER RESOLVED, that members of the Board of the Municipal Solid Waste Region shall serve a six (6) 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 and constituted by the Resolution, the following shall be the initial terms of office: One member for Lauderdale, Tipton, and Haywood Counties for a two (2) year term, one member from Lauderdale, Tipton and Haywood Counties for a four (4) year term, two members from Tipton and one member from Haywood Counties and the Lauderdale County Executive for a six (6) year term, one member from Gates and Halls, and Stanton for a two year term, one member from Ripley and Henning, and Covington for a four year term, one member from Brownsville for a six year term; and

BE IT FURTHER RESOLVED, that this Municipal Solid Waste Region Board shall have all powers and duties granted it by the T.C.A. 68-211-813 ~~et seq.~~ and as part of the participating counties agreement, as evidenced and constituted by this Resolution, it shall have the additional rights and is

MINUTES OF DECEMBER TERM, 1992  
MONDAY THE 14th.

empowered to utilize existing governmental personnel, services, facilities, and records of the counties which are parties to this agreement 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 organizational 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 the 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 to apply for and receive 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 the Resolution, individual counties shall receive, disburse, and as the fiscal agent for their funds, unless otherwise agreed to; and

BE IT FURTHER RESOLVED, that by this Resolution the Counties may designate one County to receive and disburse funds for the Region.

BE IT FURTHER RESOLVED, that upon the passage of this Resolution and at no later date than December 31, 1992, the County Clerk of Tipton County shall transmit a copy of this Resolution to the Tennessee State Planning Office.

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, education, and disposal of solid waste; and regions and Counties to encourage multi-county planning and make possible later mergers of smaller regions if so desired; and

BE IT FURTHER RESOLVED, that if the Municipal Solid Waste Region Board recommends in its Municipal Solid Waste Region Plan that a public landfill become a regional landfill, it must be approved by that county's Board of Commissioners; and

RESOLVED BY THE COUNTY COMMISSIONERS OF TIPTON COUNTY, TENNESSEE, this 14th day of Dec., 1992, the welfare of the citizens of Tipton County requiring it.

Sponsor

*[Signature]*  
County Commissioner

Attest:

Approved:

*[Signature]*  
County Clerk

*[Signature]*  
County Executive

SAID MOTION PASSED ON VOICE VOTE.

State of Tennessee, Tipton County

I, CLARA H. McMILLIN, Clerk of the County Legislative Body of Tipton County, Tennessee, do hereby certify that the above and foregoing is a full, true and perfect copy of RESOLUTION FOR MULTI-COUNTY MUNICIPAL SOLID WASTE REGION as the same

appears of record in Quarterly Minute Book 20 page 113-116 of the records of my office

Witness my hand and the seal of the County Legislative Body of Tipton County, Tennessee, at office, in Covington, Tennessee, this the 30 day of June, 1994

*[Signature]*  
Court Clerk

JANUARY TERM

HAYWOOD COUNTY LEGISLATIVE BODY

JANUARY 19, 1993

The Haywood County Legislative Body met in regular session on Tuesday, January 19, 1993, at 9:30 A. M. with Franklin Smith, County Executive, presiding, Ann D. Medford, County Clerk, C. Thomas Hooper, III, County Attorney, and the following County Commissioners were present: William King, Jean Carney, Allen King, Richard Jameson, Roy Bond, Leonard Boyd, Kendall Moore, Pam Russell, William (Bill) Cox, III, Robert M. English, Robert Earl Thornton, Jewell R. English, Danny Stephenson, James T. Carlton, Nelson Cunningham, Randall Mann, Ronald Woods, Louis Stuart, and Smauel T. Mathes. Absent; Robert Campbell.

(other business)

Motion by Louis Stuart and seconded by Roy Bond that Curt Waddell, Ed Ellington , and William King be appointed to the Solid Waste Regional Planning Board. Motion Passed.

DECEMBER 8, 1992

way the Christmas bonus was distributed. Vice Mayor Pettigrew moved that all City Employees be given 10% of 1 months salary as a Christmas bonus. The motion was seconded by Alderman Taylor and when put carried.

There being no further business to come before the Board, Alderman Simmons moved that the meeting adjourn. The motion was seconded by Vice Mayor Pettigrew and when put carried.

APPROVED Jan 12, 1993

CITY CLERK Jerry Taylor

MAYOR Jimmy Halbrook

JANUARY 12, 1993

The regular meeting of the Board of Mayor and aldermen of the City of Brownsville was held on the above date at 7:45 P.M. with the following members present: Mayor Halbrook, Vice Mayor Pettigrew, Alderman Taylor, Alderman Burroughs, and Alderman Simmons.

Mayor Halbrook called the meeting to order and asked Attorney Banks to open the meeting with a prayer.

The minutes for the Month of December 1992 were read and approved as read.

Resolution # 547-1-93 A Resolution to install appropriate signs on Highway 76 South so as to honor former Mayor Joseph G. Taylor. Alderman Burroughs reported that the people that had called his was against Resolution. Vice Mayor Pettigrew stated that in the future we could name a street in the industrial park or maybe a link of the new By-pass. Alderman Simmons moved that the Resolution be tabled. The motion did not receive a second. No action was taken on the proposed Resolution.

Resolution # 548-1-93-A Resolution that appropriate signs be placed on the new Tennessee National Guard Armory to mark it the Wyatt-Duke National Guard armory. Vice Mayor Pettigrew moved that Resolution #548-1-93 be passed as presented. The motion was seconded by Alderman Simmons and when put carried.

RESOLUTION 548-1-93

BE IT RESOLVED by the Board of Mayor and Aldermen of the city of Brownsville, Tennessee, that appropriate signs be placed on the new Tennessee National Guard Armory located on Morgan Street, Brownsville, Tennessee. Said Armory shall be marked as the Wyatt-Duke National Guard Armory.

DATED this 12th day of January 1993.

APPROVED: Jimmy Halbrook  
Jimmy Halbrook, Mayor

ATTEST: Jerry Taylor  
Jerry Taylor, City Clerk

Mayor Halbrook recommended that Alderman Joe L. Taylor be designated from the City of Brownsville to the regional Landfill Board to be established by Haywood County. Alderman Simmons moved that the recommendation be accepted. The motion was seconded by Vice Mayor Pettigrew and when put carried.

Mr. Rex Williams and Mr. Samuel Chaney discussed a request for a \$50,000 loan from the Brownsville Economic Development Board. They told the City Board that the company, which is primarily concerned with machining and fabricating equipment parts for industry, will be involved 85-90% in manufacturing and 10% service. The Company would start with 4 employees and employ 14 by the first year of operation. Vice Mayor Pettigrew moved that the company be considered a manufacturing company and that Mr. Williams and Mr. Chaney be referred to the BEDC Committee for further study and a recommendation to the City Board. The motion was seconded by Alderman Taylor and when put carried.

DEPARTMENT REPORTS-Alderman Simmons reported that the highway 19 project was approximately 95% complete and the street was conducting regular maintenance and litter pickup.

Alderman Burroughs had no report

RESOLUTION NO. 42  
A RESOLUTION  
APPOINTING A REPRESENTATIVE TO THE  
SOLIDWASTE REGIONAL PLANNING BOARD

WHEREAS, Tennessee Code Annotated, Section 68-211-813 requires that municipalities providing solid waste collection or disposal services (directly or indirectly by contract) designate a representative to the regional board to be established by Haywood County, Tennessee: and

WHEREAS, We do provide this service and therefore are required to be represented on the regional board for the purpose of solid waste regional planning.

NOW, THEREFORE BE IT RESOLVED, On January ~~22~~<sup>19</sup>, 1993, the Stanton Board of Mayor and Aldermen met and approved the appointment of Louis P. Stuart as the representatives of the Town of Stanton, Tennessee.

I, John E. Sumner, move the adoption of the foregoing Resolution.  
I, Thipp Jones, second the adoption of the foregoing Resolution.

Those voting AYE: 5

Those voting NAY: 0

The mayor thereupon declared the resolution adopted.

Attest:

Patricia M. Jones  
City Recorder

Henry A. Johnson  
Henry A. Johnson  
Mayor

Approved as to form:

Roland Reid  
Roland Reid, Town Attorney

City of Ripley  
Regular Meeting  
December 7, 1992  
7:30 P. M.

Mayor Douglas presiding.

Aldermen present: Poston, Ammons, Dunavant, Hendren, and Pavletic

Aldermen absent: Elder

Visitors: 16 (see list)

Meeting opened by prayer of Rev. Randall Cummings.

- ITEM I Minutes of November read and approved.
- ITEM II Motion by Alderman Ammons to process application of Patsy Johnson, Corner Quick Stop, 131 Highland for a beer package permit. Seconded by Alderman Poston. All present aye.
- ITEM III Mayor read thank you cards received from employees on gifts as a Christmas bonus.
- ITEM IV Civil penalty was assessed by State of Tennessee against Lauderdale County Landfill (Consortium) for previous violations in the amount of \$37,800.00 Same is under a 5000.00 fine per day. State employee expense of \$608.83. Damages and civil penalty of \$7800.00 assessed by Commissioner of Conservation and environment. If corrections have been made 30,000.00 may be waived within 60 days. Written notice will be received of release from amount owed. Motion by Alderman Ammons to pay to Lauderdale County Landfill, County Executive Ripley's pro-rata share for \$2228.34. Seconded by Alderman Pavletic. All present aye.
- ITEM V Mayor reported state had requested to form a 3 County Planning Committee, Lauderdale, Haywood, and Tipton. A 20,000.00 grant would be given to County for planning. There are proposed a 15 member board, 5 from each county. For Lauderdale County there would be 2 County Commissioners, County Executive, Hall and Gates combined to name one member, Ripley and Henning together to name one. Henning has nominated Mayor Douglas to represent them. Motion by Alderman Ammons to appoint Mayor to committee to represent Ripley. Henning has already done so for Mayor to serve on Committee. Seconded by Alderman Poston. All present aye.
- ITEM VI Mayor Douglas read State Highway 209 land acquisition documents received on 5 parcels of City property. General discussions were held on the 209 project. Estimated costs to city to relocate utilities are \$250,000.00 to 350,000.00 is one factor of importance, though there are others. Motion by Alderman Dunavant to go on record as opposed to project in its present form and not accept states proposal. Seconded by Alderman Ammons. Votes: Poston- no, Dunavant- yes, Pavletic=yes, Ammons=yes, Hendren=yes.
- ITEM VII Mayor Douglas appointed a committee of Aldermen Poston, Ammons, and Dunavant to review garbage rates for residential and commercial and recommend an industrial rate which we have not established. Committee to bring recommendation to city board.
- ITEM VIII Mayor expressed a need for 2 additional tractors and 2 mowers. Tractors to be 89 HP or more, one mower 10 ft. another 5 ft. He proposed using the funds (27100.00) derived from auction of used equipment and issue capital outlay notes covering the difference or balance.

Watts, Pastor of the Halle Church of Christ, led the group in prayer prior to opening of the board meeting.

Mayor Harris called the meeting to order. A roll call showed that James Tyus and Noel Sherrod were absent. All other Aldermen were present.

Minutes of the December meeting were reviewed. Barry Britt made a motion to accept the minutes as read, Stan Young seconded the motion. A roll call vote was

Barry Britt Mack Stanley ABSENT: Noel Sherrod  
Stan Young Eugene Fugh James Tyus

COMMENTS:

Mayor Harris stated that the Christmas parade was a big success. There were several successes this year. Thank you to Ruth Martin, Roger Charest, and Martha Crites for all they did in the Christmas parade. Mayor Harris reported that he attended a meeting in Ripley that was called by Mayor Richard Douglas to discuss the drug and illegal gambling problem they have been having. All Mayors and ministers throughout the county were invited to attend. Several good points were brought out in the meeting. Mayor Harris pointed out that we needed to get a D.A.R.E. Program started up for 7th-12th grades. This program is already in effect for K-6 grade. Dennis King, the new police chief in Ripley, was also at the meeting. We are continuing to show the C-Line and sewerware building. We have someone who is interested in the C-Line building, but we will need a spur track out there. Mayor Harris will contact Economic & Community Development to see what needs to be done about the spur track. Mayor Harris told the board of Katie's recent surgeries. She is improving and is in good spirits. We all wish her a speedy recovery.

BUSINESS:

The second reading of the Flood Plains Ordinance was held. Stan made a motion to accept the second reading, Barry seconded the motion. A roll call vote was taken:

Barry Britt Mack Stanley ABSENT: Noel Sherrod  
Stan Young Eugene Fugh James Tyus

By Charlie Dyer presented a recommendation on Hollis Gilliland's building on Shannon Street. The property can be rezoned, it is up to the Board of Aldermen, after the Planning Commission has heard their request. The Gillilands need to appear before the Planning Commission with a written request to change the zone from B-2 To B-1. The Planning Commission can then make a recommendation to the Board of Aldermen. We will notify the Gillilands as to what they need to do.

COMMITTEE REPORTS:

Police - We have several traffic signs across Town that need to be replaced. Buddy will make a list of these and turn in to City Hall. We also need to report any street lights that aren't working. We need to contact Ripley Power & Light about the intersection at Main and College by the Christian Church. When the trees are full, you can't tell that there is a 4-way stop there. Maybe Ripley Power & Light could trim the trees or possibly lower the light.

Sanitation - Mayor Harris appointed Eugene Fugh to serve as representative on the Multi-County Consortium for the Landfill. Eugene accepted the appointment.

Streets - We have some potholes on East Tigrett by Joe Clyde Escue and on around by John Noblin. The policemen should make a list of these as they patrol the streets.

Gas & Water - Phillip Hurt wanted to commend David Buckner and his crew on the good job they did on repairing the 4" main gas line cut by Wiley Hutcherson's crew. The line was cut at 10:00 and they had it repaired and the gas back on at 12:00. They only lost about 3 customers.

Airport - The application on the Grant for the Airport needs to be done within the next 10 days. Stan and Barry will meet with the Airport Committee and then get with Vanda in preparing the application. Also, we need to try to get some support with funding from the County since this is the only airport we have here. Eugene will mention this at the next County meeting.

NEW BUSINESS:

Mayor Harris is going to get with MEAS and work on redoing parts of our Charter. Some things we need to look at changing. City judges can no longer administer jail time unless they are elected for an eight year term. Hopefully, we will have more information on this at the next meeting.

A RESOLUTION  
APPOINTING REPRESENTATIVES TO THE  
SOLID WASTE REGIONAL PLANNING BOARD

WHEREAS, Tennessee Code Annotated, Section 68-211-813 requires that municipalities providing solid waste collection or disposal services (directly or indirectly by contract) designate representatives to the regional board established by Lauderdale County, Tennessee at the December 14, 1992 session of the Lauderdale County Commission;

WHEREAS, we do provide this service and therefore are required to be represented on the regional board for the purpose of solid waste regional planning;

WHEREAS, the resolution establishing a solid waste planning region adopted at the December 14, 1992 session of this body, allows Lauderdale County three members--the County Executive and two members appointed by the Commission;

NOW, THEREFORE BE IT RESOLVED, that on Monday, January 11, 1993, the Lauderdale County Commission in regular session approved H. Gwinn Matthews, County Executive, to a six-year term on the board, and appointed Rob Reviere, to a four-year term on the board, and Robert Flagg, to a two-year term on the board, as representatives of Lauderdale County, Tennessee.

APPROVED: This the 11th day of January, 1993.

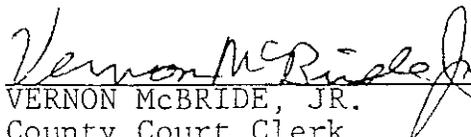
19 YEA VOTES

0 NAY VOTES

1 ABSTAINED

ATTEST:

  
H. GWINN MATTHEWS  
County Executive

  
VERNON McBRIDE, JR.  
County Court Clerk

MINUTES OF FEBRUARY TERM, 1993

MONDAY THE 8th.

MULTI COUNTY PLANNING COMMITTEE  
FOR SOLID WASTE NAMED

I  
I  
I

On motion by Commissioner Paul Sanders and seconded by Commissioner Curria Erwin it was ordered by the Legislative Body of Tipton County, Tennessee at its February 8, 1993 term that the following persons be named to the Multi County Planning Committee for solid waste: Kenny Gunn, six year term, Commissioner Harold Twisdale, six year term, Commissioner L. K. Dyson, four year term and Jim Hayes, two year term.

SAID MOTION PASSED ON VOICE VOTE.

# HAYWOOD COUNTY

\*\*\*\*\*

TELEPHONE (901) 772-1432



OFFICE OF  
A. FRANKLIN SMITH III  
County Executive

\*\*\*\*\*

COURTHOUSE

1 NORTH WASHINGTON • BROWNSVILLE, TN 38012

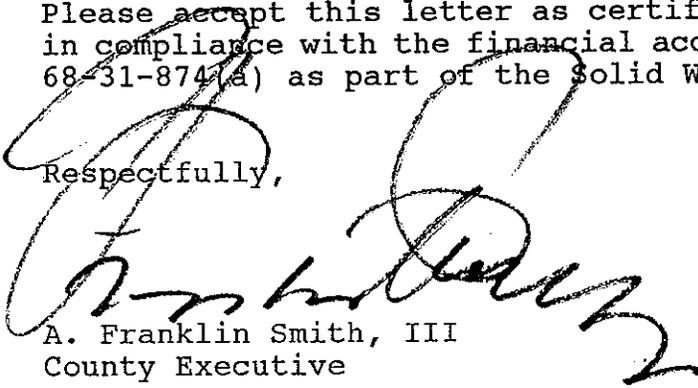
JUNE 9, 1994

Department of Environment and Conservation  
Solid Waste Division  
21st Floor, L & C Building  
401 Church Street  
Nashville, Tennessee 37243-0435

Dear Sirs:

Please accept this letter as certification that Haywood County is in compliance with the financial accounting requirements of T.C.A. 68-31-874(a) as part of the Solid Waste Management Act of 1991.

Respectfully,

  
A. Franklin Smith, III  
County Executive

H. GWINN MATTHEWS, COUNTY EXECUTIVE



J. THOMAS CALDWELL, COUNTY ATTORNEY

# Lauderdale County Government

COURTHOUSE  
RIPLEY, TENNESSEE 38063  
Phone (901) 635-3500  
Fax 635-9682

June 29, 1994

Department of Environment and Conservation  
Solid Waste Division  
21st Floor, L & C Building  
401 Church Street  
Nashville, Tennessee 37243-0435

Dear Sirs:

Please accept this letter as certification that Lauderdale County is in compliance with the financial accounting requirements of T.C.A. 68-31-874(a) as part of the Solid Waste Management Act of 1991.

Respectfully,

H. GWINN MATTHEWS  
County Executive

## County Commissioners

Don Ammons  
Billy Poe Brandon  
P.B. Bridges  
Doug Cherry  
Roy Cook

Neal Crain  
T.L. Crisfield  
Charles Cutlip  
Mack Curtis  
Lawson Elder

Robert Hogg  
Steve Jullen  
Carmen Garrison  
L.C. Haylett  
Thomas Jones

Vernon McBride, Sr.  
Dennis McCaslin  
Hal Pennington  
Eugene Pugh  
Rob Revere

Robert Scates  
Johnny Smith  
John Sneed  
Thomas Spiller  
Tucker Woodland

MINUTES OF FEBRUARY TERM, 1993

MONDAY THE 8th.

MULTI COUNTY PLANNING COMMITTEE  
FOR SOLID WASTE NAMED

I  
I

## TIPTON COUNTY

JEFF HUFFMAN  
COUNTY EXECUTIVE  
PHONE: (901) 476-0200



June 30, 1994

To Whom It May Concern:

This is to advise that Tipton County has set up an enterprise fund as required by 68-211-874 of the Code. Additionally, Tipton County is the required Chart of Accounts for solid waste activities. To the best of my knowledge, Tipton County is complying with the required statutes and regulations regarding solid waste activities.

Respectfully submitted, I am

A handwritten signature in cursive script that reads "Jeff Huffman".

Jeff Huffman  
Tipton County Executive

## APPENDIX B

### Documentation for Adjustments to the Base Year Generation

NOT APPLICABLE

## **APPENDIX C**

### **Public Participation Activities**

ATTENDANCE LIST  
FOR Regional Solid Waste Plan  
Public Hearing

Franklin Smith	-	Haywood Co. Executive
Roland Reid	-	" " Circuit Co. Judge
Henry Johnson	-	City of Stanton, Mayor
William King	-	Haywood Co. County Court Member
Elizabeth Reid	-	Advisory Committee Member
Rita Hathcock	-	Reporter Local Paper
Harvey Mathewy	-	GRACE + Associates
Curt Waddell	-	Solid Waste Director

PUBLIC HEARING  
FOR  
MUNICIPAL SOLID WASTE REGIONAL PLAN  
H.L.T. SOLID WASTE PLANNING REGION

DATE: MAY 9, 1994

TIME: 6:30 PM

LOCATION: COUNTY COURTHOUSE; COVINGTON, TENNESSEE

ATTENDANCE LIST:

Representative from Military Waste Management; Munford, TN  
Mr. Pat Harcourt  
Mr. Harvey Matheny  
Mr. Kenny Gunn

MINUTES:

The representative from Military Waste Management asked several questions about the planned county-wide solid waste collection, bidding, etc. No other comments were received from the general public.

## APPENDIX D

### Exports and Imports

NOT APPLICABLE

## **APPENDIX E**

**Review by Appropriate Municipal or Regional Planning Commission**

June 30, 1994

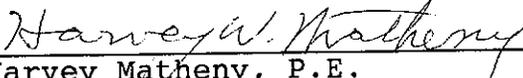
MEMORANDUM TO: HAYWOOD COUNTY PLANNING COMMISSION  
BROWNSVILLE PLANNING COMMISSION

FROM: GRACE & ASSOCIATES, INC.  
ON BEHALF OF HAYWOOD COUNTY

SUBJECT: MUNICIPAL SOLID WASTE REGIONAL PLAN  
FOR HAYWOOD, LAUDERDALE, TIPTON SOLID WASTE PLANNING  
REGION

Based on Tennessee's Regional (TCA 13-3-101 et seq.) and Municipal (TCA 13-4-101 et seq.) planning statutes, this letter is to inform local planning commissions of the H.L.T. Solid Waste Plan referenced above. You are invited to review the Plan at the County Executive's office and submit any comments if you so choose. Although the Plan will be submitted to the State on July 1, 1994, any comments will be appreciated and evaluated as implementation of the Plan proceeds.

A Public Hearing on the Plan was held at 7:30 pm, Thursday, May, 12, 1994 at the Bolivar City Hall, and the Plan was officially approved by the County Commission on May 16, 1994.

  
\_\_\_\_\_  
Harvey Matheny, P.E.  
Grace and Associates, Inc.

June 30, 1994

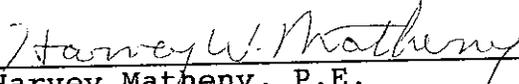
MEMORANDUM TO: ALL COUNTY AND MUNICIPAL PLANNING COMMISSIONS  
LAUDERDALE COUNTY, TENNESSEE  
(GATES, HALLS, HENNING, RIPLEY, AND LAUDERDALE  
COUNTY)

FROM: GRACE & ASSOCIATES, INC.  
ON BEHALF OF LAUDERDALE COUNTY

SUBJECT: MUNICIPAL SOLID WASTE REGIONAL PLAN  
FOR HAYWOOD, LAUDERDALE, TIPTON SOLID WASTE PLANNING  
REGION

Based on Tennessee's Regional (TCA 13-3-101 et seq.) and Municipal (TCA 13-4-101 et seq.) planning statutes, this letter is to inform local planning commissions of the H.L.T. Solid Waste Plan referenced above. You are invited to review the Plan at the County Executive's office and submit any comments if you so choose. Although the Plan will be submitted to the State on July 1, 1994, any comments will be appreciated and evaluated as implementation of the Plan proceeds.

A Public Hearing on the Plan was held at 9:00 am, Monday, May 9, 1994 at the County Court House, and the Plan was officially approved by the County Commission on May 9, 1994.

  
\_\_\_\_\_  
Harvey Matheny, P.E.  
Grace and Associates, Inc.

June 30, 1994

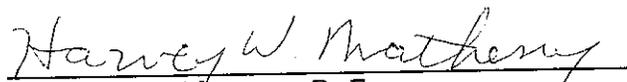
MEMORANDUM TO: ALL COUNTY AND MUNICIPAL PLANNING COMMISSIONS  
TIPTON COUNTY, TENNESSEE  
(ATOKA, BRIGHTON, COVINGTON, GARLAND, GILT EDGE,  
MASON, MUNFORD AND TIPTON COUNTY)

FROM: GRACE & ASSOCIATES, INC.  
ON BEHALF OF TIPTON COUNTY

SUBJECT: MUNICIPAL SOLID WASTE REGIONAL PLAN  
FOR HAYWOOD, LAUDERDALE, TIPTON SOLID WASTE PLANNING  
REGION

Based on Tennessee's Regional (TCA 13-3-101 et seq.) and Municipal (TCA 13-4-101 et seq.) planning statutes, this letter is to inform local planning commissions of the H.L.T. Solid Waste Plan referenced above. You are invited to review the Plan at the County Executive's office and submit any comments if you so choose. Although the Plan will be submitted to the State on July 1, 1994, any comments will be appreciated and evaluated as implementation of the Plan proceeds.

A Public Hearing on the Plan was held at 6:30 pm, Monday, May 9, 1994 at the County Court House, and the Plan was officially approved by the County Commission on May 9, 1994.

  
Harvey Matheny, P.E.  
Grace and Associates, Inc.

MAY TERM

HAYWOOD COUNTY LEGISLATIVE BODY

MAY 16, 1994

The Haywood County Legislative Body met in regular session on Monday, May 16, 1994 at 9:30 a.m. with Franklin Smith, County Executive presiding, Ann D. Medford, County Clerk, C. Thomas Hooper, III, County Attorney, and the following County Commissions were present: William King, Jean Carney, Allen King, Richard Jameson, Charles Cole, Kendall Moore, Pam Russell, William (Bill) Cox, Bobby English, Robert Earl Thornton, Jewell R. English, Danny Stephenson, Becky Booth, Randall Mann, Ronald Woods, Robert T. Campbell, Louis Stuart, and Alvin Jefferies. Absent: Roy B. Bond and Nelson Cunningham.

(other business)

Motion by Louis Stuart and seconded by William King to adopt a regional solid waste plan that includes Haywood County, Lauderdale County, and Tipton County to enforce state regulations pertaining to landfills and waste collection.

Motion passed.

Certificate of True Copy. FORM 402 Ambröse-Nashville

**State of Tennessee,** Haywood **County**

I, Ann D. Medford County Clrk of said Haywood County, do hereby certify that the excerpts of the Haywood County minutes is a full, true and perfect copy of the excerpts of the January 19, 1993 meeting and the May 16, 1994 meeting of the County Commission as appears of record now on file in my office,

In Minute Book 1 Page

Witness Ann D. MEDford, at office in Brownsville this the 27 day of June, 1994.

*Ann D. Medford*  
County Clerk

My com expires 9-1-94

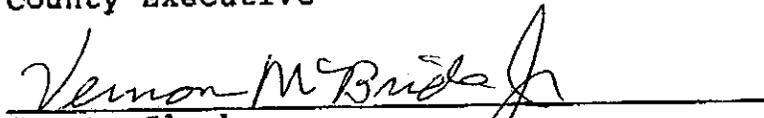
RESOLUTION

BE IT RESOLVED, by the Lauderdale County Commission meeting in regular session on this 9th day of May, 1994, that this commission approved the adoption of the 10 Year Plan for Solid Waste as written by Grace and Associates, Inc. on behalf of the Haywood, Lauderdale, Tipton Solid Waste Planning Region.

This approval came on a vote by all County Commissioners present following a public hearing in which all citizens of Lauderdale County were invited to attend.

APPROVED:

  
County Executive

  
County Clerk

MINUTES OF MAY TERM, 1994

MONDAY THE 9th.

IN RE: ADOPTION OF MUNICIPAL SOLID WASTE REGIONAL PLAN }  
FOR HAYWOOD, LAUDERDALE AND TIPTON COUNTY SOLID }  
WASTE PLANNING REGION }

On motion by Commissioner Harold Twisdale and seconded by Commissioner L. K. Dyson it was ordered by the Legislative Body of Tipton County, Tennessee at its May 9, 1994 term that the following Municipal Solid Waste Regional Plan for Haywood, Lauderdale and Tipton County solid waste planning region be adopted as submitted:

MUNICIPAL SOLID WASTE  
REGIONAL PLAN  
FOR  
HAYWOOD, LAUDERDALE & TIPTON  
SOLID WASTE PLANNING REGION

PREPARED BY:

GRACE AND ASSOCIATES, INC.  
2969 ELMORE PARK ROAD  
BARTLETT, TENNESSEE 38134

May 2, 1994

### State of Tennessee, Tipton County

I, CLARA H. McMILLIN, Clerk of the County Legislative Body of Tipton County, Tennessee, do hereby certify that the above and foregoing is a full, true and perfect copy of In Re: Adoption of Municipal Solid Waste Regional Plan for Haywood, Lauderdale and Tipton County Solid Waste Planning Region as the same appears of record at Quarterly Minute Book 32 pages 16-119 of the records of my office.

Witness my hand and the seal of the County Legislative Body of Tipton County, Tennessee, at office, in Covington, Tennessee, this the 16th day of May, 19 94

*Clara H. McMillin*  
Clerk