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**HUMPHREY'S COUNTY  
SOLID WASTE REGION PLAN**

**Prepared for:  
HUMPHREY'S COUNTY**

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## **PART I.**

### **EXECUTIVE SUMMARY**

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#### **General Description**

This Municipal Solid Waste Regional Plan is developed for Humphreys County as a single county region. Humphreys County has a population of 15,726 and covers 527 square miles. There are three incorporated municipalities in the region, McEwen, New Johnsonville and Waverly.

Humphreys County is approximately 45 miles west of Nashville and is accessible by Interstate Highway 40. Terrain in the area varies greatly from level farmland to steep hills covered with trees. Much of the land is undeveloped and 7% of the working population is in an agricultural business. Exhibit 1 is a map showing political boundaries, major roads, railways and waterways in Humphreys County.

#### **Rationale for Region Formation**

The State of Tennessee passed the "Solid Waste Management Act of 1991" requiring each county to develop a solid waste plan. Originally Hickman, Lewis and Perry counties were planning to form a tri-county region because of their similar characteristics. These counties all belong to the Merriweather-Lewis Electric Co-op, and are similar in size and government structure. The demographics are similar throughout the region. This newly formed region continued to consider the addition of surrounding counties, and, conversely, Houston and Humphreys counties both considered joining the region.

Houston county elected not to participate, while Humphreys county decided to join the group, which became known as the Quad County Planning Region. Later, Lewis county decided to withdraw from the region. Hickman, Humphreys, and Perry counties continued in their attempt to remain a region. Ultimately, it was determined by each of the remaining three counties to form single county regions.

In Humphreys county the single county region decision was reached because it was not clarified at the time that multi-county regional planning could contain variables for each entity within the planning region. At issue also was the heightened awareness and sensitivity to solid waste issues that transpired within the country during this same time frame. Also, Humphreys county, because of its belief in being solely responsible for its own solid waste problems, found itself in the unique position of having one of the first approved sites to develop in the state under Subtitle D Regulations. These parameters led to the decision that a single county region would be adopted. However, the current Planning Board has not ruled out dialoging with adjoining counties regarding multi-county regionalization and cooperation on problems that may be of a mutual nature in the future.

### **Summary of Regional Needs**

Humphreys County operates a landfill with limited capacity for future use and does not meet R.C.R.A. Subtitle D Regulations. Under the Solid Waste Management Act of 1991, Humphreys County must develop a plan to dispose of waste for the next ten years. As a single county, incineration and composting of municipal waste is cost prohibitive.

Humphreys County has a permitted Subtitle D landfill site. They plan to construct a new county landfill, and replace the existing greenbox collection system with several convenience centers.

### **Regional Goals and Objectives**

The Solid Waste Management Act of 1991 mandates solid waste management practices that must be initiated by specific dates. It is the goal of the Humphreys County Solid Waste Board to meet or exceed the state's mandated requirements, and to provide the citizens of Humphreys County a comprehensive, cost effective, and environmentally sound solid waste management system.

Specific goals of the 10 Year Solid Waste Plan are:

1. To continue and improve efforts to reduce, reuse, and recycle as much of the county's solid waste as practical;
2. To dispose of the county's solid waste in an environmentally safe and economically feasible manner;
3. To provide collection services to the total population of the county;
4. To educate all county residents about waste reduction, recycling, collection, and disposal of solid waste; and
5. To encourage the county residents, commercial establishments, businesses, industries, and institutions in being active partners in the ongoing implementation of the solid waste management plan.

## **Summary of System Elements Included in the Regional Plan**

- A. Collection and Transfer
  - 1. Convenience Centers
- B. Processing
  - 1. Conventional unconsolidated disposal
- C. Disposal
  - 1. Class I, Subtitle D Landfill

The City of Waverly, City of McEwen and City of New Johnsonville will collect solid waste as they have in the past. Waste collected from curb-side service will go directly to the county owned landfill. Rural residents can drop their waste off at the new convenience centers. The county is responsible for transportation from the convenience center to the landfill.

Recyclable materials will be collected at the convenience centers. Recyclable materials will be stored at the James Development Center. Household Hazardous Waste will have designated days for collection and used oil will be accepted at all times the center is open. All problem wastes will be disposed through the states mobile unit program.

## **Implementation Schedule**

### **Timetable and Milestones for Construction of Convenience Centers/Transfer Stations**

**Phase I** - The following will be completed by April of 1995.

- Grant Applications
- Sites Optioned
- Survey Sites
- Prepare Environmental Assessments
- Grants Approved
- Design Facilities
- Submit Design Plans
- Open bids/Award Contract
- Hire and Train Staff
- Construct Facilities
- Start-up
- Initiate operation

**Phase II** - Will consist of the following and be implemented by the year 2002.

- Sites Optioned
- Survey Sites
- Prepare Environmental Assessments
- Design Facilities
- Submit Design Plans
- Open bids/Award Contract
- Hire and Train Staff
- Construction
- Start-up
- Initiate operation



## Estimated 10-Year System Costs

The proposed Humphreys County solid waste plan has three components. Below is a breakdown of costs for the system.

### ANNUAL OPERATING EXPENSES FOR 1994-2003

Year	Administration and Equipment	Convenience	Landfill	Total
1994	\$ 0	\$ 0	\$ 0	\$ 0
1995	107,000	184,000	0	291,000
1996	110,210	189,520	283,500	583,230
1997	113,516	195,206	389,340	698,062
1998	116,922	201,062	401,020	719,004
1999	120,429	207,094	413,051	740,574
2000	124,042	213,306	425,442	762,790
2001	127,764	219,706	438,206	785,676
2002	131,597	226,297	451,352	809,246
2003	135,544	233,086	464,892	833,522
TOTAL	\$ 1,087,024	\$ 1,869,277	\$ 3,266,803	\$ 6,223,104

## **CHAPTER 1.0**

### **DESCRIPTION OF THE MUNICIPAL SOLID WASTE REGION**

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#### **1.1 General Description**

This Municipal Solid Waste Regional Plan is developed for Humphreys County as a single county region. Humphreys County has a population of 15,726 and covers 527 square miles. There are three incorporated municipalities in the region, McEwen, New Johnsonville and Waverly.

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#### **1.2 Rationale for Region Formation**

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### **1.3 Institutional Structure**

The Solid Waste Planning Board for the Humphreys County Solid Waste Region consists of seven members. Four members of the Board have been appointed by the Humphreys County Executive, one member by the city of New Johnsonville, one member by the city of McEwen, and one member by the city of Waverly (see appendix for the names and terms).

A Municipal Solid Waste Planning Advisory Committee has been established, and the Solid Waste Planning Board has determined that this advisory committee shall be used to test ideas, receive information, help evaluate public opinion, and express expertise where available. The Advisory Committee is made up of six individuals that expressed both an interest and some degree of knowledge in the subject and related areas. See the appendix for further information.

During the planning process the Humphreys County Regional Planning Board had regularly scheduled meetings open to the public. A question and answer session allowed members of the audience to ask questions and voice their concerns. Humphreys County also has a Recycling Committee that meets monthly. The public is welcome to attend and participate in future recycling efforts for the County.

**1.4 Demographics**

Based on projections from the U.S. Census Bureau the 1993 population for Humphreys County is 15,726 people. Table I-1 shows the size, population and average population density of Humphreys County.

**Table I-1  
POPULATION AND POPULATION DENSITY**

<b>County</b>	<b>Area (Sq. Miles)</b>	<b>Population</b>	<b>Avg. Density Pop./sq.miles</b>
Humphreys	527	15,726	29.84
Regional Total	527	15,726	29.84

According to the U.S. Census Bureau, an Urban area is any city with a population greater than 2,500 people. This region is primarily rural with 75% of the population living in non-urban areas. Humphreys County's only urban city is Waverly. Table I-2 shows the distribution of the region by urban and rural areas.

**Table I-2  
DIST. OF THE TOTAL REGIONAL POPULATION, BY URBAN & RURAL AREAS:**

County	URBAN		RURAL	
	Population	%	Population	%
Humphreys	3,932	25	11,794	75
Regional Total	3,932	25	11,794	75

Table I-3 gives a distribution of the regional population by sex and age. The regional total shows the population to be divided equally between males and females. Twenty-five percent of the population is under the age of 18, sixty percent is between 18 and 65 and fifteen percent is over the age of 65.

**Table I-3  
DISTRIBUTION OF THE REGIONAL POPULATION BY SEX AND AGE**

Age	Total	Male	%	Female	%
0-4	989	539	54	450	46
5-17	2,982	1,557	52	1,425	48
18-44	5,886	2,923	50	2,963	50
45-64	3,564	1,709	48	1,855	52
65+	2,293	947	41	1,346	59
Regional Total	15,714	7,675	49	8,039	51

Table I-4 is a breakdown of the educational background of the citizens living in this region.

**Table I-4  
DISTRIBUTION OF REGIONAL POPULATION BY EDUCATION (AGE > / 25)**

	Number	%
Less than 9th Grade	1,812	26
High School (1-4)	4,218	60
College (1-4)	705	10
Post Graduate/Professional (>4)	251	4
Regional Total	6,986	100

The total number of households in Humphreys County is 6,063 and the occupancy rate for housing units in this area is 85%. Of those units occupied, 23% are rented and 77% are owner-occupied. Table I-5 shows a distribution by the type of housing and occupancy for the region.

**Table I-5  
DISTRIBUTION BY TYPE OF HOUSING AND OCCUPANCY**

	Total Units	Occupied	Owner	Rented
SINGLE FAMILY 1, Detached	5,191	4,628	3,882	746
1, Attached	40	33	21	12
MULTI-FAMILY 2	158	138	7	131
3-4	85	77	6	71
5-9	130	112	6	106
10-19	29	26	1	25
20-49	44	42	0	42
50 or more	0	0	0	0

**Table I-5  
DISTRIBUTION BY TYPE OF HOUSING AND OCCUPANCY**

	Total Units	Occupied	Owner	Rented
Institutional (# of people)	244	0	0	0
Mobile Home/Trailer	1,354	940	716	224
Other	105	67	49	18
Regional Total	7,136	6,063	4,688	1,375

Over the next ten years the population in Humphreys County is expected to decrease by about 2%. This is consistent with the stability of the region over the past 15 years. Table I-6 shows population projections for the years 1994-2003.

**Table I-6  
REGIONAL POPULATION PROJECTIONS 1994-2003**

County	1994	1995	1996	1997	1998	1999	2000	2001	2002	2003
Humphreys	15704	15680	15658	15635	15612	15589	15567	15507	15447	15388
Total	15704	15680	15658	15635	15612	15589	15567	15507	15447	15388

### 1.5 Economic Activity

Humphreys County as a region will effect the waste stream greatest by its economic characteristics. Economic growth and type over the next ten years in Humphreys County will be stable.

Humphreys County has a large heavy industrial manufacturing base. This is due to the railroad in New Johnsonville, the river along the west boundary and the interstate across the south. Room for industrial expansion and resources to support it are present. Therefore, the region is expected to have continued growth. This is evident by the two new industries in the McEwen Industrial Park.

Table I-7 shows basic economic information for Humphreys County in 1991. Total earnings in the county were \$132,992,000. Per capita income was \$10,614.

**Table I-7  
BASIC ECONOMIC INFORMATION, FOR EACH COUNTY, AND THE REGION IN 1991**

County	Population	MSA County (yes/no)	Total Employment	Total Earnings	Per Capita Income	% Pop. Below the Poverty level
Humphreys	15,772	No	6,613	132,992,000	10,614	14.4
Regional Total	15,772	No	6,613	132,992,000	10,614	14.4

Most of the people in Humphreys County have non-agricultural jobs. Of this component, manufacturing is the largest, with 30% of the jobs in the non-agricultural category. Table I-8 shows the percent by category of the non-agricultural employment in the area.

**Table I-8  
% OF TOTAL NON-AGRICULTURAL EMPLOYMENT**

County	Manufacturing	Construction	Trade	Finance	Service	Gov't	Transportation Public Utilities
Humphreys	1,907	606	1,235	191	1,336	419	617
Regional Total	1,907	606	1,235	191	1,336	419	617
%	30	10	19	3	21	7	10



Table I-9 gives the total number of agricultural employees in Humphreys County. Humphreys County has a small population employed in the agricultural vocation.

**Table I-9  
AGRICULTURAL EMPLOYEES**

County	Employment
Humphreys	261
Regional Total	261

Table I-10 provides a breakdown of commercial and non-hazardous waste generated by the major employers in the region, including the private and public sector employees. The screening criterion is based on population. Humphreys County has more than 10,000 people but less than 50,000; therefore, businesses with greater than 25 employees are included.

**Table I-10  
GENERATORS OF COMMERCIAL AND NON-HAZARDOUS INDUSTRIAL WASTE**

County	Screening Criteria Applied	Number of Generators	Estimated Total Quantity of Waste
Humphreys	Businesses with > 25 employees	19	3,536
Regional Total		19	3,536

Table I-11 provides information on institutions housing more than 100 people. Humphreys County does not have any institutions in this category.

**Table I-11  
REGIONAL SUMMARY OF INSTITUTIONS HOUSING MORE THAN 100 PERSONS**

County	Total Number of Institutions	Total Number of Students Prisoners/Residents	Estimated Quantity of Waste Generated
Humphreys	0	0	0
Regional Total	0	0	0

Table I-12 addresses infectious waste management at facilities that have more than 50 beds. Humphreys County has three facilities in the City of Waverly. They are Three Rivers Community Hospital, Humphreys County Nursing Home and the Waverly Nursing Home.

**Table I-12  
SUMMARY DATA ON MAJOR HEALTH CARE FACILITIES IN THE REGION  
( > 50 beds, includes hospitals, nursing homes)**

County	No. of Facilities	No. of Beds	Infectious Waste Management		Est. Quantity of Solid Waste Generated
			Onsite/Offsite	Type Treatment	
Three Rivers Hospital		52	Onsite	Incineration	unknown
Humphreys County Nursing Home		66	unknown	unknown	unknown
Waverly Nursing Home		100	unknown	unknown	unknown
Regional Total	3	218			

Sources of local revenues for Humphreys County are shown in Table I-13. This table reflects revenue in 1991 as presented in the needs assessment reports.

**Table I-13  
SOURCES OF LOCAL REVENUE UTILIZED IN THE REGION**

County	Property Tax	Local Sales Tax	Wheel Tax	Local Waste Collection Fee	User Fee/Tipping Fee	Other*
Humphreys	3,872,000	1,909,000	53,000	109,000	0	0
Regional Total	3,872,000	1,909,000	53,000	109,000	0	0

Local tax revenues based on fiscal year 1993 are shown in Table I-14.

**Table I-14  
LOCAL TAX REVENUE BASED ON DATA FOR FISCAL YEAR 1993**

County	Total Assessed Property Value	Total Property Tax Revenue	Total Sales Subject to Sales Tax	Total Local Sales Tax Revenue	# Registered Vehicles	Total Wheel Tax Revenue
Humphreys	182,401,550	4,067,555		1,887,316	14,000	0
Regional Total	182,401,550	4,067,555		1,887,316	14,000	0

## CHAPTER 2.0

### ANALYSIS OF THE CURRENT SOLID WASTE MANAGEMENT SYSTEM FOR THE REGION

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#### 2.1 Waste Stream Characterization

Humphreys County and the three municipalities that make up the Planning Region generated 15,740 tons or 1.00 ton per capita of solid waste in 1991. The average solid waste generation per person in Tennessee is 1.18 tons per year. Humphreys County is 15% below Tennessee's average solid waste generation per person. Some companies own private demolition landfills which account for Humphreys County being below the state average.

Table II-1  
QUANTITY OF SOLID WASTE RECEIVED FOR DISPOSAL/INCINERATION IN 1991

County	Tons Disposed	Population (1991)	Waste Disposed Per Capita
Humphreys	15,740	15,772	1.00
Regional Total	15,740	15,772	1.00

A comparison to information contained in the Guidelines for Decision Makers: Solid Waste Management, shows the state of Tennessee's waste composition to resemble national levels. The quantity of industrial waste is below normal due in part to the number of private demolition landfills. In Humphreys County, Dupont, Chem. Metal, Inland Container, TVA and Scepter each own private demolition landfills. A comparison of the waste stream in the Humphreys County region vs. the State of Tennessee is provided below:

**Exhibit II-1  
COMPARISON OF WASTE STREAM IN HUMPHREYS COUNTY**

Types of Waste	Humphreys County	Tennessee
Residential	67%	37%
Industrial	0%	29%
Commercial	33%	27%
Special	0%	3%
Other	0%	0%

Refer to Table II-2 for a breakdown of the types of regional solid waste by county in 1991.

**Table II-2  
ORIGIN OF REGIONAL SOLID WASTE IN 1991**

TONS PER YEAR					
County	Residential	Institutional/ Commercial	Non- Hazardous Industrial	Special	Other
Humphreys	10,500	5,240	0	0	0
Regional Total	10,500	5,240	0	0	0

Waste streams need to be analyzed to determine which materials have the most significant impact toward meeting the 25% waste reduction goal for solid waste disposed in Tennessee's Class I municipal solid waste (MSW) landfills and (MSW) incinerators by the end of 1995. Table II-3 shows types of waste and quantity in tons of waste that is currently being disposed of in Class I landfills. These wastes could be disposed of in a Class II, III, or IV landfill. In this region, the removal of yard and demolition waste would achieve a 17% reduction of materials going to Class I landfills.

**Table II-3  
ACCEPTANCE OF SOLID WASTE FOR DISPOSAL OR INCINERATION**

County	Yard Waste (Clippings- leaves-grass)		Sewage Sludge		Construction Demolition		Tires		White Goods	
	Y/N	Qty	Y/N	Qty	Y/N	Qty	Y/N	Qty	Y/N	Qty
Humphreys	Y	600	N	0	Y	300	Y	100	Y	100
Regional Total		600		0		300		100		100

Table II-4 provides a breakdown of the waste stream by materials. Based on National percentages, the major component of waste is paper and paperboard at 40%. Because this is the largest component of material in the waste stream, an effective recycling program would focus on diverting these materials from the waste stream.

**Table II-4  
DESCRIPTION OF THE WASTE STREAM BY MATERIALS**

Waste Category	National %	Calculated Regional Tons
Paper & paperboard	40.0	6,296
Glass	7.0	1,102
Ferrous Metals	6.5	1,023
Aluminum	1.4	220
Other Non-Ferrous Metals	0.6	94
Plastics	8.0	1,259
Rubber & Leather	2.5	394
Textiles	2.1	331
Wood	3.6	567
Food Waste	7.4	1,165
Yard Waste	17.6	2,770
Misc. Inorganic Waste	1.5	236
Other	1.7	283
<b>TOTAL MUNICIPAL SOLID WASTE</b>	<b>100.0</b>	<b>15,740</b>

Humphreys County has areas that are not served by the current waste collection system. It is estimated that these unserved areas generate 1,530 tons of waste per year. Table II-5 shows quantities of unmanaged waste by county.

**Table II-5  
UNMANAGED WASTE**

County	Potential Waste Generation 1991 tpy	Actual Waste Disposed 1991 tpy	Unmanaged Waste 1991 potential actual tpy	Percent of Potential Total
Humphreys	17,270	15,740	1,530	9.00%
Regional Total	17,270	15,740	1,530	9.00%

## **2.2 Waste Collection and Transportation Systems**

### Collection

The total number of households requiring service is 6,400. Municipal service is provided in the cities of New Johnsonville for 600 homes, McEwen for 550 homes and 20 businesses, and Waverly for 1100 homes and 20 businesses. Waste is picked up twice a week from residences and varies from 2-5 days a week for businesses. There are 20 reported roadside dumps with an estimated 5 tons of waste in each.

Areas in the county that do not receive curbside pickup have "Green Box" service available with a total of 286 six cu. yd. containers located around the county. Most households are within six miles of a site. All waste collected is disposed in the county landfill and the average distance from a "Green Box " to the landfill is 12 miles. This system has experienced operational as well as health and safety problems including overloading, litter-on-site, salvage/scavenging, fires, odors and aesthetics.

### Disposal Facility

There is a county sanitary landfill located North of Waverly on Landfill Road. The original permitted landfill was 88 acres, and now the total area permitted is 211 acres. This facility was scheduled to close in 1992, but received an extension and will remain open until 1996. Approximately 100 tons of tires are accepted at this site each year.



## **2.3 Source Reduction and Recycling Systems**

### Source Reduction

Source Reduction is defined by the EPA as "the design, manufacture, and use of products so as to reduce the quantity and toxicity of waste produced when the products reach the end of their useful lives." At this time there are no formal programs that focus on source reduction as a means of reducing waste volumes.

### Recycling

The county has several recycling sources.

David Bramlett - This is a private business operating a buy-back center. Items collected at this site are aluminum, ferrous and nonferrous metals. The total amount of material collected is unknown.

Inland Container - A private company which is engaged in the buy back of paper products. These products must be baled to be accepted. This is largely a re-cycle operation. Quantity unknown at this time.

Scepter - This is a private company almost entirely engaged in purchasing beverage cans, industrial scrap, and reclaimed metal. Between 70-80% of the processing taking place at Scepter is recycled metal. Total amount collected within Humphreys County is unknown.

Mid-South Hogistics - A private company, owner Kevin Handley of New Johnsonville, engaged in the contract buying of recyclable paper. They handle between 800 and 1,000 tons per month selling to companies like Inland Container. Expansion of this facility is in progress at this time, including a new building and a railhead.

James Development Center, Inc. - This is a private non-profit company that has been in the recycling business since 1989. The center employs disabled adults to work at the main location in Waverly. They also operate permanent and temporary drop off sites and have in house container service. Many businesses throughout the county contribute materials to the center or offer space for recycling bins. There are 71 scheduled pick-ups at a total of 73 locations throughout the county that provide the James Center with recyclable materials. The center collected 628 tons of recyclable goods in 1993.

<b>MATERIAL</b>	<b>TONS</b>
Cardboard	351
Paper	95
Glass	23
Plastic	40
Non-ferrous Metals	73
Clothes	46
<b>TOTAL</b>	<b>628</b>

Humphreys County experienced some poor quality in items recovered for recycling. This waste had to be removed from the recycling stream and sent to the local landfill. Humphreys County discovered glass was very costly to transport.

Many industries and small companies have their own in house recycling programs which in turn helps to educate the employee about recycling at home.

The City of Waverly has instituted curb side recycling. The other two municipalities are looking at this option.

Through an active recycling committee we hope to continue to educate the public in methods of recycling. Prepared programs, news articles, contests, special drives, etc. increase the citizen awareness to participate so we can reach our goal of at least a 25% reduction.

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

### Composting

Presently there are no composting facilities operating in Humphreys County, and no plans in the near future to open a composting facility.

**Table II-6  
OPERATING AND PLANNED COMPOSTING FACILITIES IN THE REGION**

County	Facility Location	Tons of Waste Processed/yr	Composted Materials		
			Yard Waste	Sewage Sludge	Solid Waste
EXISTING:					
Humphreys	None				
PLANNED:					
Humphreys	None				
Regional Total					

Waste-To-Energy Incineration

Presently there are no incineration facilities operating in Humphreys County, and no plans in the near future to open an incineration facility. All existing and planned facilities in the region are shown in Table II-7.

**Table II-7  
MUNICIPAL SOLID WASTE INCINERATORS OR WASTE-TO-ENERGY FACILITIES**

County	Facility Location	Design Capacity tons/year	Current Use tons/year	Anticipated operating Life of Facility
OPERATING FACILITIES:				
Humphreys	None			
PLANNED FACILITIES:				
Humphreys	None			

## 2.5 DISPOSAL FACILITIES - LANDFILLS AND BALEFILLS

Humphreys County has a Class I sanitary landfill that is presently used to dispose of municipal solid waste. Table II-8 provides the details of the existing municipal solid waste landfills in the region.

**Table II-8  
EXISTING MUNICIPAL SOLID WASTE LANDFILLS IN THE REGION**

County	Name of Landfill	Location	Permitted Capacity (acres)	Current Rate of Waste Accepted (tons/day)	Remaining Capacity (tons)
Humphreys	County	North of Waverly	211	45	20,800
Regional Total			211	45	20,800

Humphreys County municipal solid waste landfill is expected to close well before the end of the planning period in the year 2003. Table II-9 shows the current annual use and when these facilities are expected to close.

**Table II-9  
EXISTING LANDFILLS EXPECTED TO CLOSE BEFORE 2003**

County	Location	Current Use (tons/day)	Current Annual Use (tons/year)	Anticipated Date of Closure
Humphreys	County Landfill	45	11,700	1995
Regional Total		45	11,700	

Subsequent sections of this planning document will detail the proposed disposal scenario. Table II-10 reflects plans for landfilling in the region.

**Table II-10  
 PLANNED EXPANSIONS AND PLANNED NEW FACILITIES  
 (to operate for 10 or more years)**

County	Proposed Facility		Location	When will Capacity by Available	Permitted Capacity Sought (acre)	Design Rate of Waste (tpd) Disposed	Potential Expansion Yes/No
	Exp.	New					
Humphreys	Yes	Yes	Adjacent to Existing	1996	97	60	Yes

Table II-11 shows the total existing and planned capacity in the region for the next 10 years. These quantities include the existing sanitary landfill.

**Table II-11  
 TOTAL EXISTING AND PLANNED CAPACITY IN THE REGION  
 (at the close of the Next 10 years)**

Year	TONS		
	Existing	Planned	Total
FY 1993	20,800	0	20,800
FY 1994	9,100	0	9,100
FY 1995	0	0	0*
FY 1996	0	271,440	271,440
FY 1997	0	256,940	256,940
FY 1998	0	242,440	242,440
FY 1999	0	227,940	227,940
FY 2000	0	213,440	213,440
FY 2001	0	198,940	198,940
FY 2002	0	184,440	184,440
FY 2003	0	169,940	169,940

\* Humphreys County has requested a minor modification to the existing landfill to provide capacity for 1995.

## 2.6 Cost of the Current System

The county and the municipalities have separate waste budgets. The costs are listed separately and then summarized for the region.

### Humphreys County

#### County Cost

Salaries	168,800
Employee Benefits	36,260
Operating lease equipment	30,000
Maintenance and repairs	29,000
Diesel	22,000
Office supplies	1,300
Fertilizer, lime	2,000
Tires, tubes	8,700
Other	9,500

#### City of McEwen

Salaries	12,426
Payroll taxes	1,478
Capital outlay	2,742

#### City of New Johnsonville

Expenditures	18,000
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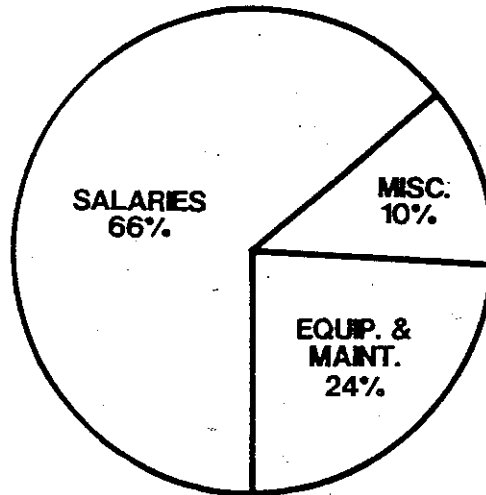
#### City of Waverly

Wages	48,805
Employee Benefits	19,606
Office Expense	8,170
Repairs, Maintenance, Gas, Insurance	19,376

Total Humphreys County                      \$ 438,163

The above costs have been combined into three categories: salaries \$287,375; equipment and maintenance \$103,118; and miscellaneous \$47,670. Exhibit II-2 shows the percentage of the budget that went to each category.

EXHIBIT II-2



**2.7 Revenues**

The county as well as the municipalities have their own sources of revenues. These revenues are listed separately and then summarized for the region.

Humphreys County

County revenues

Taxes/Green box revenues \$ 303,450

City of McEwen

Charges for service 40,715

City of New Johnsonville

Revenues 21,911

City of Waverly

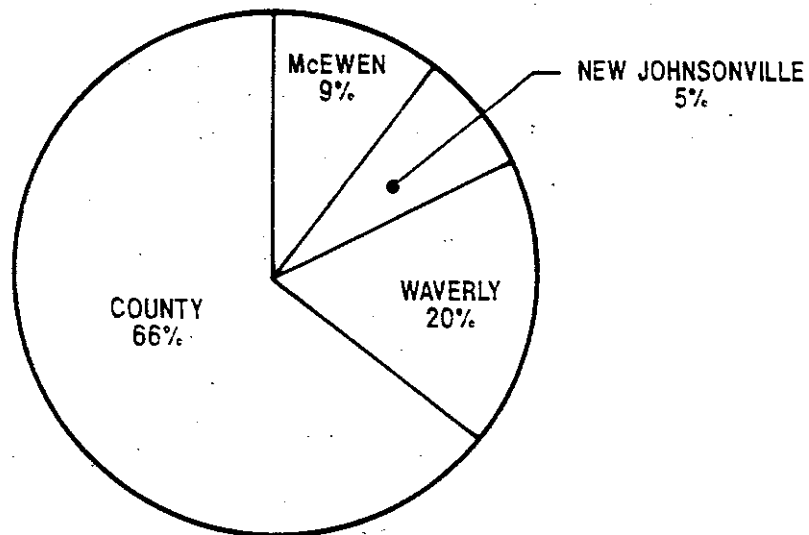
Refuse collection charge 91,797

Total Humphreys County \$ 457,873



Exhibit II-3 shows a breakdown of the budget.

Exhibit II-3



## 2.8 Public Information and Education Programs

Humphreys County has taken steps to make their citizens aware of solid waste issues and the need for recycling. The local newspaper has published articles to inform the public of solid waste issues and general public education. The efforts put forth by Humphreys County to educate their community are described below.

- In August 1991, Mary Erylan Jones conducted an in-service training for teachers in the Humphreys County School system.
- Waverly Junior High has a recycling program.
- The James Development Center distributed literature and had a manned booth at the Humphreys County Fair.

As can be seen from the above list, Humphreys County is working to provide education to the residents. They have formed organizations, used newspaper coverage and provided school programs. By working together as a region, the residents are encouraged to form an advisory council or task force to provide an organizational framework for citizen education and participation.

## **2.9 Problem Wastes**

(See Chapter X)

## **2.10 System Map For Base Year 1993**

## **2.11 Strengths and Weaknesses of Existing System**

Strengths of their existing and planned systems are residents in municipalities are provided curb-side service and rural residents are provided green box service. All residents currently have waste disposal access.

A weakness of the current system is green box service does not meet the minimum requirement for service in the "Solid Waste Management Act of 1991". The new system will provide convenience centers as minimum service.

## CHAPTER 3.0

### GROWTH TRENDS, WASTE PROJECTIONS AND PRELIMINARY SYSTEM STRUCTURE

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#### 3.1 Waste Projections

The planning region must first define probable population growth trends in order to determine the quantity of waste to be managed each year over the ten-year planning period (1994-2003). Table III-1 shows the total waste disposed in the landfills for fiscal year 1993.

Table III-1  
ANNUAL PER CAPITA SOLID WASTE GENERATION RATES, BY COUNTY

County	Total Waste Disposed in FY 1993 (tons)	Projected Population 1993	Annual Per Capita Generation Tons/Person/Year
Humphreys	15,693	15,726	1.00
Total	15,693	15,726	1.00

Using the year 1993 as the base for making projections, the following tables illustrate how the final annual projections for the quantity of solid waste requiring disposal were derived. The first adjustment is based on the projected change in county population over the planning period. Table III-2 shows the change in solid waste disposal requirements based on the population changes.

**Table III-2  
 QUANTITY OF SOLID WASTE REQUIRING DISPOSAL (tons)  
 Adjusted for population changes**

County	1994	1995	1996	1997	1998	1999	2000	2001	2002	2003
Humphreys	15670	15647	15625	15602	15579	15556	15534	15474	15415	15356
Total	15670	15647	15625	15602	15579	15556	15534	15474	15415	15356

In addition to population, economic growth in a planning area is another factor which can affect future projections of waste disposal. Table III-3 uses the data that is generated in Table III-2, and further adjusts for economic growth trends. This table represents the maximum waste disposal requirements in the planning area, and assumes no waste reduction measures are implemented.

**Table III-3  
 QUANTITY OF SOLID WASTE REQUIRING DISPOSAL (in tons)  
 Adjusted for Population and Economic Growth**

County	1994	1995	1996	1997	1998	1999	2000	2001	2002	2003
Humphreys	16206	16201	16196	16192	16187	16184	16182	16143	16105	16068
Total	16206	16201	16196	16192	16187	16184	16182	16143	16105	16068

The State of Tennessee, however, through the "Solid Waste Management Act of 1991" requires a 25% reduction of municipal solid waste by December 31, 1995. Table III-4 reflects waste disposal requirements for the planning area assuming that the region will meet the 25% reduction in solid waste.

**Table III-4**  
**QUANTITY OF WASTE REQUIRING DISPOSAL (In tons)**  
**Adjusted for Population changes, Economic Growth, Waste reduction and recycling**

County	1994	1995	1996	1997	1998	1999	2000	2001	2002	2003
Humphreys	14289	12150	12147	12144	12140	12138	12137	12107	12079	12051
Total	14289	12150	12147	12144	12140	12138	12137	12107	12079	12051

Tables III-5, III-6 and III-7, as described in the Guidelines for Preparation of a Municipal Solid Waste Regional Plan are omitted since there are no special factors in Humphreys County which would affect the waste stream. The final annual solid waste projections for Humphreys County over the next ten years are presented in Table III-8.

**Table III-8**  
**ANNUAL PROJECTIONS OF SOLID WASTE REQUIRING DISPOSAL**  
**Adjusted for All Applicable Factors (In tons/year)**

County	1994	1995	1996	1997	1998	1999	2000	2001	2002	2003
Humphreys	14289	12150	12147	12144	12140	12138	12137	12107	12079	12051
Total	14289	12150	12147	12144	12140	12138	12137	12107	12079	12051

Based on yearly quantities displayed in Table III-8, the disposal needs for Humphreys County over the next ten years is 123,382 tons of municipal solid waste.

### **3.2 Preliminary System Design**

The components of the regional integrated waste management system will include a system for collection of wastes - recyclable materials as well as disposable wastes, a system for transportation of the materials to the point of ultimate disposal, and finally, a system for ultimate disposal of the non-recyclable portion of the solid waste.

### **3.3 Evaluation Criteria for the Region**

Humphreys County investigated the formation of a four county region using incineration to dispose of their municipal solid waste. The region agreed Lewis County would be the host county for the incinerator; however, no agreement was made for disposal of the ash. Lewis County eventually withdrew from the region and formed a single county region. Humphreys County continued to evaluate the construction of a Class I landfill with the remaining counties. Humphreys County finally decided to form their own single county region.

## CHAPTER 4.0

### WASTE REDUCTION

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#### 4.1 Establishing a Base Year Quantity

The State of Tennessee has elected to use 1989 as the base year for determining waste reduction requirements. The Waste Management Research and Education Institute at the University of Tennessee was employed by the Tennessee State Planning Office to prepare a report which details population and disposal rates for each county in Tennessee. The report entitled "Managing Our Waste: Solid Waste Planning for Tennessee" was prepared in February, 1991, and was based on waste disposal information for 1989. Table IV-1 shows population and total waste disposal quantities for Humphreys County based on that report.

Table IV-1  
POPULATION AND QUANTITY OF WASTE DISPOSED  
OF AT MUNICIPAL SOLID WASTE FACILITIES  
DISPOSAL FACILITIES AND INCINERATION, IN 1989

County	1989 Population	1989 Total Waste Disposed (tons)
Humphreys	16,150	18,096
Regional Total	16,150	18,096

The regional per capita waste disposal for the base year 1989 is 1.12 (tons/person/year).

#### **4.2 Calculate a Target 1995 Waste Reduction Per Capita Disposal Rate**

The target year for the first measured waste reduction is the year 1995, and the projected 1995 population for this region is 15,680. Twenty-five percent (25%) of the per capita disposal rate is 0.28 (tons/person/year). This means Humphreys County must reduce its waste quantity by 4,390 tons for 1995.

#### **4.3 Describe How the Region Will Meet the Statewide Reduction Goal**

Initially, the region will continue the recycling programs that are already in place, while also looking for ways to improve and expand the range of services offered by these programs. The region must also find ways to divert waste from sanitary landfills and incinerators. Humphreys County already has a demolition landfill that is used to divert waste from their sanitary landfill.

The long term components of the waste reduction plan include expanded recycling programs which will divert waste from Class I landfills. Public education is critical to the success of these waste reduction program, so the development of public education programs must be included as part of the program.

Waste reduction targets for the year 1995 can be identified in several ways. First, in Chapter 2.0, Table II-4 shows what the national percentages are for the different components of the waste stream. Using those percentages, Exhibit IV-1 shows how many tons of each material must be removed from the regions waste stream to meet their goal if the intent was to reduce each component by the 25% level.



**Exhibit IV-1  
WASTE REDUCTION BY MATERIAL**

Material	Percent	Quantity
Paper & Paperboard	40.0%	1,756
Glass	7.0	307
Ferrous Metals	6.5	285
Aluminum	1.4	61
Other Non-Ferrous Metals	0.6	26
Plastics	8.0	351
Rubber & Leather	2.5	110
Textiles	2.1	92
Wood	3.6	158
Food Waste	7.4	325
Yard Waste	17.6	773
Misc. Inorganic	1.5	66
Other	<u>1.8</u>	<u>80</u>
Total	100.0%	4,390

Another way to categorize waste is by economic sector. Chapter 2.0 contains a breakdown of the percentage of waste generated by each economic sector. Using those percentages, Exhibit IV-2 shows how much each sector must reduce to meet the goal.

**Exhibit IV-2  
WASTE REDUCTION BY ECONOMIC SECTOR**

Economic sector	Percent	Reduction Necessary (tons)
Residential	67 %	2,941
Industrial	0	0
Commercial	33	1,449
Special	<u>0</u>	<u>0</u>
Total	100 %	4,390

Long range planning is important to ensure that the region continues to meet the 25% reduction goal in future years. Exhibit IV-3 shows waste reduction based on the

population projections from Table I-6 in Chapter 1.0. This table shows the tons per year that must be removed, through the year 2003, in order to maintain the target waste volume.

**Exhibit IV-3  
WASTE REDUCTION**

Year	Tons
1994	4,397
1995	4,390
1996	4,384
1997	4,378
1998	4,371
1999	4,365
2000	4,359
2001	4,342
2002	4,325
2003	4,309

Humphreys County expects to achieve their waste reduction goal mainly by recycling and by diverting waste to a demolition landfill. Table IV-2 presents the estimated quantities of waste removed or diverted from the waste stream for the next 10 years.

**Table IV-2**  
**ESTIMATED QUANTITIES OF WASTE REMOVED**  
**OR DIVERTED FROM THE WASTE STREAM**  
**(tons)**

Year	Previous Reductions	Recovered & Recycled	Diverted to Alternative Disposal	Economic Incentives	Other	Total
1985 to 1989						
1990						
1991		308				308
1992		448				448
1993		628	350			978
1994		3,298	1,099			4,397
1995		3,293 <sup>18.75%</sup>	1,097 <sup>6.25%</sup>			4,390 <sup>25%</sup>
Subtotal		7,795	2,546			10,521
1996		3,288	1,096			4,384
1997		3,284	1,094			4,378
1998		3,278	1,093			4,371
1999		3,274	1,091			4,365
2000		3,269	1,090			4,359
2001		3,257	1,085			4,342
2002		3,244	1,081			4,325
2003		3,232	1,077			4,309
Total		34,101	13,799			45,354

Recycling strategies are discussed in detail in Chapter 6.0. Waste diverted to Class IV demolition landfills will be addressed here.

#### **4.4 Other Waste Reduction Strategies**

##### **4.4.1 Diverting Demolition Waste**

Humphreys County operates a Class IV demolition landfill. In 1993 they diverted 350 tons of demolition materials from their Class I sanitary landfill.

#### **4.5 Data Collection and Annual Progress Reporting**

Humphreys County has scales at the landfill facility to weigh demolition waste diverted from their Class I landfill. The County will complete any necessary forms required by the state to show their progress and compliance with the 25% waste reduction.

## CHAPTER 5.0

### WASTE COLLECTION AND TRANSPORTATION

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#### 5.1 Existing Systems

The three municipalities in Humphreys County presently provides curb-side waste collection. This service is a higher level than the service required by Rule 1200-1-.10, which states a convenience center as the minimum acceptable service level. Humphreys County currently provides "green box" service to those areas not receiving curb-side waste collection.

#### 5.2 Regional Needs for Collection

According to Rule 1200-1-.10, the number of convenience centers required can be determined by either square miles or by population. Based on population, this region is required to have one convenience center, resulting in many unserved areas in the region.

Therefore, Humphreys County will install two convenience centers in Phase I of the Solid Waste Plan. Phase II will be three more convenience centers should the need and economics be feasible.

### **5.3 Proposed Waste Collection**

Under this plan the region will provide curb-side service to the three municipalities, convenience centers in rural areas, vehicles and transportation equipment assuming they construct their own landfill.

#### Curb-side Service

Each municipality will operate independent collection systems under the regional plan. Each city will set their own rates and frequency of waste pickup.

#### Convenience Centers

Only one convenience center is required to meet the minimum level of service. Humphreys County has decided to provide more centers than the minimum requirement. Each household will be no further than six to seven miles away from a convenience center, all of which will be located on the most heavily traveled highways. Humphreys County plans to construct six convenience centers total.

All convenience centers in Humphreys County will be similar in design. They plan to use the existing dumpsters from their "green box" service to minimize initial capital costs. Each center will cost approximately \$41,000.

#### Recycling Wagons

The James Center will continue to service, using their equipment, all the recycling wagons placed throughout the County.

## Vehicles and Transportation Equipment

The County will continue to provide vehicles to transport solid waste to the landfill. The three municipalities will continue to provide their own transportation to the landfill.

### **5.4 Meeting Regional Needs**

#### Collection Goals and Objectives

The main goal for this region is to meet the requirements in Section 21 of the Solid Waste Management Act of 1991. It states that "effective January 1, 1996, each county shall assure that one or more municipal solid waste collection and disposal systems are available to meet the needs of the residents of the county.

#### Strategy

On January 1, 1996 this region will continue to operate all curbside collection as it has in the past, and provide at least one convenience center. Two convenience centers are proposed to be built in Phase I. In the Spring of 1995, Humphreys County is applying for grant money to offset the capital cost of the initial convenience centers. The maximum amount available per county through the grant program is \$70,000.

#### Timetable and Milestones for Construction of Convenience Centers/Transfer Stations

**Phase I** - The following will be completed by April of 1995.

- Grant Applications
- Sites Optioned
- Survey Sites
- Prepare Environmental Assessments
- Grants Approved
- Design Facilities

- Submit Design Plans
- Open bids/Award Contract
- Hire and Train Staff
- Construct Facilities
- Start-up
- Initiate operation

**Phase II** - Will consist of the following and be implemented by the year 2002.

- Sites Optioned
- Survey Sites
- Prepare Environmental Assessments
- Design Facilities
- Submit Design Plans
- Open bids/Award Contract
- Hire and Train Staff
- Construction
- Start-up
- Initiate operation

Timetable and Milestones for Purchase of Collection Vehicles

No additional equipment will be purchased at this time.

Integration of the Collection System with Recycling and Problem Waste Collection,

Storage, and Transportation

Each municipality will collect solid waste as they have in the past. The County is responsible for transporting waste from the convenience centers to the landfill near Waverly.

Recyclable materials will be collected at the convenience centers and transported to the James Development Center for storage and disposal. Household Hazardous Waste will have designated days for collection at the convenience centers and used oil



will be accepted at all times the center is open. All problem wastes will be disposed through the states mobile unit program.

**5.5 Summary of Ten Year Staffing and Training Needs**

The specific detail on staffing requirements is contained in Chapter 11.0

**5.6 Ten Year Budget**

**5.6.1 Collection Centers and Transportation**

Capital Costs

**Convenience Centers:**

	<u>Class I Option</u>
Humphreys County	
Transfer Station	\$ -0-
Dumpsters	<u>205,000</u>
Subtotal	\$ 205,000

**Vehicles:**

Loader for 42 cy Bin (1)	\$ 60,000
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Annual Operating and Maintenance Costs

Listed below is a detailed breakdown of the annual operating and maintenance costs for 1994.

	<u>Class I Option</u>
Wages:	
Operator	\$ 20,000
Operator Assistants	14,000
Site Superintendents(4)	75,000
Maintenance & Repair	25,000
Supplies	5,000
Insurance	10,000
Fuel	10,000
Miscellaneous	10,000
Deprec. conven. center	<u>15,000</u>
Subtotal	\$ 184,000

5.6.2. Annual Operating Expenses for 1994-2003

Exhibit V-2 uses 1994 as the base year and projects the annual operating expenses to the year 2003 for each collection option. A 3% inflation rate is used for these projections.

**EXHIBIT V-2  
ANNUAL OPERATING EXPENSES FOR 1994-2003**

<b>Year</b>	<b>Class I Option Collection Centers</b>
1994	\$ 0
1995	184,000
1996	189,520
1997	195,206
1998	201,062
1999	207,094
2000	213,306
2001	219,706
2002	226,297
2003	233,086
<b>TOTAL</b>	<b>\$ 1,869,277</b>

**5.7 Financing Plan**

- **Financing Capital Costs**

See Chapter 11 - Section 11.7

- **Funding Annual Operating Costs**

Numerous alternatives were evaluated for achieving the Regional operating revenues. Total revenues will be funded by a combination of:

1. Commercial User Fees
2. Tipping fee at the facility
3. Tax collections

See Chapter 11, Section 11.5

## CHAPTER 6.0

### RECYCLING

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#### 6.1 General Purpose

Humphreys County has been fortunate to have a recycling program in place since 1989. All recycling so far in this county has been done with a completely voluntary system. Most of the recycling and reusing is targeted county-wide, and efforts have been made to include all age groups.

The drop off site in Humphreys County is the James Developmental Center, located in Waverly, which will be described in more detail later in this chapter. This facility provides the county with a drop off center, a buy back center, and selected collection of business and industrial recyclables.

Humphreys County has also put into place a Recycling Committee made up of voluntary members from the community and businesses. It is their responsibility to promote recycling in the community. This is done by promoting community awareness with periodic newspaper articles, school functions, sponsoring seminars on recycling and other endeavors.

Through the combined efforts of the James Center, the Recycling Committee, business and industry, various clubs in the area, school children, municipalities, and other interested citizens, Humphreys County intends to meet the 25% reduction mandate through programs that are already in effect in the county and new programs that will be implemented because of, and in harmony with, the changes that will occur in the county as mandated by the new solid waste regulations.

## **6.2 Regional Needs**

This region must reduce its municipal solid waste by 4,392 tons per year or 0.28 tons per capita per year to meet the 25% reduction requirement in 1995. It is the goal of the region to continue a reduction in overall waste processed through recycling, diversion of demolition waste to a Class III, IV landfill, and other reduction efforts.

Replacement of the current greenbox program with convenience centers with recycling receptacles, an emphasis on community education with respect to recycling, and a more aggressive campaign to inform the approximately 300 businesses and industries in the county of the need to recycle will substantially enhance our recycling efforts.

### 6.2.1 Regional Goals and Strategies

The goal of Humphreys County is to increase waste reduction as much as economically and practically feasible. They will work to keep those programs they currently have healthy with as much financial support as possible. It is presumed that the State of Tennessee will actively encourage new and expanded recycling markets for our items through the newly instituted Office of Cooperative Marketing. Humphreys County will enthusiastically support the state in their efforts.

Goals and strategies to promote recycling to the general public in Humphreys County include:

1. Providing convenient drop off sites for recyclable materials in the county;
2. Providing public information and education through the use of press releases, radio, etc.;
3. Encouraging and promoting the James Recycling Center facilities to the public;

4. Providing educational material to the public about recycling through the Humphreys County Recycling Committee;
  5. Providing educational programs to the school children of Humphreys County;
- Strategies to increase recycling efforts by businesses and industries include;
1. Offering State and University sponsored seminars and workshops to make commercial accounts more aware of the source reduction issue;
  2. Continuing to work with the Chamber of Commerce, local clubs, and business associations to encourage recycling and reduction.

When our manned convenience centers are in place, it is the county's intention to provide collection facilities for recyclables in each of them. The attendants will be educated in the county recycling goals and expected to impart this information to those residents using the facilities. Written material encouraging recycling and reusing will also be available at the convenience centers. The convenience centers will be located in an effort to effectively serve the approximately 3,150 households in the county that do not have access to recycling facilities.

It has been the policy of this county to charge no tipping fee at the county landfill. Because of the additional expense incurred in regards to new regulations, a tipping fee will be instituted in the future. This in itself, should bring a strong interest by business and industry in the county to examine their waste stream and take a more serious look at recycling and reducing.

#### 6.2.2 Proposed System Components

Humphreys County is very rural with a few small municipalities scattered within it. Therefore, their recycling plan must be compatible with the individuals and their lifestyles that reside here.

The backbone of the county's recycling program is the James Developmental Center. They provide a drop off center and buy back center at their facility in Waverly, which is open and fully staffed five days a week. They also provide scheduled and on-call collection to approximately 70 businesses and industry throughout the county. In the past, they have attempted to provide unmanned drop off wagons at various locations throughout the county, but the results were disappointing due to contamination of recyclables and most of the program was discontinued.

The five projected convenience centers scattered throughout the county, will be convenient to the rural population for recycling. If more centers are required, they will be constructed as funds are available. Each center will have recycling bins, information, and an informed attendant. Approximate locations of the planned convenience centers are indicated on Map 6-1.

The City of Waverly has recently instituted curb side recycling for their 1,100 households (population 4,109). The other two municipalities in the county, McEwen, 550 households (population 1,442), and New Johnsonville, 600 households (population 1,706), are studying Waverly's endeavor, and may begin their own recycling programs in the future. Currently there is a recycling wagon furnished by the James Center in the New Johnsonville Shopping Center, and one in the City of McEwen, available to the public at all times, thus servicing the two municipalities.

Through state grant money, the City of McEwen has recently purchased a chipper/shredder to dispose of unwanted branches and tree debris within the city. This shredded material will be diverted from the landfill and used for mulch at no charge for private and public areas. Tentatively, the plan is to use the material at the McEwen City

Park, to construct a walking track, and to distribute to residents at no charge. The city estimates that in a normal year they will chip and distribute approximately 16 tons of material, diverting it out of the landfill.

In October, 1993, scales were installed at the Humphreys County landfill to weigh the waste being disposed of. Waste classified as 2, 3, and 4 can be diverted to a Class III-IV landfill. Data collected since the scales became operational indicate approximately 12% of the total volume is waste in that category.

The Humphreys County landfill is currently diverting waste tires into a special holding pen. Approximately 19,000 tires will be shredded and disposed of this year.

Some of the schools in the area have recycling containers presently being used. It is the goal of the county to encourage more recycling in the other school systems. At least one club in the area, the Waverly Womens Club, has sponsored an ambitious recycling program in the schools to further education and interest in this valuable tool. County funding helped to support this endeavor.

As discussed earlier, Humphreys County is very fortunate to be the home of the James Developmental Center, the hub of the county's recycling plan. This private, non profit organization was originally conceived in 1974 as a facility for the training and job placement of adult individuals from Humphreys County whose diagnosis is mental retardation. Although the expansion of this original idea has blossomed into many other valuable areas such as independent adult group housing, preschools, subcontract work for their clients, and other very valuable community avenues, we will limit ourselves in this narrative to their recycling efforts.



In 1989 the James Developmental Center entered the recycling market. This was primarily done to provide training and jobs to their adult clients, but also to serve a growing need in the community to provide a market and collection point for recyclable materials. Mrs. Ruby James, Executive Director, and her support staff of 5 individuals, her 17 clients, and volunteers from the community have successfully located markets for aluminum, cardboard, brown, green, and clear glass, computer and mixed paper, newsprint, tin cans, white ledger paper, and plastic, including milk jugs, soft drink bottles, and laundry and bleach bottles. They also accept automobile batteries, metals, and white and brown goods.

The James Center also operates a thrift store that accepts used furniture, appliances, clothing, magazines, etc., therefore diverting that material out of the landfill. The tonnage of this diversion is not known at this time.

Funding sources for the facility include Tennessee state departments, Humphreys County, the City of Waverly, charitable organizations, and provide donations. Obviously, this facility has been of great importance in the community, and will certainly become much more valuable in the future. In 1990, the first year recycling, 142 tons of material was collected, in 1993, the amount was 628 tons, an increase over the three years of 503%. It is anticipated that the James Center will be an integral part of the recycling efforts of Humphreys County in the future.

### **6.3 Coordination of Public and Private Efforts**

Because there is not a recycling coordinator position in the county at this time, Humphreys County is ultimately responsible for ensuring the county reaches the mandated reduction goal. The county will encourage recycling through its Recycling

Committee and in financial support of the recycling efforts of the James Developmental Center.

Humphreys County will coordinate with the State Office of Cooperative Marketing to assist business and industry in determining how they can participate in reducing waste disposal costs and become positively involved in the community's waste reduction efforts. A workshop for businesses and industry, sponsored by the University of Tennessee, has been utilized by the Humphreys County Recycling Committee to involve business and industry, and will be offered again, if necessary.

Presently, staffing for recycling activities is limited to voluntary participation. The implementation of new solid waste regulations will create greater demands on those involved and may require a funded position in the future.

#### **6.4 Future Funding and Budget**

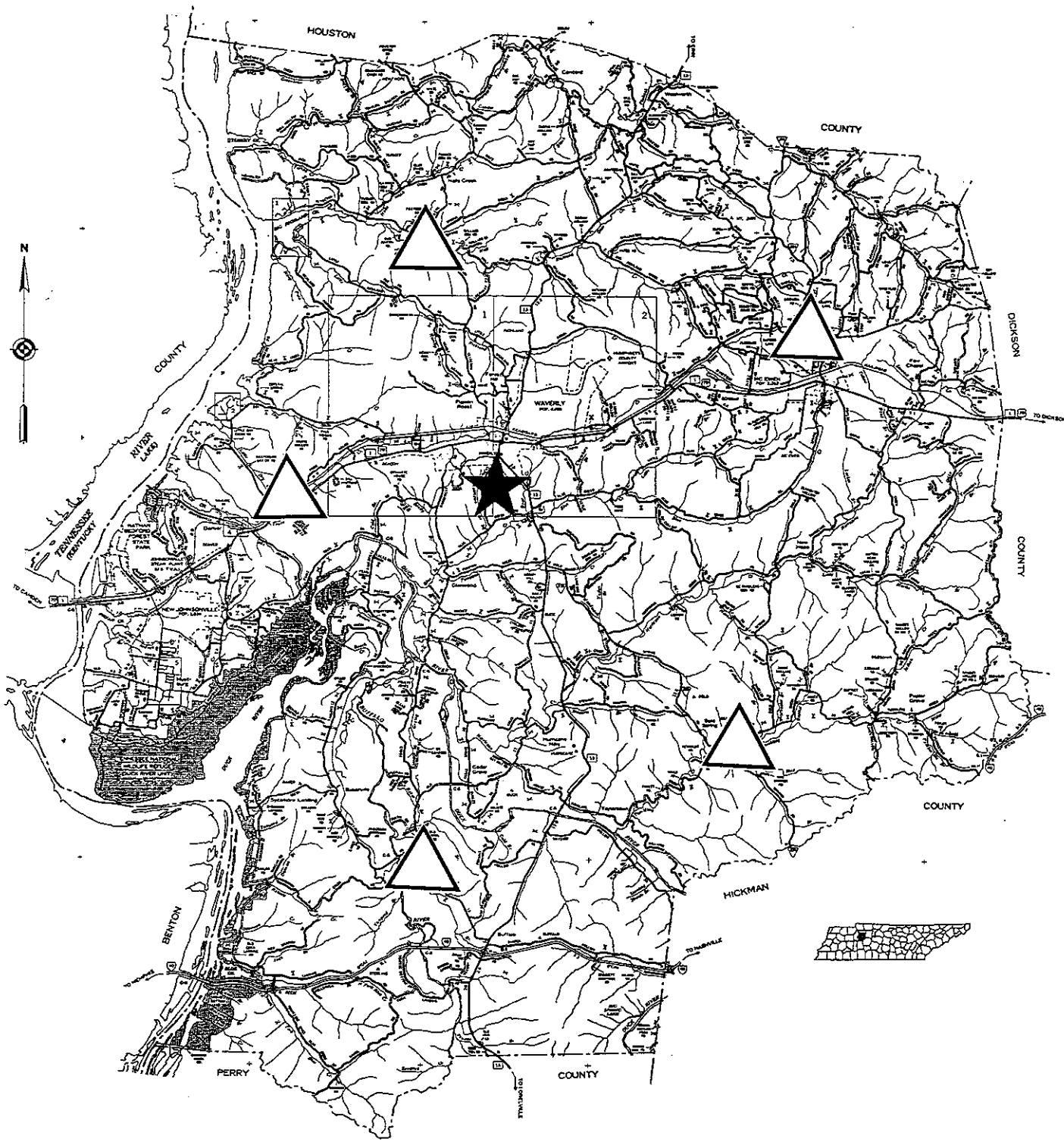
As with the current landfill and solid waste collection system, any monies devoted to recycling is funded by the county's general fund. Grant monies received are considered extra funds and are applied to the specific programs for which the grant was received. Currently, the James Developmental Center receives \$25,000 annually from the Humphreys County general fund.

#### **6.5 Program Implementation Responsibility**

Each city, the James Center, and the county will be responsible for their own recycling programs, but will dialogue with the others to keep information flowing. The Humphreys County Recycling Committee will further coordinate the various recycling programs, and if it is deemed to be necessary in the future, a Recycling Coordinator will be appointed.

The James Developmental Center, Recycling, will continue to furnish the state with quarterly reports covering data on recycling and recovered materials. Humphreys County will keep the state updated on the progress toward the 25% reduction goal in their annual report.

# Map 6-1



**APPROXIMATE LOCATION OF PLANNED  
CONVENIENCE/RECYCLE CENTERS**



**LOCATION OF JAMES RECYCLING CENTER**

## CHAPTER 7.0

### COMPOSTING, SOLID WASTE PROCESSING, WASTE-TO-ENERGY AND INCINERATOR CAPACITY

---

#### 7.1 Regional Needs

The goal of Humphreys County will be to provide a state of the art landfill for disposal of county waste with the least expense incurred by the citizens. The county hopes to expand recycling programs and educate the general public to the principals of recycling.

Humphreys County has determined an incinerator facility is not feasible for their needs due to high capital requirements, ash disposition and the lack of local need for steam.

**CHAPTER 8.0**  
**DISPOSAL CAPACITY**

---

**8.0 General**

Humphreys County is planning to use their new subtitle D permitted landfill for solid waste disposal.

**8.1 County Owned Subtitle D Landfill**

**8.1.1 Capital Costs**

**Landfill Construction**

Expenses	Amount
Clearing and Grubbing	\$ 3,000
Cell excavation (assume 20')	65,000
Buffer Preparation	10,000
Geomembrane Liner (\$0.75/sq.ft.)	30,000
Leachate Collection	12,000
Intermediate Drainage Level	17,000
Sedimentation Basins	15,000
Gas Migration	4,000
Groundwater Monitoring Wells	2,000
Finish Grade/Cap (30"@\$3.00/cu.yd.)	12,000
Topsoil Cover (6"@\$12.00/cu.yd.)	10,000
Groundcover (seed,fertilizer,etc.)	1,000
Post-Closure Plan	3,000
Quality Assurance	3,000
Site Maintenance (roadways)	2,000
Sub-total	\$ 186,000

### Landfill Equipment

Backhoe	\$	65,000 *
Scraper/Pan		200,000
Compactor		200,000
Dozer		<u>150,000</u>
TOTAL	\$	615,000
*Amortization at 10 years at 9% interest		
Depreciation at 10 years (straight-line)	\$	10,500 year
		61,500 year

### 8.1.2 Annual Operating Expenses

#### Conventional Unconsolidated Landfill

Prior to the implementation of Subtitle D Regulations for landfill development, most landfills simply received unconsolidated waste and simply "compacted" the waste with existing landfill equipment (dozers) or with specialized compactors. Typical compacted weights in conventionally operated landfills average approximately 400-500 pounds per cubic yard; however, Humphreys County has consistently achieved compaction rates of 1300 pounds/cubic yard.

Humphreys County currently receives approximately 45 tons of waste per day. Using a compaction rate of 1300 pounds per cubic yard, the total number of cubic yards of landfill space required per day is:

$$45 \text{ tons/day} \times 2000\#/\text{ton} \times 1 \text{ cu. yd.}/1300\# = 70 \text{ cu.yd./day}$$

$$70 \text{ cu.yd./day} \times 315 \text{ days/year} = 22,000 \text{ yd}^3/\text{year}$$

Assume cell area of 1 acre, approximately 20 feet deep

$$43,560 \text{ feet}^2 \times 20 \text{ feet} = 871,200 \text{ feet}^3 \text{ or } 32,000 \text{ cu.yd/acre}$$

22,000 yd<sup>3</sup>/year

32,000 yd<sup>3</sup>/acre = 0.7 acres/yr at \$ 186,000/acre, annual costs are approximately \$ 128,000, say \$ 130,000.

#### Annual Expenses

Wages:	Operators (2)	\$	40,000
	Asst. Oper (1)		18,000
Maintenance and Repair			15,000
Fuel			21,000
Insurance			5,000
Landfill Development			130,000
Equipment Amortization			10,500
Equipment Depreciation			61,500
State Surcharge (\$0.85/ton)			12,000
Leachate Collection and Treatment			15,000
Laboratory Testing			12,000
Miscellaneous Materials			10,000
Tipping Fee to Owners (at \$2.00/ton)			<u>28,000</u>
	TOTAL	\$	378,000

#### 8.1.3 Implementation Schedule

A sequence of activities for implementation of a Subtitled Class I landfill for Humphreys County is given as follows:

- Prepare site survey revisions
- Revise design/groundwater monitoring plan/leachate collection system
- Begin preparation of permit revision
- Landfill design revisions
- Operations manual revisions
- Quality control plan revisions
- Closure/post-closure plan revisions
- Submit proposed modifications to T.D.E.C.
- Secure funding



- Respond to State Review Comments
- Initiate operator training program
- State Review of final documents
- Prepare Bid Documents
- Receive Bids
- Award contract
- Facility construction
- State inspection
- Start-up
- Initiate operation

Exhibit VIII-I projects operating expenses for Humphreys County. A 3% inflation rate has been used.

**EXHIBIT VIII-1  
ANNUAL OPERATING EXPENSES FOR 1994-2003**

Year	Conventional Unconsolidated Landfill
1994	\$ 0
1995	0
1996	283,500
1997	389,340
1998	401,020
1999	413,051
2000	425,442
2001	438,206
2002	451,352
2003	464,892
<b>TOTAL</b>	<b>\$ 3,266,803</b>

Table VIII-1 and Table VIII-2 show the surplus and shortfall for the county.

**TABLE VIII-1**

**County: Humphreys  
TONS PER YEAR**

<b>YEAR</b>	<b>DEMAND: Tons of Waste Requiring Disposal</b>	<b>SUPPLY: Existing &amp; Planned Capacity</b>	<b>Surplus (+)</b>	<b>Shortfall (-)</b>
1993	15,693	36,493	20,800	
1994	15,670	20,800	5,130	
1995	15,647	5,130		10,517*
1996	15,625	271,400	255,815	
1997	15,602	255,815	239,213	
1998	15,579	239,213	223,634	
1999	15,556	223,634	208,078	
2000	15,534	208,078	192,544	
2001	15,474	192,544	177,070	
2002	15,415	177,070	161,655	
2003	15,356	161,655	146,299	

\* Humphreys County has requested a minor modification to the existing landfill to provide capacity for 1995.

**TABLE VIII-2**

**PROJECTED NET DISPOSAL\* (TONS PER YEAR)  
COUNTY/REGIONAL**

<b>Year</b>	<b>1.</b>	<b>2.</b>	<b>3.</b>	<b>4.</b>	<b>5.</b>	<b>6.</b>	<b>Regional Total</b>
1993 Base Year	+ 20,800						+ 20,800
1994	+ 5,130						+ 5,130
1995	- 10,517						- 10,517**
1996	+ 255,815						+ 255,815
1997	+ 239,213						+ 239,213
1998	+ 223,634						+ 223,634
1999	+ 208,078						+ 208,078
2000	+ 192,544						+ 192,544
2001	+ 177,070						+ 177,070
2002	+ 161,655						+ 161,655
2003	+ 146,299						+ 146,299

\* Use (+) to indicate surplus capacity, a (-) to indicate a capacity shortfall.

\*\* Humphreys County has requested a minor modification to the existing landfill to provide capacity for 1995.

## CHAPTER 9.0

### PUBLIC INFORMATION AND EDUCATION

---

#### 9.1 Regional Goals and Objectives

A strong, effective, public participation program is crucial for the implementation of a successful solid waste management program and to instill strong waste minimization habits among the public. The goal will be to develop an informative and factual education program which encourages residents and businesses to become positively involved in solid waste issues. Promotional and educational campaigns will increase public awareness and participation by identifying the potential for waste minimization that already exists in residential and business establishments to ensure that sound solid waste management practices happen.

This chapter focuses on the components which are typically considered for the development and implementation of an effective education/promotion program to generate support and participation in waste minimization efforts. The program will be aimed at educating the public on the benefits of minimization, promoting individual participation in existing activities such as recycling programs, and training targeted facilitators to expand this understanding throughout the region. An organized promotion/education program will secure community acceptance of recycling and other waste minimization activities.

## 9.2 Target Groups and Audiences

- Elementary/Secondary Education

An important element in the implementation of the promotion and education program is the development of school education programs. Educational programs are aimed to accomplish long-term behavioral changes and perceptions by providing a comprehensive understanding of the importance of waste minimization and overall solid waste management. This would involve cooperation from the Board of Education for Humphreys County to actively promote the program and incorporate the program ideas into the education curricula. The elementary/secondary education curricula could include workbook materials (teacher manuals, etc.) and home participation exercises for waste minimization.

Historically, minimization characters have been effective in raising awareness of students of minimization and its importance, particularly at the elementary school level. In addition, school education programs could include contests, field trips to solid waste facilities, and special events (for example, school assemblies in which local theater groups could perform recycling presentations at local schools). Presentations could also be made by these

designated personnel on a regular basis to maintain the students' interest and involvement in the program.

- **Adult Education Programs**

The development of adult-oriented educational programs is especially important since 11,500 plus adults (18-65+) no longer can be directly influenced by the school system. Changes that may occur in minimization programs and over all waste management must be brought to the average adult through newspaper articles, civic or municipal programs, radio, TV, mailed literature, flyers, or public hearings, etc. Reaching the almost 2500 senior citizens (65 or over) in the county will be helped by the several senior citizen organizations that are already active.

The strong enforcement of already existing dumping and littering laws will encourage the use of convenience centers and promote cleaner neighborhoods.

- **Non-Profit Organizations**

Community, civic, and religious groups can be supportive in promoting minimization with their respective memberships and assisting with the distribution of materials to the general public. Clean-up programs and recycling activities should also be

designed for these organizations, similar to residential recycling programs. Implementation of the above types of programs will also go a long way towards increasing the rate of public participation in waste minimization.

### **9.3 Amount and Kinds of Information**

Tennessee Department of Education is developing a program called "Project SWEEP - Solid Waste Environmental Education Program." Project SWEEP is going to provide an approved list of materials for grades K-12 and give in-service training for teachers. A solid waste management\recycling database will be available for youth educators for both in-state and out-of-state resources.

### **9.4 Methods to be Utilized**

- School-based instruction

The Tennessee Department of Education will provide approved lists for educational materials.

- Workshops, conferences and training courses

The Tennessee Department of Education will provide training courses for teachers.

- Audio-visual materials, slides, and videos

Slide or video presentations can be important tools for speakers and at special events for minimization. Supportive printed materials may also be used to supplement the slide production (e.g., workbooks, transcripts,

etc.). Transfer and duplication to videotape of the slide programs may also be considered for broader distribution to community groups, schools, and interested parties.

- **Publications**

Several magazines and periodicals focusing on waste and recycling are published. Some titles to consider are Biocycle, Recycling Times and Recycling Today.

- **Contests and awards**

Throughout the county a serious effort will be made to make the public aware of the special problems associated with solid waste. The public and private sector working together to motivate and educate both children and adults to recycle and correct disposal methods can and will affect the waste stream. Ways to raise public awareness are many, children of all ages enjoy contests with prizes offered. In the school system, with their co-operation, poster contests, essay contests, poetry writing, etc. Stimulate students to participate. If a cash prize is offered, example a U.S. Savings Bond, many students would benefit from participation. Already in Humphreys County the Waverly Women's Club has sponsored a Cash for Trash drive and in the school system a poster content with the same theme. Cash prizes were offered in both contests.

Awards to businesses who take innovative steps in waste reduction would reach into the adult sector.



## **9.5 Staff and Budget Needs**

Humphreys County will apply for grant money to pay for educational materials. Each county can apply for up to \$7,500 annually for educational purposes.

## CHAPTER 10.0

### PROBLEM WASTES

---

#### 10.1 Household Hazardous Waste (HHW)

Household Hazardous Waste (HHW) contains substances that can threaten human health and the environment if disposed of improperly. To avoid future health and environmental problems, a management program is necessary to ensure these wastes are disposed of properly.

##### Regional Goals and Objectives

To inform the public of the potential dangers of (HHW). Set up permanent collection sites in each county to collect (HHW) and use the mobile collection services provided by the state to dispose of these waste properly.

##### Selecting a Temporary Site

Household Hazardous Waste (HHW) will be collected at the convenience centers. The attendant on duty will assist with pick up on state-sponsored collection days.

##### Public Education

Humphreys County has a HHW Day planned in September 1995, at the Humphreys County fair grounds. This will be advertised in the News-Democrat. The recycling committee will have an article in the newspaper explaining what to bring for disposal.

See Chapter Nine for overall details on public education.

#### Coordination of State Collection Days

Convenience center attendants will be trained in (HHW) and will provide assistance on collection days. In case of an emergency, the attendant can call for help.

#### Staff and Training Needs

Additional staff is not required since the collection site is at the convenience center. All attendants will be trained to handle (HHW).

#### Costs

The costs will be minimal to collect (HHW). The purchase of storage containers and staff training classes are the only additional expenses necessary to collect (HHW).

#### Milestones to Meet Goals

Convenience center construction will be completed in Fall 1995. (HHW) disposal will begin when centers open. As part of the recycling program (HHW) will be weighed and recorded to help achieve the 25% waste reduction goal. Progress will be measured by yearly reports submitted to the state.

#### Responsibility Allocating Among Jurisdictions

Humphreys County will be responsible for the convenience centers.

## **10.2 Waste Tires**

Humphreys County tire storage site is located next to the existing demolition landfill. In January 1994 the States mobile tire service shredded approximately 16,000 tires. This county received a tire grant to cover their existing tire facility. The cover will be constructed after the State empties the site.

## **10.3 Waste Oil**

Used oil is a resource that can be easily recycled. Improper disposal in storm drains, in the trash or on the ground can contaminate ground water, surface water and soil. Oil can be re-refined, processed or burned as fuel.

This region does not have a used oil collection program. As part of managing solid waste used oil will be collected in the future. Each convenience center constructed in the region will provide containers to collect used oil. Construction of Phase 1 convenience centers are scheduled for completion July 1995. The county will have at least one site by January 1, 1995 that will accept used oil to meet the requirement of T.C.A. 68-211-866(b). Humphreys County, the City of McEwen and the City of Waverly have applied for used oil grants to offset the equipment costs.

#### **10.4 Lead Acid Batteries**

Lead Acid Batteries are currently being accepted at the existing landfill and also collected by the James Center in Waverly. County-wide programs have not been established yet. Phase 1 convenience centers will accept lead acid batteries by January 1, 1995 and meet requirements of T.C.A. 68-211-866( ).

#### **10.5 Litter**

Humphreys County received litter grants in past years. The grant money was mainly used to subsidize salaries of employers who collected litter. The adopt-a-highway program is also active in Humphreys County. In the future the region plans to continue using T.D.O.T. grants for litter control and public education.

## CHAPTER 11.0

### IMPLEMENTATION: SCHEDULE, STAFFING AND FUNDING

---

#### 11.1 System Definition

After significant consideration, the Humphreys County Sanitation Board and the County Commission has opted to maintain its autonomy by becoming a single county region. Originally part of a four county planning effort, previously documented events and circumstances have lead Humphreys County to the conclusion that establishing a single county region perhaps simplifies the planning and, most certainly, the implementation process.

As a single county region with a waste generation rate of only 45 tons/day, the options available for collection, processing and disposal are somewhat more limited. The following items were evaluated:

- A. Collection and Transfer
  - 1. Convenience Centers
  - 2. County-wide curbside service
  
- B. Processing
  - 1. Conventional unconsolidated disposal
  - 2. Baling
  
- C. Disposal
  - 1. Class I, Subtitle D Landfill
  - 2. Haul to a Private Facility
  - 3. Incineration
  - 4. Composting

Upon council with the Solid Waste Committee, Sanitation Board and County Commission, Humphreys County has opted to consider only convenience center collection and development and operation of a Class I, Subtitle D landfill.

## **11.2 Collection and Transfer**

As noted earlier in the report, the demographics and land-use throughout the county is fairly similar. Humphreys County is bisected by a series of two-lane state highways (State Routes 70 and 13) and access from collector and arterial roads is effective. If facilities are made available in reasonable proximity to major transportation routes, transfer of solid waste throughout the County should be relatively easy.

### 11.2.1 Convenience Centers

The County has relatively densely populated areas within the corporate limits of the municipalities of New Johnsonville, Waverly, and McEwen, as well as a commercially developed and expanding area in the Buffalo community. These urban areas are surrounded by rural areas of moderate to sparse population. However, approximately 50 percent of the population base in the County is spread throughout the rural parts of the county from which there is sometimes significant distance between major population centers. The members of the Planning Board have expressed concern that, under current design guidelines for convenience center locations, there may be significant areas in the Counties without "convenient" access to a drop-off point. Therefore, we have established the following criteria for convenience center locations:

- No resident should be more than six to seven miles from the nearest convenience center.
- All centers are to be located as close as possible to major thoroughfares, such that any resident would have access to a facility on a normal route to work, school, shopping, etc.

In positioning the facilities, we first reviewed the county highway maps which indicate all roadways and roadway names throughout the county. Locations were initially established within each municipality to serve the major population centers and concentrated areas of waste generation. Next, the County was divided into grids such that the intersection of grid lines presented an area with a six to seven mile radius. These intersections then served as approximate locations for the proposed convenience centers. With the approximate locations identified, the county highway maps were again reviewed and field verified to accurately position the centers to meet the established criteria.

Upon determining the location of the centers, we then positioned the centers on the Census Bureau Redistricting Maps and identified the approximate service boundary (six to seven mile radius) for each center. Existing and 20-year population figures for each area were calculated. Then, utilizing existing per capita waste flow information, calculations for existing and future waste loads within each area were developed.

With waste load information established, capacities, staffing needs, equipment requirements and operating parameters were developed. The results are presented in Tables 11-1 and 11-2. Diagrams and Cost Estimates for each center are given in Figure 11-1 and Table 11-3, respectively.



TABLE 11-1  
 HUMPHREYS COUNTY SOLID WASTE STUDY  
 HUMPHREYS COUNTY POPULATION & WASTE LOAD PROJECTIONS

CONVENIENCE CENTER	1990 POPULATION	1995 POPULATION	1995 WASTE LOAD CY/MR	1995 WASTE LOAD CY/MR	2000 POPULATION	2000 WASTE LOAD CY/MR	2000 WASTE LOAD CY/MR	2000 WASTE LOAD CY/MR	2005 POPULATION	2005 WASTE LOAD CY/MR	2005 WASTE LOAD CY/MR	2005 WASTE LOAD CY/MR	2015 POPULATION	2015 WASTE LOAD CY/MR	2015 WASTE LOAD CY/MR
0 CCL-1	6,834	6,700	24,388	469	6,857	24,980	490	6,835	24,879	478	6,972	25,578	488		
+ CCL-2	1,769	1,859	6,767	130	1,954	7,112	137	2,053	7,473	144	2,288	8,256	159		
CCL-3	790	798	2,905	56	871	3,172	61	814	2,983	57	830	3,021	58		
+ CCL-4	769	808	2,941	57	850	3,094	60	893	3,250	62	966	3,589	69		
CCL-5	790	798	2,905	56	814	2,964	57	814	2,963	57	830	3,021	58		
* CCL-6	1,895	1,914	6,967	134	2,113	7,691	148	2,332	8,491	163	2,575	9,573	180		
TOTAL	12,847	12,877	46,873	902	13,459	48,933	943	13,741	50,019	961	14,481	52,639	1,012		

0 Designated as "future" convenience center. Not included in initial capital costs. Numbers include City of Waverly.

\* Assumes 2% Growth rate per year in five year intervals through 2005, then 2% per decade.

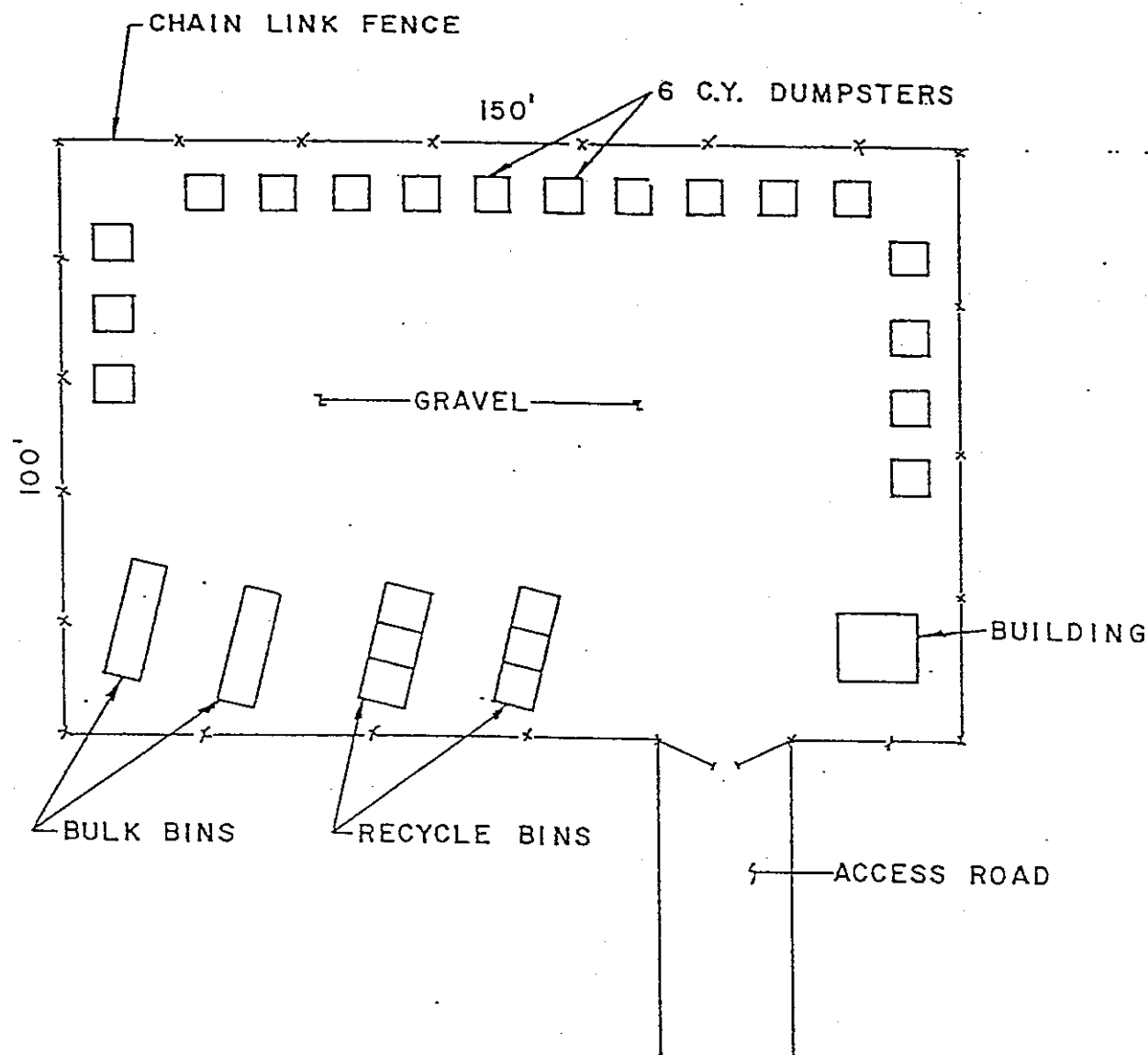
+ Took out 1990 municipal population and used 1% annual growth rate.

PREPARED BY: GRESHAM, SMITH & PARTNERS

TABLE 11-2

HUMPHREYS COUNTY LANDFILL OPTION  
CONVENIENCE CENTERS

CONVENIENCE CENTER	WASTE LOAD C.Y./WEEK	6 C.Y. BOXES REQUIRED	COST
CCL-1	480	(Future)	(Future)
CCL-2	137	25	\$ 41,000.00
CCL-3	61	10	\$ 41,000.00
CCL-4	60	10	\$ 41,000.00
CCL-5	57	10	\$ 41,000.00
CCL-6	148	25	\$ 41,000.00
<b>TOTALS</b>	<b>943</b>	<b>80</b>	<b>\$205,000.00</b>



**CONVENIENCE CENTER (TYP.)  
W/DUMPSTERS**

**SOLID WASTE STUDY  
HUMPHREYS COUNTY, TENNESSEE**



**GRESHAM, SMITH AND PARTNERS**

3310 West End Avenue  
Nashville, Tennessee 37203

DATE: MAY, 1994

FILE: 16278

**FIGURE 11-1**

TABLE 11-3

**HUMPHREYS COUNTY SOLID WASTE STUDY  
PRELIMINARY COST ESTIMATE  
FOR  
CONVENIENCE CENTER  
WITH DUMPSTERS**

1. Grading	\$ 1,000
2. Access Road	1,000
3. Gravel: 1,700 S.Y. @ \$4.00	6,800
4. Fence: 500 L.F. @ \$10.00	5,000
5. 6 C.Y. Dumpsters (Use existing dumpsters)	0
6. Recycle Bins: 2 @ \$5,500	11,000
7. Bulk Bins: 1 @ \$6,000	6,000
8. Building	2,000
9. Lighting & Electrical	2,000
10. Land Acquisition	5,000
11. Miscellaneous	1,200
<b>TOTAL</b>	<b>\$ 41,000</b>

Depreciation Schedule:

Fence (\$5,000 ea.)	\$ 25,000
Dumpsters (\$600 ea.)	48,000
Recycle Bins	55,000
Bulk Bins	<u>30,000</u>

Total Depreciation Material                      \$158,000

Straight line depreciation, 10 year life, 10% salvage value  
 $\$158,000 - \$15,800 = 14,200/\text{year}$   
 say \$15,000/year

**CONVENIENCE CENTERS**

**OPERATIONS SCHEDULE**

	MONDAY 6:00 am-6:00 pm	TUESDAY 6:00 am-6:00 pm	WEDNESDAY 6:00 am-6:00 pm	THURSDAY 6:00 am-6:00 pm	FRIDAY 6:00 am-6:00 pm	SATURDAY 6:00 am-12:00 pm	SATURDAY 12:00 pm-6:00pm
CCL-1	F	U	T	U	R	E	*
CCL-2	X		X		X		X
CCL-3		X		X		X	
CCL-4	X		X		X		X
CCL-5		X		X		X	
CCL-6	X		X		X		X

Several factors affect the implantation of the proposed facilities, foremost of which is the availability of grant funds. Each County is eligible for up to \$70,000 towards convenience center development. In view of the cost associated with the construction of each center, the County has prioritized the location for the first convenience centers and will utilize grant funds toward their implementation. The first facilities in the region have been designated as Phase I convenience centers.

Humphreys County's landfill currently has sufficient capacity to allow continued operation through the implementation of the Regional Waste Plan. Since each of the three population centers currently offers curbside service and is equipped to transport to the County's landfill, priority was given to developing a facility at the largest unserved population center. Additionally, census data and the recent development of the Aqua Glass and Nashville Wire facilities indicates that McEwen and the immediately surrounding area must receive priority consideration for convenience center access. Therefore, a center is proposed for immediate implementation at Site CCL-4.

The remainder of the centers will be developed, as part of the development and implementation program of the Regional Plan. Implementation of the remaining centers has been designated as Phase II.

Since Humphreys County has elected to construct a Class I landfill, all three municipalities will continue current collection programs and transport waste to the Class I Facility. However, in order to accommodate the developed area surrounding the

corporate limits of each municipality but outside the municipality's service area, convenience centers will be constructed utilizing existing green boxes.

The steps for implementation of the convenience center collection component are given as follows:

- Grant application submittal
- Site(s) optioned
- Survey site(s)
- Prepare Environmental Assessment(s)
- Grant approved
- Design facilities
- Submit design plans to county for review
- Prepare bid package
- Open bids/award contract
- Hire and train staff
- Construct facility
- Start-up
- Initiate operation

Annual expenses associated with convenience center operation are given as follows:

**Collection Centers and Transportation:**

<u>Item</u>	<u>Class I Option</u>
Wages:	
Operator	\$ 20,000
Operator Assistants	14,000
Site Superintendents(4)	75,000
Maintenance & Repair	25,000
Supplies	5,000
Insurance	10,000
Fuel	10,000
Miscellaneous	10,000
Deprec. conven. center	<u>15,000</u>
SUBTOTAL	\$ 184,000

**11.3 Processing**

After solid waste is collected and transported to its ultimate destination, the County must evaluate the most feasible mechanism for processing the waste prior to disposal. The options considered are discussed below:

Conventional Unconsolidated Disposal

Prior to the implementation of Subtitle D Regulations for landfill development, most landfills simply received unconsolidated waste and simply "compacted" the waste with existing landfill equipment (dozers) or with specialized compactors. Typical compacted weights in conventionally operated landfills average approximately 400-500 pounds per cubic yard; however, Humphreys County has consistently achieved compaction rates of 1,300 pounds/cubic yard.



Humphreys County currently receives approximately 45 tons of waste per day. Using a compaction rate of 1,300 pounds per cubic yard, the total number of cubic yards of landfill space required is:

$$45 \text{ tons/day} \times 2000\#/\text{ton} \times 1 \text{ cu. yd./}1,300\# = 70 \text{ cu.yd./day}$$

$$70 \text{ cu.yd./day} \times 315 \text{ days/year} = 22,000 \text{ yd}^3/\text{year}$$

Assume cell area of 1 acre, approximately 20 feet deep

$$43,560 \text{ feet}^2 \times 20 \text{ feet} = 871,200 \text{ feet}^3 \text{ or } 32,000 \text{ cu.yd/acre}$$

$$\frac{22,000 \text{ yd}^3/\text{year}}{32,000 \text{ yd}^3/\text{acre}}$$

= 0.7 acres/year at \$ 186,000/acre, annual costs are approximately \$ 128,800, say \$ 130,000.

### Conventional Landfill

#### Equipment

Backhoe	\$	65,000 *
Scraper/Pan		200,000
Compactor		200,000
Dozer		150,000
TOTAL	\$	<u>615,000</u>

*Amortization at 10 years at 9% interest	\$	10,500
Depreciation at 10 years (straight-line)		61,500

Annual Expenses

Wages: Operators (2)	\$	40,000
Asst. Oper (1)		18,000
Maintenance and Repair		15,000
Fuel		21,000
Insurance		5,000
Landfill Development		130,000
Equipment Amortization		10,500
Equipment Depreciation		61,500
State Surcharge (\$0.85/ton)		12,000
Leachate Collection and Treatment		15,000
Laboratory Testing		12,000
Miscellaneous Materials		10,000
Tipping Fee to Owners (at \$2.00/ton)		<u>28,000</u>
	TOTAL \$	378,000

\*Amortize backhoe only. County has other equipment in inventory.

**11.4 Disposal**

The only alternative selected by the Humphreys County Sanitation Board for managing Humphreys County's waste is pursuing the development of the previously permitted Subtitle D, Class I landfill.

In developing a solid waste management system, it will be necessary to provide administration for the management and operation of proposed facilities, and to provide the equipment necessary for operation. The costs associated with administration and equipment for Humphreys County's solid waste system are given as follows:

## ADMINISTRATIVE AND EQUIPMENT

### OFFICE EXPENSES

Lease	\$	2,000
Furniture		2,000
Insurance		4,000
Materials and Supplies		2,000
Office Machines		1,000
Postage		500
Telephone/Fax		500
Utilities		1,000
Miscellaneous		<u>1,500</u>

**Subtotal**                    \$        14,500

### PERSONNEL EXPENSES (includes OASI, ins., retirement, etc.)

Administrative Assistant	\$	16,000
General Manager		30,000
General Services (\$400/month)		4,800
Professional Services (enr., acct., legal)		12,000
Contract Services		12,000
Miscellaneous		<u>4,800</u>

**Subtotal**                    \$        79,600

### EQUIPMENT EXPENSES

Loader for 42 yd <sup>3</sup> Bins (1)		
Amortized 10 years at 9%	\$	7,400
Depreciated over 10 years		<u>5,500</u>

**Subtotal**                    \$        12,900

**TOTAL**                        \$        107,000

The cost comparison between the two most viable alternatives: 1) hauling to a private facility, and 2) disposal in a Class I, Subtitle D facility within the Humphreys County Region - indicates that hauling to a private facility may be comparable. However,

numerous tangible factors weigh heavily in favor of maintaining the lease agreement and permit for a County landfill. They are listed as follows:

- Through the extensive public hearing process conducted in November and December, 1993, and through numerous meetings with County Boards and Commissions, it is apparent that siting a Class I landfill for regional waste disposal in Humphreys County will be extremely difficult, and very time consuming. However, Humphreys County is in the unique position of having an approved site already permitted under the Subtitle D requirements. The County also has a lease arrangement with the property owner (the Hemby family) already in place.
- The time element involved in the development of a Class I facility is approximately 9 to 12 months. It is recommended that disposal at the current facility continue through the 1996 deadline to minimize operating costs, then as given in the Proposed Implementation Plan, begin disposing of their solid waste in their own Class I Subtitle D facility by March 1996 (the date the current facility is expected to expire).
- Once the County relinquishes its lease to the existing property and its permit for a Subtitle D facility, the opportunity for siting a new facility (if future need dictates) is extremely remote.

- If equipment and personnel are disbursed, then capital costs, depreciation and amortization of new equipment as well as the costs associated with hiring, training and certifying new personnel become prohibitive. Therefore, all existing equipment and personnel should be utilized to continue current commercial service and to operate and maintain the proposed convenience centers/transfer stations.
- Perhaps most importantly, if Humphreys County relinquishes control of its solid waste processing and disposal opportunities, the County becomes part of a "captive market" with little opportunity for fee negotiation or cost control. Contracts for disposal with private facilities are typically structured in one year terms with unstructured inflationary clauses and cost contingencies with almost no margin for negotiation.

### **11.5 Implementation Schedule**

The implementation schedule for the Humphreys County program is given as follows:

- Plan approved by Sanitation Board and County Commission
- State approves Regional Plan
- All required permits approved and on file
- Submit proposed plans to T.D.E.C.
- Secure funding
- Respond to State Review Comments
- Initiate operator training program
- State Review of final documents
- Prepare Bid Documents
- Receive Bids

- Award contract
- Facility construction begins for collection/transport system
- Off-site infrastructure development begins
- Off-site infrastructure development complete
- Facility construction complete
- Facility start-up procedures
- Facility in operation

11.5.1      Summation of Annual Expenses

Administration and Equipment	\$	107,000
Landfill Development/Operation		378,000
Collection Center at Transfer Stations		<u>184,000</u>
<b>TOTAL</b>	<b>\$</b>	<b><u>669,000</u></b>

Numerous alternatives were evaluated for achieving the revenues required to cover annual expenses, including property tax, sales tax or special purpose tax assessments. Another plausible option is the development of a User Charge System. The user charge should distinguish between residential and commercial users to be more representative of actual waste generation rates. However, the only method proposed by the Planning Board at this time is the following:

1.	Increase the present commercial pickup fee from \$12 to \$30 a ton	\$ 189,750.00
2.	Raise rural tax rate by one cent	13,037.00
3.	Start charging a tipping fee of \$20/ton	<u>25,000.00</u>
		<b>\$ 227,787.00*</b>

\* This will generate the shortfall between the 1995 and 1996 projected operating budgets.

# 10 YEAR IMPLEMENTATION SCHEDULE

ID	Name	1994	1995	1996	1997	1998	1999	2000	2001	2002	2003	2004
1	Regional Plan Approved/ Region Formed	█	█									
2	Phase I Convenience Centers		█									
3	Phase II Convenience Centers			█								
4	Processing Facility		█	█								
5	Disposal Facility		█	█								
6	Funding Secured		█	█								
7	Revenue Plan Implemented		█									
8	Region Fully Operational			█	█	█	█	█	█	█	█	█
9	Convenience Center Expansions			█	█	█	█	█	█	█	█	█
10	Review and Amend 10 Year Plan							█				





## **11.6 Staffing and Training Requirements**

Staffing and training requirements can be individualized based on the service provided, as follows:

### **A. Administration**

1. Director/General Manager (1) - an individual with an employment background in solid waste management. Management and accounting skills are necessary. Training should include associates degree (or equivalent) with a minimum four years experience in management, or high school degree and ten years experience in management. The Director/General Manager must possess a working knowledge of the Solid Waste Management Act of 1991. This person will be responsible to the Humphreys County Solid Waste Authority Board of Directors. The Manager is scheduled to be "on-board" during design of the proposed facilities for training and briefing as well as to provide input to the design effort.
2. Administrative Assistant (1) - Secretarial level position. These assistants must be familiar with bookkeeping/accounting procedures. They should have high school degree (minimum) with at least four years experience in office management. They should also be familiar with spreadsheet, word processing, and other applicable software. The administrative assistants are scheduled to be "on-board" during start-up procedures for training.

**B. Operations**

**1. Collection Facilities**

- a. Operator (1) - Individual with experience in operation of equipment and vehicles utilized in the transportation of solid waste. The Operator should be familiar with operating characteristics of all equipment and vehicles and experienced in their maintenance. This individual must have all appropriate permits and licenses for vehicle operation and must be familiar with all federal, state and local regulations governing their operation. The Operator must have a minimum of eight years experience with some management responsibilities. This person is scheduled to be "on-board" immediately prior to initiation of operation of the first phase of convenience centers for operator and safety training.
- b. Operator Assistants (1) - Individuals with experience in operation of equipment and vehicles utilized in the transportation of solid waste. The Operator Assistants should be familiar with operating characteristics of all equipment and vehicles and experienced in their maintenance. These individuals must have all appropriate permits and licenses for vehicle operation and must be familiar with all subsequent federal, state and local regulations governing their operation. The Operator Assistants must have a minimum of four years experience. This person is scheduled to be "on-board"

immediately prior to the initiation of operation of the second phase of convenience centers for operator and safety training.

- c. Site Superintendents (4) - These individuals should be familiar with solid waste segregation and recycling. Minor bookkeeping skills may be required. A high school education (or equivalent) is preferred. Positions may involve full-time and/or part-time employment and may require transport among as many as three sites. They must be able to perform policing activities for site and grounds maintenance and be able to supervise disposition of waste in bins. Effective communication skills are required. The Site Superintendents are scheduled to be "on-board" for operations and safety training immediately prior to initiation of operation for each phase of convenience centers.

## **11.7 Funding Sources**

### **11.7.1 Farmers Home Administration**

The Farmers Home Administration (FmHA), an agency of the U.S. Department of Agriculture (USDA), administers loans for community facilities and grants for water and waste disposal facilities through nine district offices in Tennessee.

FmHA's Water and Waste Disposal Loans and Grants are for rural areas and towns of up to 10,000 people. Although priority consideration goes to communities with

less than 5,500 people, municipalities, county utility districts, Indian tribes and non-profit corporations are eligible for assistance.

Applicants must be: 1) unable to get funds from other sources at reasonable rates and terms; 2) legally able to borrow and repay, pledge security for loans and operate and maintain facilities; and 3) financially sound and able to manage the facility effectively. The applicant's financial soundness must be based on taxes, assessments, revenues, fees or other satisfactory sources of income to pay all costs associated with the facility.

Loan rates vary. They depend upon market rate and the community's income level and public health problems. Interest rates are lower for an applicant with an income below the nation's poverty level and in violation of a health regulation. The load is for a maximum of 40 years of the useful life of the facility, whichever is shorter.

#### 11.7.2 Community Development Block Grants

The Community Development Block Grant (CDBG) program is federally funded. Nine cities and two counties in Tennessee receive CDBG funds directly from the federal government. Other Tennessee cities and counties may receive CDBG funds administered by the Tennessee Department of Economic and Community Development. Grants are for projects involving community livability, water/sewer/solid waste and housing/neighborhood revitalization projects.

All city and county governments in Tennessee qualify to apply for CDBG grants, except those cities over 50,000 population. Those cities receive funds directly from the federal government.

CDBG funds must: 1) benefit persons of low and moderate income; 2) eliminate or prevent slums and blight; or, 3) eliminate conditions detrimental to health, safety or public welfare. The project selection criteria are objective and quantitative, based on the community need for the project, project feasibility and an assessment community economic level. The level of CDBG assistance is limited by the community's ability to pay.

Maximum grants are \$300,000 for community livability projects and \$500,000 for water/sewer/solid waste and housing rehabilitation/neighborhood revitalization projects. Grants awarded to one applicant cannot exceed \$750,000 in two consecutive years, and a previous year's grant must be 75 percent depleted by the next year's application date.

Applications are due by the annual date set by the program manager, typically around November.

### 11.7.3 Tennessee Local Development Authority

The Tennessee Local Development Authority (TLDA) loan program was established by state lawmakers in 1978. Its major purpose is to make loans to local governments for water, sewer and solid waste projects. Loans also can be made for purposes such as

airports, capital projects and rural firefighting equipment. In 1990, the law was amended to let TLDA issue bonds and make the proceeds available for loans to local governments for other capital projects.

County governments, metropolitan governments, incorporated towns or cities and any special districts may borrow money from TLDA for water, wastewater, solid waste and other capital improvements.

Funds are used for water, wastewater and solid waste projects approved by the Tennessee Department of Health and Environment, or for other capital projects approved by other state agencies before final TLDA processing.

The terms for use of TLDA funds are as follows:

- The local government must adopt user rates to cover all costs of operation and maintenance, including debt service and depreciation.
- The local government must authorize the loan and pledge taxes to back the loan in case of deficiency.
- The loan must be backed by sufficient state-shared taxes and by reserve funds set aside by the borrower.
- Monthly payments are required. Interest only is required during construction. Principle repayment begins when the project is operational or when 90 percent of the construction cost is depleted, whichever occurs first.
- The loan period is 30 years or the useful life of the project, whichever is less.

- The interest rate prior to issuing the bond varies. For the past several years, funding for this program has been based on 1-year notes. Since the interest rate to the borrower is based on the interest rate of the notes, it can fluctuate from year to year.
- The cost of issuing the bond is approximately 2 percent.
- A reserve fund is required.
- The local government can prepay a TLDA loan prior to issuing the bond, but cannot prepay after TLA issues the bond.
- Application can be made at any time of the year.

#### 11.7.4 Private Issue Bonds

The various types of bonds include general obligation bonds, special tax bonds, revenue bonds, industrial revenue bonds, and double-barrel bonds. General obligation bonds are backed by the full faith and credit of the local government. The entity pledges its full taxing authority as collateral for payment of the loan. Special tax bonds are financed from special taxes created specifically to pay off the bond. Revenue bonds are contingent upon receipts from specific sources such as water sales or sewer service revenues. Industrial revenue bonds are used to finance the building of an industrial facility to be leased to an industry. The lease money is pledged to pay off the bond. A double-barrel bond is backed by collateral from at least two sources. For example, revenues from water sales and the full taxing authority of the local government could be pledged as collateral for a double-barrel bond.

Any local government authorized to incur debt may qualify to use bonds or a funding source. Local governments should generally consider using bond issues for

large, long-term debt - over \$1 million and longer than twelve years. Applicants must be credit worthy or insurable. In other words, they must be ratable by a recognized rating agency such as Moody or Standard and Poor.

Bonds are an unlimited source of money. The local government determines maximum amount of the bonds. They are sometimes used to complement funding from other sources, particularly grant funding.

Terms for bond issues are as follows:

- Bond rates may vary dramatically, depending on an entity's bond rating.
- Applicants must be aware of how federal tax law affects bond issues.
- Applicants should consider the costs associated with issuing bonds, such as legal, insurance, publications and advertising notices, printing, rating agency, bond registration and financial advice. These costs are usually 1 to 3 percent of the bond issue.
- The borrower can lower the interest rate by reducing the amount borrowed; shortening the payback period; taking advantage of arbitrage allowed by federal tax laws and enhancing credit-worthiness. It is advisable to seek legal help on arbitrage and insurance issues.
- It takes about six weeks to issue bonds for a local government that has been through the process before and has established credit. If the local government has not issued bonds previously, the process takes eight weeks to six months.
- It is important to involve a financial adviser early in the process.
- Pitfalls local governments may face in issuing bonds include: 1) user rates may be insufficient to cover debt service; 2) costs incurred on the project before the bond issue may not be covered; 3) inaccurate record-keeping during the project; and 4) inappropriate use of bond money for other than the stated purpose.
- Application may be made at any time of the year.



#### 11.7.5 Summary of Funding Options

The Region, through its affiliation with its representative county and municipalities, is eligible to apply for up to \$500,000 in CDBG funds. The application and award process, however, is very competitive and funding is not assured. It is therefore recommended that the Region seek to use CDBG funds to help off-set initial capital costs, but assume that 100% of the finances will be through private bond issue. It should be noted that all projections for expenses assumed 100% loan sources with no grant assistance. The implementation schedule for all of the initial development activities is given in Table 11-4. The implementation program reflecting the 10-year activities is given in Table 11-5.

## **CHAPTER 12.0**

### **ALLOCATION OF IMPLEMENTATION RESPONSIBILITIES**

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#### **12.1 Plan Adoption and Submission**

The Humphreys County Solid Waste Planning Region is a one county region. The solid Waste Planning committee adopted this 10 Year Plan on January 3, 1995.

It is anticipated the Humphreys County Commission will adopt the Plan at their regular meeting on February 13, 1995.

Humphreys County will continue to use the Regional Planning Committee, but the responsibility for implementing the Plan will remain with the Commission.

## **CHAPTER 13.0**

### **FLOW CONTROL AND PERMIT APPLICATION REVIEW**

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#### **13.1 Flow Control - Out of Region Ban**

Out of region bans are permitted by the Solid Waste Management Act of 1991 in order to permit a region to carefully shepherd the capacity of its solid waste management facilities. There may be a legal question as to the validity of an out of region ban applied to a private facility. The following is from the Solid Waste Management Act of 1991:

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

At this time the Humphreys County Solid Waste Planning Region elects to impose an out of county region ban on solid waste that originates from outside the region. However, the region reserves the right to not impose an out of region ban in the future.

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

The Solid Waste Management Act of 1991 permits a region to exercise intra-region flow control in order to address public health and safety, and transportation management concerns in a coordinated manner, and to permit regions to guarantee a flow of waste as a revenue stream for financing bonds for municipal solid waste facilities. Obviously,

this is a significant issue if the region constructs regional facilities such as landfills, incinerators, balers, or other facilities that require large capital outlays. The following is from the Solid Waste Management Act of 1991:

"(b)(1)(A) If the director of the state planning office approves the plan, the region or solid waste authority, by resolution and subsequent adoption of ordinances by counties and municipalities in the region, may also regulate the flow of collected municipal solid waste generated within the region. Prior to the adoption of any resolution declaring the necessity of requiring mandatory flow of municipal solid waste, the region or authority, following one or more public hearings, shall demonstrate in writing to the Director of the State Planning Office that it has considered the utilization of any municipal solid waste management facility in existence within the region of the effective date of this act which meets the proposed or final federal Resource Conservation and Recovery Act (RCRA) Subtitle D regulations."

At this time, the Humphreys County Solid Waste Planning Region elects not to impose intra-region flow control on solid waste from private industries or private commercial businesses or municipal solid waste. The region reserves the right to modify this position in the future.

If in the future, the county or municipality chooses to fund, construct, operate, or impose a host fee on a solid waste facility, the county or municipality may impose intra-region flow on the public waste generated within its jurisdiction if it so chooses.

### **13.3 Plan Review For New Solid Waste Facilities**

The Solid Waste Management Act of 1991 requires a region with an approved plan, or an authority formed by the region, to review plans for a new solid waste disposal facility or incinerator to determine whether the proposed facility is consistent with the regional plan.

The following is taken from the Solid Waste Management Act of 1991:

"After the plan is approved, the region must approve any application for a permit for a solid waste disposal facility or incinerator within the region as consistent with the regions disposal needs before any permit is issued by the commissioner pursuant to Tennessee Code Annotated, Title 68, Chapter 31."

"An applicant for a permit for construction or expansion of a solid waste disposal facility or incinerator shall submit a copy of the application to the region at or before the time the application is submitted to the commissioner. The region shall review the application for compliance with the provisions of the section, and shall conduct a public hearing after public notice has been given in accordance with Tennessee Code Annotated, Title 8, Chapter 44, prior to making the determination provided for in this subdivision. The hearing shall afford all interested persons an opportunity to submit written and oral comments, and the proceeding shall be recorded and transcribed. The region shall render a decision on the application within 90 days after receipt of a complete application. The region shall immediately notify the commissioner of its acceptance or rejection of an application."

"(B) The region may reject an application for a new solid waste disposal facility or incinerator or expansion of an existing solid waste disposal facility or incinerator within

the region only upon determining that the application is inconsistent with the solid waste management act plan adopted by the county or region and approved by the state planning office and the region shall document in writing the specific grounds on which the application is inconsistent with such plan."

"(C) Where a region rejects an application, the commissioner shall not issue the permit unless the commissioner finds that the decision of the region is arbitrary and capricious and unsupported in the record developed before the region."

"(D) Appeal of final actions of the region, including any determination under subsection (b)(2)(B) of this section, shall be taken by an aggrieved person within 30 days to the Davidson County Chancery Court. The court shall exercise the same review as it would in a case arising under Tennessee Code Annotated, Title 4, Chapter 5. For the purpose of this section, an 'aggrieved person' shall be limited to persons applying for permits, persons who own property or live within a 3 mile radius of the facility or site that is proposed for permitting, or cities and counties in which the proposed facility is located."

"If the region has formed a solid waste authority pursuant to this act, then the authority shall approve any such permit applications as provided for in this section instead of the region."

"(C) Appeal of final actions of the region or authority, including any determinations under subdivision (b)(1), shall be taken by an aggrieved person within 30 days to any chancery court in the region or authority which took such final action."

An applicant for a permit for construction or expansion of a solid waste disposal facility or incinerator shall submit a complete copy of the Part I and Part II application to the chairman of the region (or subsequent authority) at or before the time the application

is submitted to the commissioner. At the time of the application submission, a non-refundable fee in the amount of five thousand dollars (\$5,000.00) to defray costs of additional county expenses (meetings, investigations, notifications, etc.) must accompany the Parts I and II of the application. Upon receipt of all of the above, the chairman shall call a meeting of the region members within 30 days and set a date for a public hearing. The public hearing will be held within 60 days after receipt of the copy of the complete application and fee. The region shall review and determine if the facility is consistent with the region's solid waste plan within 90 days after receipt of a complete Part II application. If the application is rejected, the region will document in writing to the commissioner the specific grounds on which the application is inconsistent with the solid waste plan.

In order to inform interested persons in the area of a proposed facility, notice shall be circulated by the Regional Board (or Authority), the municipal governing body, or both such entities within the geographical area of the proposed facility by any of the following means:

1. Posting in the post office and public places of the municipality nearest the facility under consideration; or
2. Publishing in local newspapers or periodicals, or, if appropriate, in a daily newspaper of general circulation.

The public notice of a proposed facility application must include the following:

1. Name, address, and telephone number of the local city, county, official, and department reviewing the application.
2. Name and address of the proposed facility owner and/or operator.
3. Location and size of the facility.
4. Brief description and type of operation to be operated at the facility, the location of the facility, and the type of waste that will be accepted.

5. A description of the time frame and procedures for making a final determination on the facility application approval or disapproval;
6. Address and telephone number of the premises at which persons may obtain further information, request copies of data on the facility, and inspect the data, and
7. Information including the time, location, and purpose of the public hearing, including the rules and procedures of the hearing to be followed;

Interested persons may submit written comments on the proposed facility until the date of the public hearing. All written comments submitted will be retained and made available to the department of environment and conservation in its final determination of registration of the proposed site.

The following criteria shall be considered in evaluating the proposal:

1. The amount of waste to be processed at the proposed facility;
2. The type of waste to be disposed of at the proposed facility;
3. The method of disposal to be used at the proposed site;
4. The projected impact on surrounding areas from noise and odor created by the proposed facility;
5. The projected impact on property values on surrounding areas created by the proposed facility;
6. The adequacy of existing roads and bridges to carry the increased traffic projected to result from the proposed facility;
7. The economic impact on the region, overall;
8. The compatibility with existing development or zoning plans, actual or proposed;
9. The compatibility with the needs, handling, and required capacity of the region's plan;
10. Any other factor which may affect the public health, safety, or welfare.



The provisions of this part shall not be construed to preempt any zoning ordinance, but shall be in addition to any such ordinance or plan to the extent that the provisions of this part do not conflict with any such ordinance or plan.

The provisions of this part shall not apply to any private facility which accepts solid waste solely generated by its owner and does not accept county or municipal solid waste or ordinary household garbage. The provision of this part shall not apply to any municipal or county owned and/or operated landfill.

In addition, the facility application must be reviewed by the Humphreys County legislative body. County approval or rejection must take place within 90 days after receipt by the region of a complete Part I and Part II of the state permit and receipt of the applicants fee. Appeal of final actions of the host county shall be as prescribed in the same manner as the region's final actions.

The region also reserves the right to require a performance bond from the applicant to the county in the event the proposal is approved.

**APPENDIX A**

**LEGAL DOCUMENTATION AND ORGANIZATION  
OF THE REGION**

**RESOLUTION NO. 1994-31**

**A RESOLUTION CREATING HUMPHREYS COUNTY'S  
MUNICIPAL SOLID WASTE  
PLANNING REGION**

**WHEREAS**, the adoption of the Subtitle D landfill regulations by the United State 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**, Humphreys County's Board of County Commissioners has given consideration to the needs assessment prepared by the Greater Nashville Regional Council; and

**WHEREAS**, T.C.A. 68-211-813, requires that counties in the State of Tennessee form municipal solid waste regions; and

**WHEREAS**, the Act's stated preference is the formation of multi-county regions with counties having the option of forming single or multi-county municipal solid waste regions; and

**WHEREAS**, the State of Tennessee will provide grant monies of varying amounts to single county, two county, and three or more county municipal solid waste regions to assist these regions on developing their municipal solid waste region plans; and

**WHEREAS**, the primary and prevailing purpose of the municipal solid waste regions are the preparation of municipal solid waste regional plans which among other requirements must identify how each region will reduce its solid waste disposal per capita by twenty-five percent (25%) by December 31, 1995, and a planned capacity assurance of its disposal needs for a ten (10) year period; and

**WHEREAS**, the development of a municipal solid waste regional plan that results in the most cost effective and efficient management of municipal solid waste is in the best interest of the citizens of Humphreys County.

**NOW, THEREFORE BE IT RESOLVED**, by the Board of County Commissioners of Humphreys 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 Humphreys County, Tennessee; and

**BE IT FURTHER RESOLVED**, that pursuant to T.C.A. 68-211-813(a)(2), that the Board of County Commissioners of Humphreys County, Tennessee finds and determines that Humphreys County shall be and shall constitute a single county municipal solid waste region due to the following: 1) according to the lease agreement, only solid waste from Humphreys County is allowed in their landfill, and 2) the long term best interest of Humphreys County is to preserve their landfill space; and

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

**BE IT FURTHER RESOLVED**, that this Municipal Solid Waste Region Board shall be composed of seven (7) members; and

**BE IT FURTHER RESOLVED**, that pursuant to T.C.A. 68-211-813(b)(1) Four Board members shall be appointed by the County Executive and approved by this Board of County Commissioners and, due to the fact that Waverly collects or provides disposal services through its own initiative or by contract, the City of Waverly shall have a Board member appointed by the Mayor of Waverly and approved by the City of Waverly and, due to the fact that New Johnsonville collects or provides disposal services through its own initiative or by contract, the City of New Johnsonville shall have a Board member appointed by the Mayor of New Johnsonville and approved by the City of New Johnsonville and, due to the fact that McEwen collects or provides disposal services through its own initiative or by contract, the City of McEwen shall have a Board member appointed by the Mayor of McEwen and approved by the City of McEwen; 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 two members appointed by the County Executive shall have a six (6) year term, that two members appointed by the County Executive shall have a two (2) year term and, that one member appointed by the Mayor of Waverly shall have a four (4) year term, that one member appointed by the Mayor of New Johnsonville shall have a four (4) year term and, that one member appointed by the Mayor of McEwen shall have a four (4) year term; and

**BE IT FURTHER RESOLVED**, that this Municipal Solid Waste Region Board shall have all powers and duties as granted it by T.C.A. 68-211-813 et seq. and in addition, in the performance of its duty to produce a municipal solid waste region plan, it shall be empowered to utilize existing Humphreys County governmental personnel, to employ or contract with persons, private consulting firms, and/or governmental, quasi-governmental, and public entities and agencies and to utilize Humphreys County's services, facilities and records in completing this task; and

**BE IT FURTHER RESOLVED**, that at the Municipal Solid Waste Region Board's initial organization meeting it shall select from its members a chair, vice-chair, and secretary and shall cause the establishment of a municipal solid waste advisory committee whose membership shall be chosen by the Board and whose duties are to assist and advise the Board; and

**BE IT FURTHER RESOLVED**, that the Municipal Solid Waste Region Board, in furtherance of its duty to produce a municipal solid waste region plan, is authorized to apply for and receive funds from the State of Tennessee, the federal government, Humphreys County, the City of Waverly, the City of New Johnsonville, the City of McEwen and donations and grants from private corporations and foundations; and

**BE IT FURTHER RESOLVED**, that Humphreys County shall receive, disburse and act as the fiscal agent for the administration of the funds of the Municipal Solid Waste Region and the Region's Board; and

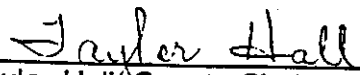
**BE IT FURTHER RESOLVED**, that upon the passage of this Resolution and at no later date than April 29, 1994, the County Clerk of Humphreys County shall transmit a copy of this Resolution to the Tennessee State Planning Office.

**RESOLVED BY THE BOARD OF COUNTY COMMISSIONERS OF HUMPHREYS COUNTY, TENNESSEE**, this 11th day of April, 1994, the welfare of the citizens of Humphreys County requiring it.

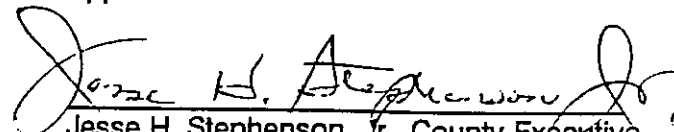
Sponsor:

  
County Commissioner

Attest:

  
Taylor Hall, County Clerk

Approved:

  
Jesse H. Stephenson, Jr., County Executive.

Approved to form:

  
J. P. Bradley, County Attorney

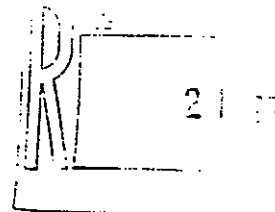


**HUMPHREYS COUNTY  
MUNICIPAL SOLID WASTE BOARD**

<b>Member</b>	<b>Jurisdiction</b>	<b>Term of Office</b>
Mr. John James	City of New Johnsonville	4 Years
Mr. Don Hoehn	City of Waverly	4 Years
Mr. John Winstead	City of McEwen	4 Years
Ms. Diana Wood	Humphreys County	2 Years
Mr. John Tidwell	Humphreys County	6 Years
Mr. Lanier Simpson	Humphreys County	2 Years
Mr. Robert McAlpine	Humphreys County	6 Years

# CITY OF McEWEN

P. O. Box 236  
McEwen, Tennessee 37101  
(615) 582-6211



JOHN N. WINSTEAD  
Mayor  
JANE M. SPARKS  
City Recorder  
JOHN LEE WILLIAMS  
City Attorney

ALDERMAN:  
JAMES T. LARKIN  
W.A. (BILL) HARBE  
ANTHONY D. RO  
JOHN M. MONSIE  
JAMES ETHRID

September 20, 1994

Mr. J.C. Rawlings  
Humphreys County Executive  
Room 1 Courthouse Annex  
Waverly, TN. 37185

Dear J.C.

This is to inform you that I would like very much to remain on the Sanitation Committee. It is my hope that very soon we can resolve some of our greatest problems concerning our garbage and recycling.

Yours Truly;

John N. Winstead  
Mayor.



# CITY OF NEW JOHNSONVILLE

---

323 Long Street • New Johnsonville, Tennessee 37134  
615-535-2715  
Fax#615-535-2185

L. A. "AL" HETHCOAT  
MAYOR

CAROLYN ING  
CITY RECORDS

September 23, 1994

Jaycee Rawlings  
County Executive  
Humphreys County  
Court House Annex  
Waverly, Tenn. 37185

Dear Mr. Rawlings:

On behalf of the City of New Johnsonville, I have appointed Councilman John James as the representative to the Humphreys County Solid Waste Committee.

Sincerely,

Al Hethcoat, Mayor

**CITY OF WAVERLY**

P. O. BOX 71

WAVERLY, TENNESSEE 37185

PHONE 615-296-2101

JESS S. BOWEN, JR., MAYOR

FAX 615-296-143-

September 20, 1994

The Honorable Jaycee Rawlings  
Humphreys County Executive  
Room 1 Court House Annex  
Waverly, Tennessee 37185

Re: Humphreys County Solid Waste Authority

Dear County Executive Rawlings,

I am writing to ask that Waverly City Manager Don Hoehn be appointed to represent the City of Waverly on the Board of Directors of the Humphreys County Solid Waste Authority.

We appreciate the opportunity to participate in this most important activity.

Sincerely,

  
Jess S. Bowen, Jr.

XC: John Lee Williams

HUMPHREYS SOLID WASTE  
ADVISORY COMMITTEE

The Humphreys County Solid Waste Advisory Committee consists of six (6) members which were chosen by the Solid Waste Planning Board to provide as wide a range of expertise as could be found within the County. They represent a cross section of business people, government entities, private citizens, professional individuals, but all have expertise regarding solid waste which has been utilized by the Board. The following is a list of the members and their background. No term limits were set by the Board.

<b>Member</b>	<b>Position-Interest</b>
Mr. Ron Surber	Humphreys County Sanitation Director
Ms. Nancy Ribar	Resident Member, County Recycling Committee
Mr. Harry Luce	Retired Engineer Previous Sanitation Board Chairman
Mr. Ron Smith	Humphreys County Commissioner Chairman, Public Works Committee
Ms. Ruby James	Humphreys County Commissioner Chairman, Budget Committee
Ms. Patricia McAlpine	Resident

The Advisory Committee was established for the following reasons:

1. To assist the Board with their expertise when preparing the 10 Year Plan, and
2. To help the Board educate the community concerning solid waste management and its role in meeting the goals set forth in the plan.

The Advisory Committee was encouraged to attend each regular meeting of the Board, and during those meetings offered suggestions concerning specific issues the Board should address during the conception and implementation of the plan.

It is anticipated that the Advisory Committee will be helpful to the Board in the future by helping promote the plan in their area of expertise, and offering suggestions to the Board on improving the system.

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Pg # 146

Industrial Development Board - Chairman Rawlings then recommended that Roy May and James Dacus be reappointed for another six (6) year term. Their term would run from October 11, 1994 to October 11, 2000. Mr. J. Long made the motion to approve with Mr. Nichols making the second. On a voice vote being called for all Commissioners voted Aye and there were no Nays.

Municipal Solid Waste Region Board - Chairman Rawlings stated that this Board would be meeting each Tuesday night at 6:30 p.m. until a ten year plan could be recommended to the County Commission. He then recommended John James, Don Hoehn, John Winstead, Diana Woods, John Tidwell Lanier Simpson, and Bob McAlpine. When questioned, Mr. Rawlings stated that this was a planning board only. Mrs. Ruby James commented that the County would be complying with one of the State regulations when this Board was formed. Chairman Rawlings stated that the cost of the Ten Year Plan from Gresham, Smith and Partners would be \$22,500. He added that the County would receive a Grant of \$15,000. and the County would have to come up with the rest. Mr. J. Long made a motion to approve the names as submitted. Mr. Nichols made the second. On a roll call vote being called for Messrs Grice, Hughes, James, Jones, Ladd, Link, J. Long, W. Long, McCaw, Nichols, Smith, Webb and Westbrook voted aye. There were no nays. Mr. Reid was absent from the Chambers. Chairman Rawlings declared the motion to have passed and the Solid Waste Committee approved.

Beer Committee - Chairman Rawlings recommended that Commissioner Jimmy Jones replace William Ethridge on the Beer Committee. Commissioner Hughes made the motion to approve with Mr. Webb making the second. On a voice vote being called for all Commissioners voted aye and there were no nays.

#### COUNTY EXECUTIVE RAWLINGS/UPDATES

Aqua-Glass Corporation - Chairman Rawlings stated that everything had been signed on the Aqua-Glass project and that the County would have over \$800,000. in the total project. No further discussion.

Road into Johnsonville Park - Chairman Rawlings informed the Commission that the road tiles had been purchased and that there was a total of \$40,000. in the Budget for the project. He added that the County would have to go out for the bids for the road construction. He further added that Vaughn Contractors had agreed to do the road work and allow the County to pay for it in two (2) fiscal year periods. He continued by saying that the road would be constructed so that it could be placed in the County road system. Mr. Rawlings further stated that the road would be ditched and drained, but not paved.

Water Lines for Nashville Wire - Chairman Rawlings stated that the County was applying for a T.I.I.P. Grant and there was a possibility that the Grant would cover the entire cost of

extending the lines. He further added that the County would have

The January 3, 1995 meeting of the Municipal Solid Waste Regional Board was called to order by chairman John Tidwell. Members present: R. McAlpine, L. Simpson, J. James, D. Hoehn, J. Winstead, D. Wood. Ron Surber and Phil Armor were present as advisors. Ron Smith, Pat McAlpine and Ginny Barbee were in the audience.

Bob McAlpine reported on his meeting with the Gresham and Smith representative which was held December 29th. A discussion on corrections and additions was held. Mr. Heathcost was not present but a representative of his company was. A rough draft of these corrections will be returned to the county executives office by December 9th.

Items still needed to complete the appendix were reviewed. They are: a copy of the resolution signed by the county executive, notes of the upcoming public hearing and copies of the sign in sheet, articles placed in the News-Democrat written by Pat McAlpine for this board, and a copy of the minutes of this meeting indicating an acceptance of the proposed solid waste plan.

Mr. John Winstead moved that the proposed plan be adopted as outlined. The motion was seconded by Don Hoehn. There being no discussion a roll call vote was taken.

J. Winstead - aye	J. James - aye
L. Simpson - aye	J. Tidwell - aye
R. McAlpine - aye	D. Wood - aye
D. Hoehn - aye	

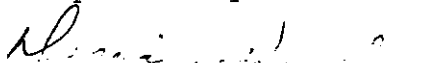
Motion carried 7 to 0.

A discussion followed pertaining to the public hearing scheduled for January 17, 1995.

A sign in sheet will be provided for those attending. All questions should be submitted in writing if possible. The News-Democrat will print the legal notice starting January 6, 1995.

There being no further business the meeting was adjourned.

Respectfully Submitted;

  
Diana Wood, Secretary

**APPENDIX B**

**DOCUMENTATION FOR ADJUSTMENTS TO  
BASE YEAR GENERATION**

**(OMITTED)**

**APPENDIX C**  
**PUBLIC PARTICIPATION ACTIVITIES**

RECOGNIZING THE NEED FOR PUBLIC INFORMATION, THE HUMPHREYS COUNTY SOLID WASTE REGIONAL BOARD COMMISSIONED A SERIES OF ARTICLES THAT WERE PRINTED BY THE LOCAL NEWSPAPER, THE NEWS-DEMOCRAT, AS A PUBLIC SERVICE, DURING THE MONTHS OF NOVEMBER AND DECEMBER, 1994.

## New Regulations Govern The Way Landfills Operate

By Pat McAlpine  
*1st in a Series*

Talking about garbage and other solid waste is certainly not the most readable subject, and I know your first instinct is to skip over this article and go on to something more interesting in this paper.

However, solid waste is becoming a very important issue

in Tennessee and this county, and it is vital that the citizens of Humphreys County understand the impending changes, and how it will affect all of us.

Over the next few weeks, I will attempt to inform you as simply and broadly what solid waste means to our future as a county, and more personally, to each of us.

The best way to start a story is at the beginning, and the beginning is the United States government.

Starting in the 1970's and continuing throughout the 1980's, the United States and the U.S. Environmental Protection Agency (EPA) funded research which showed that

See LANDFILL on Page 14

### Landfill

Continued from Page 14

burying household garbage in the ground, as was being done, contaminates groundwater.

At that same time, it was assumed and planned by the U.S. government that incineration would be taking the place of burying garbage in the ground, a policy that ultimately failed.

Then in late 1991, after several years of deliberation, and spurred on by interested parties in this country that could no longer site large dumps because of the growing knowledge of groundwater contamination by the general public, EPA issued final landfill regulations that would allow the continued burial of garbage.

These regulations required an expensive landfill design, which include digging a hole in the ground, lining the hole with clay, then with plastic sheeting and soil.

It's called "dry tomb" landfilling and the idea is to keep water from mixing with the garbage, and this garbage/water mixture entering the groundwater system.

Water still does enter the pit,

however, and a leachate (garbage/water) pipe collection system is also required. This "baggie" of garbage is to be monitored by the ones responsible for it for 30 years after the "baggie" is closed.

There is much more to the law, covering other issues, some of which we will address later, but put simply, this is the heart of it. Any "old style" dumps have to be closed or converted, after a certain date.

This law applies, with very few exceptions, to New York City's dump, as well as Humphreys County's and everything in between.

In other words, it doesn't matter how big or small your operation is, you must comply with the new, stringent regulations.

This new law, referred to as RCRA Subtitle D, was passed down to the states, who were told to implement it. They were mandated to comply with at least the substance of the basic law, but could make it more stringent.

Funding from the United States government to fully implement this law was not included for the communities

that would have to comply.

Next week: Tennessee's Response.

On Oct. 10, County Executive Jaycee Rawlings appointed, and the county commission approved, a seven-member Municipal Solid Waste Regional Board for the purpose of developing a 10-year solid waste plan for Humphreys County.

The appointees to the board are as follows: John C. Tidwell, chairman, 535-2619; Robert McAlpine, vice chairman, 296-3110; Diana Wood, secretary, 582-8368; Don Hoehn, 296-3374; John James, 535-2869; Lanier Simpson, 582-6589; and John Winstead, 582-6292.

A Citizen's Advisory Panel has also been appointed. It is the intent of this board to keep the public informed as much as possible during the planning process.

As part of the informational process, this series of articles have been approved by the board for your information. Please feel free to contact any of the members with your questions or comments.



# Landfill

## EPA Demands 10 Year Plan

By Pat McAlpine

Along with the mandate from the United States government EPA, in 1991, the state of Tennessee passed The Solid Waste Management Act. This is a lengthy, aggressive plan that required all counties in the state to adopt a 10-year plan of what they were going to do with their solid waste. They would not be able to use their present landfills unless they were of at least U. S. Subtitle D standards.

This plan encouraged counties to band together in forming one plan and one joint landfill to address their solid waste needs. The plan encourages large landfills, either owned by multi-county regions, or owned by large private waste haulers. Thus, reducing and eliminating the many small county landfills we have now, and replacing them with a few mega-landfills across the state.

The plan also mandates goals that include 25% waste reduction, encouraging recycling by December of next year.

New landfills, depending on what they will accept, will be built within limited parameters. They will be monitored on a regular basis for groundwater contamination as well as other things. Our county garbage

stream will also be regulated.

Every ton of garbage that is put into a landfill will carry a surcharge of 85 cents that will go directly to the state, as well as a tonnage fee that will be paid to the landfill owner.

The county must also regulate the way it picks up garbage. One option will be a change in the "green box" collection. Green boxes will no longer be placed randomly around the county, but instead will be grouped together in "convenience centers" which will be fenced and manned.

A county can also choose to have door to door pickup and disposal or other means of collection as approved by the state.

We will be mandated by the

state to reduce our waste stream by 25% encouraging recycling materials out of that waste stream. Non-compliance with this new law can result in heavy penalties levied on the county by the state.

Although the date for the implementation of this law has been extended, it will arrive shortly. The counties of Tennessee have no negotiation power and very little leeway in the matter.

Grants, which often involve matching county money, so they really aren't "free money", are offered by the state for a few mandated projects, but full funding for this landfill law was not included for the communities that have to comply.

Next week Hamp

# Trash New Act Was A Surprise

By Pat McAlpine  
*Third in a Series*

When the very thick, very involved Solid Waste Management Act of 1991, and its companion, Rule 1200-1-7, filtered down to Humphreys County and other Tennessee counties late in 1991, it was probably met with disbelief.

No doubt it is one of the most tedious laws any Tennessee county has ever encountered. Perhaps there was even some thought that this law might be repealed or changed as probably has happened with other laws in the past.

But the law didn't go away. In 1993-94 a few proposals were pitched to the county, including incinerators, private mega-dumps, four county regions, three county regions, hauling our garbage to other counties, hauling other counties' garbage here.

None were considered acceptable by the people of this county and other counties involved. Ultimately we have chosen to be a single county region.

Our 10-year solid waste plan

was supposed to be submitted to the state of Tennessee on July 1. Although we have the rudiments of a 10-year plan, it is not considered complete enough at this time to submit it.

To complicate the problem, the plan is supposed to be made in a certain prescribed manner, and it is just recently that the proper steps have been taken to proceed with the plan.

We should be concerned, but not panicked yet, since it is reported that about 30% of the counties in Tennessee are in the same boat we are, and even Nashville (Davidson County) and its surrounding sister counties are having their own problems with their 10-year solid waste plan.

However, that does not make this county's task any easier or less complicated. A very active committee has been formed, under certain precise criteria as mandated by the state of Tennessee, and this committee is charged with formulating our 10-Year Solid Waste Plan—what we will do with our waste, how we will collect

it, how we will reduce it, and how we will pay for it.

They must work under the guidelines set down by the state, and their plan must be completed by no later than February, 1995. Then it will be submitted to the state for their approval.

It is hoped that this job will be done well in advance of this date since we are already in noncompliance, and going beyond the February date will subject us to very large daily fines imposed by the state.

This is not an easy job or a popular one. I guarantee you these people will work. And I am also certain that the plan finally decided on will be as fair and as financially unencumbering as humanly possible for the citizens of Humphreys County, while still staying within the state of Tennessee's guidelines.

Next week: What does this mean to me, a Humphreys County citizen?

# Mucking Through the Garbage Revolution

By Pat McAlpine  
Note: This is the fourth article of a series presented by the Solid Waste Regional Board.

I resist change, and I suspect most of you do, too. The Solid Waste Act's effect on all of us involves a lot of change, and not many of us will be happy about it.

The first change we will face is how we view getting rid of our waste. We will no longer be able to throw it in some refuse can and forget about it.

The collection and disposal of solid waste has got to be thought of as a utility or service, like electricity or gas or water. And it is a necessary service that will have to be paid for.

No matter what our 10 Year Solid Waste Plan ultimately is for this county, it is going to cost every one of us money. Households will be charged. Collection and disposal fees for businesses and industry will have to be initiated.

Please remember, the existing new laws state that we must dispose of our solid waste in a lined "dry tomb" landfill, by 1996, as previously discussed in these articles.

It is reported that recently, as part of their 10 year plan, Lewis County has initiated a fee of about \$85 per year per household plus business fees to fund their plan. They plan to truck their garbage to the privately owned landfill in Benton County.

Perry County, population 7,000, is in the process of financing and building their own landfill.

Another change we will have to face is getting serious about reducing our waste stream. None of us would dream of

leaving all our faucets running, or leaving the lights on in our homes day and night, or leaving our furnace set at 95 degrees—that is something we control because it costs us money.

Everything we don't put in a landfill saves us money—county tax dollars and personally, and also saves landfill space. We must learn to rinse our bottles, cans, plastic and recycle them.

We must not throw our newspapers, cardboard, junk mail and other recyclable paper products in our garbage. Besides the above mentioned, there is much more that can be recycled.

Businesses and industry must look carefully at their waste stream and how to reduce and recycle it. And don't forget, on top of all of the above reasons, the state has mandated that we reduce our waste stream by 25%, and one of the ways to do it is recycling.

Besides recycling, other state acceptable ways of reducing our waste are diverting our demolition waste and problem waste, source reduction, composting and mulching.

Collection may be a problem for the whole county. We can choose to do door-to-door, green boxes, a combination, but there are conditions.

For instance, if this county chooses to keep its "green box" program, they will be found in several manned, fenced areas around the county. In order to use them, you will have to be a Humphreys County resident discarding household garbage.

Eventually, in the convenience centers there will be separate bins for glass, plastic, cardboard, etc., and we will

See TRASH on Page 16

## Trash

Continued from Page 1

sort our garbage to accommodate them.

We are miles ahead of some of our adjoining counties when it comes to recycling. We have the James Recycling Center, which has to be utilized much more than it has in the past. Not only are they a recycling center, they also offer job opportunities to our challenged citizens, and on top of everything else they are a non-profit organization.

This is a very large change in all of our lives. Most of us probably resent it—for various reasons—someone telling us what to do, government sticking their hands in our pocket, extra work for us—a million reasons, all different.

If it makes it any easier, the whole country, little towns like us, as well as big cities are all faced with this problem; it is nationwide.

The United States government has perceived a problem, and this is their fix, and whether we like it or not, we are in for the duration.

Next week: 10 minutes/day realistic recycling.

*Note: This is the fifth article in a series presented by the Solid Waste Regional Board for your information.*

**Part Five: Mucking Through the Garbage Revolution, 10 Minutes/Day Realistic Recycling**  
By Pat McAlpine

To be honest, when I came here 10 years ago, I didn't recycle at all. I think what changed me was visiting the "green boxes" with my garbage and seeing what was going into them, and around them. The waste just sort of slaps you in the face when you are able to see a pile of it so often.

Slowly, I've gotten more serious about recycling. I am not a fanatic about it, and I like to make it as simple as possible for me. This is my imperfect plan. I have several strategically placed bags around my house. One is a store plastic shopping bag next to my sink (landfill stuff), one is a store brown paper bag near my back door (paper), and one is a big garbage trash bag on my back porch (cans, bottles, jugs, etc.) and a regular waste basket.

As I empty my food and other containers that are recyclable, I immediately rinse them quickly with warm water, remove the lids and rings, and throw them in the big trash bag on the back porch.

I look at every scrap of paper that comes in the house, the newspaper, junk mail, used magazines and telephone books, scrap paper, corrugated cardboard, and anything else that can be recycled by the James Center goes into or near the brown paper bag. Don't forget, that paper and newspaper has to stay dry for the James Center to be able to send it to the recyclers.

If you have curb recycling, be sure to slip your paper into a plastic bag to stay dry. I hear a little here, we have a wood stove, so sensitive personal papers, shiny paper inserts, wrappers, and other burnable nonrecyclable paper products go into my wastebasket to burn in the woodstove.

What is left of my garbage stream, food scraps, jar tops, miscellaneous plastic, styrofoam, and other nonrecyclable materials go into the bag by the sink, which, unfortunately, goes to the dump.

If I chose to get more serious and compost in my back yard, some of my dump bag would go there. When I start tripping over my recycle bags, I visit the James Recycling Center. It's conveniently located in Waverly, and I stop there on my way to town.

Before I visit them, I sort my

times, I don't, and I hope that those great folks at the James Center don't get too mad at me. Always my discards are clean, dry and semi-sorted at worst.

My small dump discards bag gets dropped off more often at the dumpsters when I pass them. I'm down to about one quarter of a plastic grocery bag per day or less going to the landfill.

My husband saves up his scrap metal and aluminum, batteries, etc., and drops that off on occasion at the James Center. Clothes and other items go to the resale shop.

What takes me an extra 10

minutes a day removes in excess of 50% of what used to drop in that dumpster. My little routine is mine, and may not work for you. Many of you have better plans. Others of you have curbside recycling that requires a little different routine.

If you do not recycle, and think you might want to try, get in touch with the James Recycling Center at 296-2718, find out more, and begin your own plan. They accept much more than I have mentioned. Try it. It's sort of like eating peanuts, once you start, it's hard to stop.

*Next week: Some final thoughts.*

# Garbage Revolution, Final Thoughts

*Note: This is the sixth and final article of a series presented by the Solid Waste Regional Board for your information.*

**By Pat McAlpine**

This is the final installment of this series of articles on how and why garbage and solid waste has made their way into our conversations in this county. The 10 year Solid Waste Committee is still meeting weekly, and getting very close to completing the

county's plan.

Most of the serious road-blocks have been overcome, and the plan is being put into booklet form. As close as I can calculate, these individuals have spent over 300 hours of their time, to date, trying to formulate the most reasonable plan for Humphreys County.

Some of the changes are long overdue. The convenience centers will be a reality. They are the lowest level of collection

service allowed by the state, and for our rural lifestyle, they have been determined the best choice for us. They will be available to all Humphreys county citizens for their household garbage, and will be manned.

To give you a couple of examples of why this change is important, a few weeks ago garbage bags were strewn along Highway 230 for several miles in the county, obviously

on the way to one of our dumpsters. Several of the broken bags had mail in them, addressed to someone in Hickman county, a person that has no business using our dumpsters, much less flinging his garbage all over roads for us to deal with.

A few days ago I approached a Dickson licensed pickup truck being emptied into our dumpster by two guys. I re-

See TRASH on Page 10

## Trash

Continued From Page 1

minded them, in my own special way, that they should put their garbage in their own county's dumpsters. I'll leave it to your imagination what their colorful and snappy reply was.

The point is we pay for our garbage service now, and in the future we will pay more and have to be more responsible for our garbage stream. Our garbage, and only our garbage, is our responsibility. The convenience centers, although they will be more restrictive than we are used to, will help us meet our state mandates.

The 10 Year Solid Waste Committee felt background information to the public was necessary and asked me to inform you on how and why a subject like solid waste has become important to a small rural county like Humphreys. The Committee hopes that over the last few weeks, as we have verbally wandered from the U. S. government, to the state government, to us, you have learned something about the complexity, the new laws, and yes, the politics, of this subject. My job is done. The Committee's goes on.

The 10 Year Solid Waste Committee would like to take this opportunity to thank the News-Democrat for their cooperation in printing this series for public information and consumption.

On a personal note, I want to thank each of you for being interested enough to read these articles. It was my absolute pleasure to write them for you.

HUMPHREYS COUNTY SOLID WASTE REGION

SIGN IN SHEET

Name	Address
Jimmy Barber	3270 Poplar Grove Rd - McEwen
Margaret Nichols	67 Nichols Lane Waverly
Wayne Jones	830 McEwen TN 37101
Odel Nichols	67 Nichols Lane Waverly
Betty Chantam	108 Sherman Dr. Waverly
James Brunking	6575 BAKERVILLE RD Waverly
Avery James	824 W. Main St Waverly TN 37185
Wade Pizar	PO Box 143 Waverly 37185
Wild Price	6690 Clydeton Rd.
Billy Hugh Link	1949 Link Rd. New Johnsonville 37135
Richard McCoy	360 Victoria Ln Waverly 37185
JOHN WILLIAMS	102 SO CT SQ. WAVERLY 37185
Leonard Parcel	206 Cowley St Waverly
Jeffrey J Ladd	6410 Bakerville Rd Waverly
James Ladd	58206 E. R. McEwen
Jan Reck	780 Berryman Hollow Rd McEwen
Norisea Betty	3495 Garner Cr. Rd Dickson
Wesley Betty	3495 Garner Cr. Rd. Dickson -
Ray McAlpine	4187 Hwy 230 McEwen
Tony W Davis	RT 1 Box 20 H Mills, TN
Karl Sheber	3964 Highway 17 South
Chris Woolf	3503 Poplar Grove Rd McEwen
Ray Woolf	3503 Poplar Grove Rd. McEwen
Frank James	74 Parrish Ln. McEwen TN.
Kushel Curtis	94 E Curtis Lane McEwen

HUMPHREYS COUNTY SOLID WASTE REGION

SIGN IN SHEET

Name

Address

John Scott  
Zoe Scott

4095 Poplar Dr Rd McEwen

Mike Bullen

517 Main St McEwen, TN





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## LEGAL NOTICE

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### PUBLIC HEARING

There will be a public hearing held at the Humphreys County Courthouse, upstairs, Tuesday, January 17, 1995, 6:30 p.m., for the purpose of reviewing the Humphreys County Ten Year Solid Waste Plan.

All interested parties are urged to attend.

John C. Tidwell, Committee Chairman  
Municipal Solid Waste Regional Board

Jaycee Rawlings, County Executive  
Humphreys County

Publication Dates: January 6, 13, 1995.

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The public hearing was held as advertised with approximately 28 people in the audience and six of the seven Municipal Solid Waste Board Members. Mr. Phil Armor, Greater Nashville Regional Council, was in attendance. The meeting was recorded, and minutes were also taken by the Committee secretary, Ms. Diana Wood. Handouts of the Plan Executive Summary and other informational sheets were distributed to the audience. Approximately one hour was spent educating the audience on the highlights of the plan by Mr. Tidwell, Chairman, assisted by other members of the Board. At the end of the presentation, written and oral questions were taken from the audience, and were addressed by the Committee to the best of their abilities. The meeting was adjourned after approximately 1.5 hours.

**APPENDIX D**  
**EXPORTS AND IMPORTS**

**(OMITTED)**

**APPENDIX E**

**REVIEW BY APPROPRIATE MUNICIPAL OR  
REGIONAL PLANNING COMMISSION**

**NOTE: COMMISSION MEETS FEBRUARY 13, 1995.  
DOCUMENTATION FOR THIS APPENDIX WILL BE FORWARDED.**