

Prepared for
Morgan County Municipal Solid Waste Planning Region

**Morgan County Solid Waste Management Plan
1994 - 2003**

Prepared by
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Engineers/Architects/Planners

POH Project No. 51601
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Revised December 1994

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EXECUTIVE SUMMARY

This solid waste management plan is for the region consisting of Morgan County and its population of 17,498. Morgan County is located in an area of Tennessee that is dominated by the transition between the Cumberland Plateau and the Tennessee River Valley. This geography creates an isolation by hindering transportation and certain development. There are no interstate highways crossing Morgan County nor is it located on a major route to a large metropolitan area. Due to the county's relatively small population and geographic isolation, the decision was made to become a single-county region.

The major component of solid waste management most affected by this decision is the disposal component. The county recognizes that continuing to operate a Class I landfill with the waste volume generated within Morgan County is not an economically feasible venture. Operation of a Subtitle D standard Class I landfill within Morgan County for multi-county use is also believed to be infeasible from both a transportation and public acceptance viewpoint. It appears that there is more than one opportunity to contract for waste disposal capacity within reasonable haul distances outside the county.

From this point, the objective of the solid waste management plan is to provide efficient, cost-effective solid waste management with components designed to haul waste to a Class I landfill outside the county and reduce the amount of waste that must be disposed in such facilities. The county will endeavor to reduce or otherwise divert 25 percent of the waste stream from Class I facilities on a per capita basis by December 1995. Another objective of the system is to make it compatible with current operations to maintain the effectiveness of existing operations. The county currently provides collection according to the requirements of availability established by state regulations by use of convenience centers and green box drop-off centers. A summary of items required for the county to reach its objectives follows.

Collection - Upgrade two current green box drop-off areas into fully manned convenience centers. Purchase an additional truck to better serve the collection system.

Recycling - While not capable of providing the entire waste reduction needs of the county, an effective means of collecting recyclables is needed to obtain a significant portion of the waste reduction required. Collection will be made available through drop-off points for recyclables at the convenience centers. The county will act as a local collector or broker of certain recyclable material.

Composting - This element will be conducted by an entity other than the county or cities. The local prison system has elected to undertake a food waste composting operation for its own benefit. However, there is also a benefit to the county through the reduction in the waste stream from the prison system.

Disposal - Again, an out-of-county facility will be relied upon for disposal of that portion of the waste stream that cannot be recycled, reused, or diverted. This facility will probably be a Class I landfill in a nearby county. Also, a Class IV landfill will be needed for disposal of construction/demolition waste and inert waste. This will be a facility operated by Morgan County.

Education - For the selected systems to be effective they must be properly used. The public must be educated concerning the solid waste management system. Education will be provided through the school system and through educational and informational material targeted to adult audiences.

It is believed that these components will be a natural extension of the existing system of solid waste management since the primary element of the convenience centers will remain in place (see Figure XI.3). With the exception of some door-to-door collection conducted by the City of Wartburg and private haulers in and around the City of Oakdale, Morgan County conducts most of the solid waste management activities. This mode of operation will remain in place with existing personnel and resources retooled to accept the proposed modifications.

The estimated 10-year cost for solid waste management in Morgan County is \$8,783,313. This estimate is based on an anticipated tipping fee at a Class I landfill of \$20 per ton until 1996 and then \$25 per ton thereafter, calculated in 1994 dollars. This figure equates to an average solid waste management cost of \$40 per ton. The implementation schedule for this system is provided on Table XI.1 (page 11.3).

CHAPTER I
DEMOGRAPHIC INFORMATION

GENERAL DESCRIPTION

The Morgan County Municipal Solid Waste Planning Region includes the cities of Wartburg, Sunbright, Oakdale, and the unincorporated communities of Burrville, Coalfield, Deer Lodge, Lancing, and Petros.

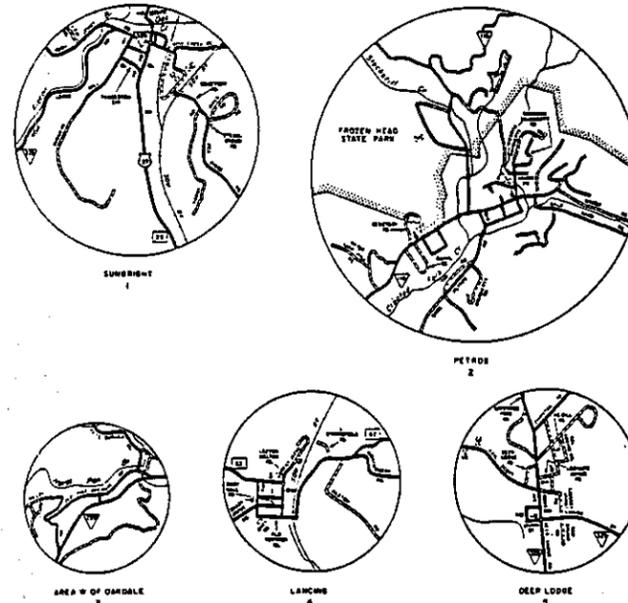
The total area of the region is 522.1 square miles. Major physiographic features include mountainous transitional area between the northeast/southwest trending Cumberland Plateau and the Tennessee River Valley. The vast majority of Morgan County is wooded with much of the land held by state and federal government or in wildlife management areas. A regional base map showing political boundaries and major roads and waterways is provided as Figure I-1.

RATIONALE FOR REGION FORMATION

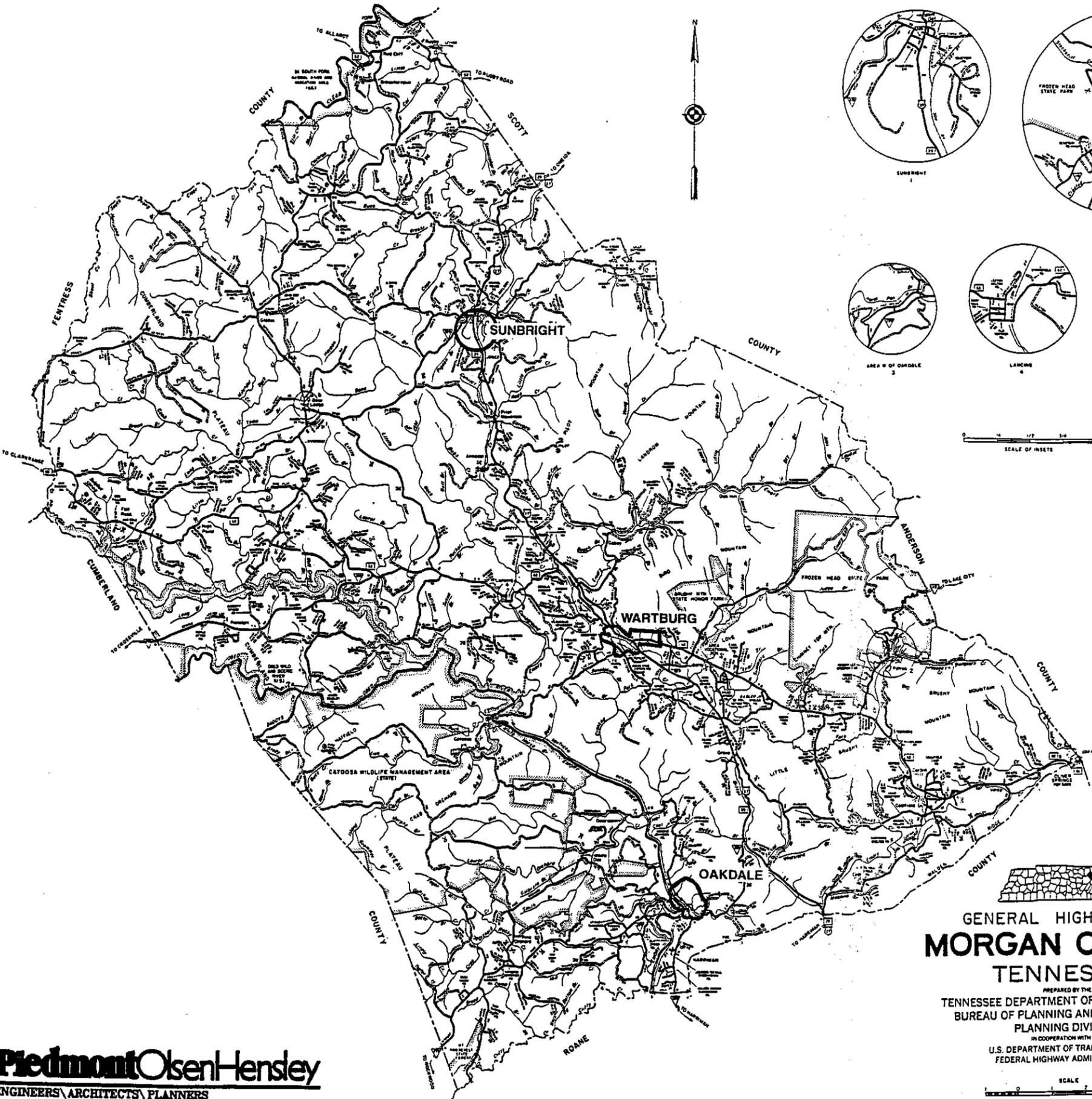
Morgan County did not choose to be included in a multi-county region for the following reasons:

1. Geographical isolation and lack of high-capacity highways (e.g. interstates, four-lane highways) to other governmental entities.
2. There are several opportunities to obtain disposal capacity through contractual arrangements with adjoining counties or waste management companies in adjoining counties.

BASE MAP



SCALE OF INSETS



GENERAL HIGHWAY MAP MORGAN COUNTY TENNESSEE

PREPARED BY THE
TENNESSEE DEPARTMENT OF TRANSPORTATION
BUREAU OF PLANNING AND DEVELOPMENT
PLANNING DIVISION
IN COOPERATION WITH THE
U.S. DEPARTMENT OF TRANSPORTATION
FEDERAL HIGHWAY ADMINISTRATION

SCALE 1:250,000

1986

LEGEND

- | | |
|---|---|
| SCHOOL | HEAD OF NAVIGATION |
| CHURCH WITH CEMETERY | NAVIGABLE STREAM |
| CEMETERY | RAILROAD STATION |
| POST OFFICE | GRADE CROSSING |
| HOSPITAL | UNDERPASS-ROAD BELOW |
| TOWN HALL OR COMMUNITY CENTER | OVERHEAD-ROAD ABOVE |
| HIGHWAY PATROL STATION | RAILROAD TUNNEL |
| HIGHWAY GARAGE (S-STATE, C-COUNTY) | HIGHWAY GRADE SEPARATION |
| WEIGHT STATION | HIGHWAY BRIDGE OVER 20 FEET |
| AIRPORT, COMPLETE FACILITIES | FORD |
| AIRPORT, LIMITED FACILITIES | LOW WATER BRIDGE |
| LANDING AREA OF STRIP | FREE FERRY OR TOLL FERRY |
| TRIANGULATION STATION | HIGHWAY BRIDGE LONG RIVER CROSSING
(C-CONCRETE, S-STEEL, W-WOOD) |
| OBSERVATION OR LOOKOUT TOWER | PRIMITIVE OR UNIMPROVED ROAD |
| COUNTY SEAT | GRADED AND DRAINED ROAD |
| OTHER CITIES AND VILLAGES | SOIL, GRAVEL OR STONE SURFACED ROAD |
| POWER PLANT | PAVED ROAD |
| RADIO OR TELEVISION STATION | DIVIDED HIGHWAY |
| DOT TO INDICATE LOCATION OF ANY CULTURAL FEATURE OUT OF PLACE | DISTANCE IN MILES BETWEEN DESIGNATED POINTS |
| INTERSTATE HIGHWAY MARKER | (FCSA) FULL CONTROL OF ACCESS |
| U.S. NUMBERED HIGHWAY MARKER | NATIONAL PARK SERVICE HIGHWAY |
| STATE HIGHWAY MARKER (FEDERAL AID PRIMARY SYSTEM) | HIGHWAY INTERCHANGE |
| STATE HIGHWAY MARKER (FEDERAL AID SECONDARY SYSTEM) | COUNTY LINE |
| PROGRAMMED PEAK WITH ELEVATION | STATE LINE |
| LAKE WITH DAM | NONINCORPORATED BOUNDARY MARKER |
| RESERVOIR, POND OR LAKE | INCORPORATED CITY BOUNDARY |
| LEVEE OR DYKE | RESERVATION BOUNDARY |
| DRAINAGE CANAL | |
| NARROW STREAM | |
| WIDE STREAM | |
| DAM WITH LOCK | |

Piedmont Osen Hensley
ENGINEERS ARCHITECTS PLANNERS

FIGURE I-1

INSTITUTIONAL STRUCTURE

The Administrative Board of the Morgan County Municipal Solid Waste Region consists of five members: three members representing Morgan County, one member representing the City of Wartburg, and one member representing the City of Oakdale.

The resolution creating the municipal solid waste planning region specifically gives the following powers and duties to the administrative board:

1. Administer activities of the region.
2. Powers and duties granted by Tennessee Code Annotated Section 68-211-813.
3. Produce a solid waste region plan.
4. Use Morgan County resources for pursuance of its goals.

Further information concerning the institutional structure may be found in Appendix A.

DEMOGRAPHICS

According to the U.S. Census Bureau projections, the population of Morgan County is 17,498. The average density is 33.5 persons per square mile. The population is almost entirely rural (99.7 percent). There are no regional demographic trends that would indicate a significant impact to future waste generation rates.

ECONOMIC ACTIVITY

Metropolitan Statistical Area

Morgan County is not in a Metropolitan Statistical Area (MSA). It is contiguous to the Knoxville MSA.

Roadways

There are no interstate highways traversing the region. There are 556.3 miles of highway in the county, as follows:

U.S. Primary Highways	68.40 miles
U.S. Secondary Highways	0 miles
State Highways	40.26 miles
Other Roadways	447.64 miles

Airports and Railroads

The Rockwood Municipal Airport is located in the southern portion of the region. The Norfolk-Southern Railroad line serves Oakdale, Lancing, and Sunbright.

Employment

In 1990, there were 4,392 people employed in Morgan County with total earnings of \$184,540,000. The 1990 average per capita income was \$10,639, which equates to 67.0 percent of the average state per capita income and 56.9 percent of the average U.S. per capita income. Morgan County is categorized as one of Tennessee's persistent poverty counties with 20.2 percent of the population officially below the federal poverty line.

The majority (40 percent) of non-agricultural jobs in Morgan County are in manufacturing. Government employees make up the second largest group at 24.2 percent. Agricultural employment accounts for 429 jobs, or 11 percent of the workforce.

Major Institutions

There are three facilities in Morgan County housing more than 100 persons: Brushy Mountain State Prison, Morgan County Regional Correctional Facility, and Life Care Center of Morgan County.

Property Tax Base

The total assessed property value of Morgan County in 1990 was \$74,435,671. The 1990 property tax rate was \$6.70 per \$100. Total revenues in 1990 from property taxes were \$4,158,000.

Sales Tax Base

The local sales tax rate is \$2.00 per \$100. The total value of sales subject to tax in 1991 was \$32,147,527; total tax revenues were \$686,405.

Solid Waste Source of Revenue

Morgan County, the City of Wartburg, and the City of Oakdale fund solid waste collection, transportation, treatment, and disposal services through their respective General Funds in the following amounts (1991):

Morgan County	\$226,977
Wartburg	\$4,017
Oakdale	\$6,698

Special Economic Factors

According to government employment projections, the county will experience only a moderate increase in employment during the next two decades. As a result, only a slight increase in waste generation is expected over the next decade.

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

WASTE STREAM CHARACTERIZATION

County Profile

As reported in the 1991 *Morgan County District Needs Assessment* (Chapter III), the Morgan County region produced approximately 25,000 tons of waste during 1991. The source characterization was as follows: 20 percent residential, 40 percent commercial/institutional, 39 percent non-hazardous industrial, and 1 percent special.

The Morgan County Sanitary Landfill received approximately 3,000 tons of waste that could be recycled, composted, or diverted to a Class IV Landfill, including yard waste, construction demolition materials, and tires. Approximately 400 tons of "white goods," such as discarded washing machines, dryers, and refrigerators, were pulled from the materials destined for the landfill and sold. Because no scales were available when the 1991 Needs Assessment was developed, these figures are estimates based on assumptions and national averages.

Compared with a per capita waste generation rate of 6 pounds per person per day for a population of 17,300, there appears to be minimal potential for unmanaged solid waste in Morgan County. The population-based disposal estimate of 18,944 tons reported in the 1991 Needs Assessment overestimates the waste generation of Morgan County. The following section, "Waste Stream Sampling and Analysis," provides further discussion.

There is an unauthorized dump located at Potters Fall; its primary constituents are furniture, tires, and miscellaneous garbage.

Morgan County receives a Litter Grant in the amount of \$16,442 (1991). The program consists of daily pick-up of roadside litter, when weather permits, by prisoners from Morgan County Regional Correction Facility.

Waste Stream Sampling and Analysis

To achieve a more accurate estimate of future capacity needs, a limited observation of the waste stream entering the Morgan County Landfill was performed. The operator's records were reviewed and the operator was interviewed. Volume estimates were made of the total waste stream entering the landfill. Estimates of the makeup of each load were also recorded. Copies of the field notes and calculations are in Appendix B.

Based on the field data and calculations, the estimated annual disposal rate is 16,200 tons. Using the operator's log of the volume of waste entering the landfill from December 1992 to May 1993, the estimated annual waste stream is 13,600 tons. Following is a comparison of the four estimates of waste stream generation on a per capita basis:

Source	Annual Disposal (tons)	Per Capita Disposal	
		Lbs/Day	Tons/Year
1991 Needs Assessment	25,000	7.9	1.44
Field Observations	16,200	5.1	.93
Operator's Volume Log	13,600	4.3	.78
Population-Based	18,944	6.0	1.10
Average	18,436	5.8	1.06

Evaluation and Special Conditions

The discrepancy between the waste disposal rate reported in the 1991 Needs Assessment and that suggested by current observations is a result of at least two conditions. It has been reported that Morgan County experienced an unusual amount of construction and renovation during 1991, much of this related to activity at one of the correctional facilities. As a result, construction and demolition waste generation would have been higher than normal. In addition, the 1991 Needs Assessment assumes a density of 500 pounds per cubic yard for all waste entering the landfill. In the current observations, only the waste received in compactor trucks was assigned a density of 500 pounds per cubic yard; all other uncompacted waste was assumed to have a density of 200 pounds per cubic yard.

Based on the subjective composition estimates made during the two observation days, the Morgan County Landfill receives an above-average amount of food waste and a below-average amount of yard waste. A significant volume of recyclable material was also identified in the waste stream.

The compositional data from the observation days are in cubic yards (volume) and should not be compared directly to the national averages of composition reported by weight from the Environmental Protection Agency (EPA). However, the data are adequate for qualitative assessments of the waste stream.

The small amount of yard waste in the waste stream is not surprising considering the rural nature of Morgan County. Generally, less yard waste is produced in rural areas, and the waste that is produced is often disposed of on the property where it originated. The large amount of food waste is attributable to the two penal systems in Morgan County. The 1991 Needs Assessment suggests that 35 percent of the county's waste stream comes from these facilities. The visual observations confirmed that a significant quantity of the prison waste is food waste.

Table II.1 is an estimate of the waste elements that might be recovered or diverted based on observations, the amount and types of industry in Morgan County, and published national averages.

The City of Oakdale contracts collection service from Bill's Disposal Service. In addition, Bill's Disposal Service provides private collection service to 50 households and 15 businesses in the region.

The following types of collection services are available in Morgan County:

- Door-to-door collection
- Convenience centers
- Green box drop-off sites
- Commercial pickup (contracted)

Door-to-Door Collection Services

Door-to-door collection service is available through the City of Wartburg and Bill's Garbage Collection Service.

Bill's Garbage Disposal Service serves 175 households and 15 businesses, including routes in Oakdale. Using one rear-end loader, this private contractor runs two residential routes and a commercial route. Waste is collected once or twice weekly.

The City of Wartburg's door-to-door service serves 300 households and 50 businesses. Waste is collected once weekly using a rear loader on two routes. The total system annual operating cost for Fiscal Year (FY) 1991 was \$4,017.

Green Box Systems

Morgan County provides ten "green box" collection sites, as follows:

- Rugby (nine 6-cubic-yard dumpsters)
- Frankfurt (eight 6-cubic-yard dumpsters)
- Coalfield (22 6-cubic-yard containers)

- Sunbright (14 6-cubic-yard containers)
- Deer Lodge (10 6-cubic-yard containers)
- Lancing (10 4-cubic-yard containers)
- Wartburg (21 6-cubic-yard containers)
- Oakdale (14 6-cubic-yard containers)
- Burrville (eight 6-cubic-yard dumpsters)
- Chestnut Ridge (10 6-cubic-yard dumpsters)

The containers are emptied twice weekly at the Morgan County Landfill, an average distance of 9.5 miles from the collection sites.

The centers do not accept commercial waste or provide recycling services. However, site attendants have collected recyclables on their own. Approximately 624 tons of scrap metal and aluminum cans are collected annually (through attendants' efforts). No educational materials or demonstrations are provided.

The estimate of average distance a householder must travel to deliver waste to a collection site is 5 miles. All collections are disposed of at the Morgan County Landfill, which is located an average of 9.5 miles from the various sites. The county's cost to operate the collection sites during FY 1991 was \$58,060.

Unmanaged Waste

It is legal for landowners to bury waste on their own land, provided it does not create a public nuisance. It is illegal to burn trash without a permit; however, in some areas burning in 55-gallon drums is a common practice. It is estimated that these practices involve 700 tons of waste annually.

Unservd\Under-Served Areas

Collection service is available to all households in the region.

Location of Facilities and Service Areas

The locations of facilities and service areas are shown on the Current Solid Waste Management System Map (Figure II-1).

SOURCE REDUCTION AND RECYCLING SYSTEMS

Source Reduction Measures

Some reduction in waste is achieved by the recycling efforts of individual convenience center attendants who collect scrap metal and aluminum cans from collection sites. This collection effort is not sponsored by the county. Some commercial and industrial businesses have in-house recycling programs, but no information on estimated amounts was obtained.

Recycling Programs

There are currently no recycling programs in the region. Morgan County plans to establish drop-off collection for recyclable materials at the convenience centers. It has been reported that Wartburg has some interest in curbside collection of recyclables and a yard waste diversion program. However, no specific plans were obtained at the time of this report.

DISPOSAL FACILITIES - LANDFILLS AND BALEFILLS

The Morgan County Landfill is a Class 1 facility located on Flat Fork Road in Wartburg, Tennessee. The permit (No. SNL 65-103-0180) was issued in 1981, and the landfill is operated by Morgan County. It is projected that this facility will reach its permitted capacity by mid-1995 at the current rate of disposal. There are currently no firm plans to expand this site or to permit a new site in Morgan County. Arrangements for disposal capacity have been made with Scott County. The location of the existing disposal facility is shown on the regional system map (Figure II-1). The reported cost of operating the landfill in 1991 was \$168,917.

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January 11, 1995

Representative John Mark Windle
Legislative Office 201
War Memorial Building
Nashville, TN 37243-0141

Subject: Morgan County Solid Waste Management Plan
POH Project No. 51601

Dear Representative Windle:

At the request of County Executive Tommy Kilby, I am sending you a copy of the Solid Waste Management Plan for Morgan County. Ten copies of this plan were mailed on January 11, 1995, to Mr. Paul Evan Davis via UPS 2nd day delivery.

If you have any questions regarding this plan do not hesitate to call me.

Sincerely,

PIEDMONT OLSEN HENSLEY, INC.



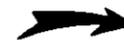
Damon R. Riggs, P.E.
Project Manager

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Enclosure

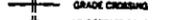
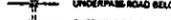
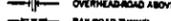
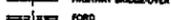
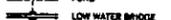
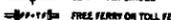
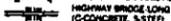
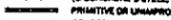
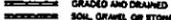
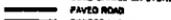
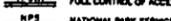
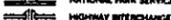
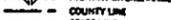
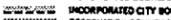
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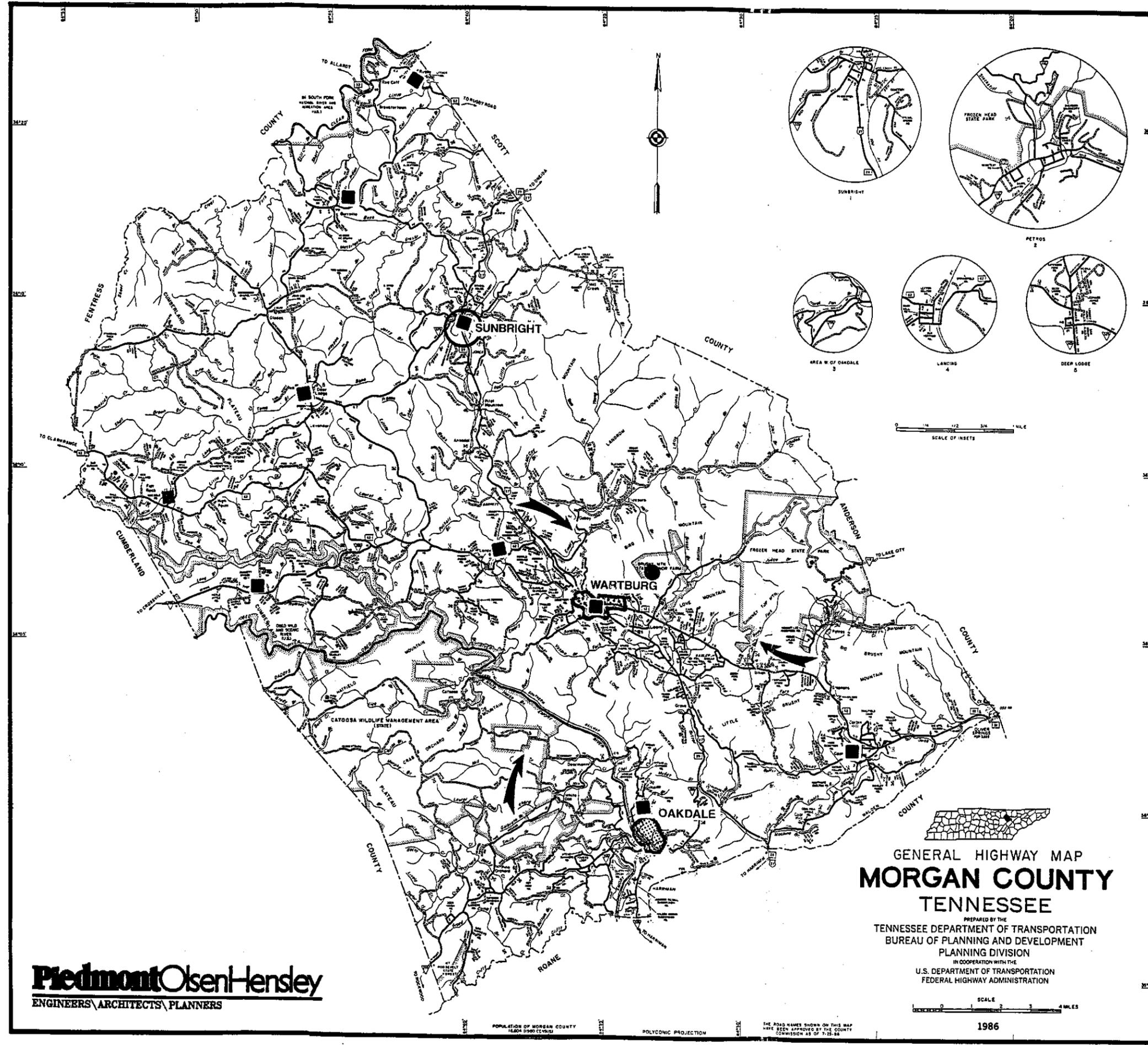
CURRENT SOLID WASTE MANAGEMENT SYSTEM

KEY MAP

-  WASTE FLOW PATTERNS
-  HOUSE-TO-HOUSE COLLECTION AREA
-  CONVENIENCE CENTER
-  GREENBOX SITE
-  EXISTING MSW LANDFILL
-  PROPOSED COMPOSTING FACILITY

LEGEND

- | | | | |
|---|---|---|--|
|  | SCHOOL |  | HEAD OF NAVIGATION |
|  | CHURCH WITH CEMETERY |  | NAVIGABLE STREAM |
|  | CEMETERY |  | RAILROAD STATION |
|  | POST OFFICE |  | GRADE CROSSING |
|  | HOSPITAL |  | UNDERPASS ROAD BELOW |
|  | TOWN HALL OR COMMUNITY CENTER |  | OVERHEAD ROAD ABOVE |
|  | HIGHWAY PATROL STATION |  | RAILROAD TUNNEL |
|  | HIGHWAY GARAGE (S-STATE, C-COUNTY) |  | HIGHWAY GRADE SEPARATION |
|  | WEIGHT STATION |  | HIGHWAY BRIDGE-OVER 20 FEET |
|  | AIRPORT, COMPLETE FACILITIES |  | FORD |
|  | AIRPORT, LIMITED FACILITIES |  | LOW WATER BRIDGE |
|  | LANDING AREA OR STRIP |  | FREE FERRY OR TOLL FERRY |
|  | TRIANGULATION STATION |  | HIGHWAY BRIDGE LONG RIVER CROSSING (CONCRETE, STEEL, WOOD) |
|  | OBSERVATION OR LOOKOUT TOWER |  | PRIMITIVE OR UNIMPROVED ROAD |
|  | COUNTY SEAT |  | GRADED AND DRAINED ROAD |
|  | OTHER CITIES AND VILLAGES |  | SOIL, GRAVEL OR STONE SURFACED ROAD |
|  | POWER PLANT |  | PAVED ROAD |
|  | RADIO OR TELEVISION STATION |  | DIVIDED HIGHWAY |
|  | DOT TO INDICATE LOCATION OF ANY CULTURAL FEATURE OUT OF PLACE |  | DISTANCE IN MILES BETWEEN DESIGNATED POINTS |
|  | INTERSTATE HIGHWAY MARKER |  | FULL CONTROL OF ACCESS |
|  | U.S. NUMBERED HIGHWAY MARKER |  | NATIONAL PARK SERVICE HIGHWAY |
|  | STATE HIGHWAY MARKER (FEDERAL AID PRIMARY SYSTEM) |  | HIGHWAY INTERCHANGE |
|  | STATE HIGHWAY MARKER (FEDERAL AID SECONDARY SYSTEM) |  | STATE LINE |
|  | PROMINENT PEAK WITH ELEVATION |  | MONUMENTED BOUNDARY MARKER |
|  | LAKE WITH DAM |  | INCORPORATED CITY BOUNDARY |
|  | RESERVOIR, POND OR LAKE |  | RESERVATION BOUNDARY |
|  | LEVEE OR DYKE | | |
|  | DRAINAGE CANAL | | |
|  | NARROW STREAM | | |
|  | WIDE STREAM | | |
|  | DAM WITH LOCK | | |



GENERAL HIGHWAY MAP MORGAN COUNTY TENNESSEE

PREPARED BY THE
TENNESSEE DEPARTMENT OF TRANSPORTATION
BUREAU OF PLANNING AND DEVELOPMENT
PLANNING DIVISION
IN COOPERATION WITH THE
U.S. DEPARTMENT OF TRANSPORTATION
FEDERAL HIGHWAY ADMINISTRATION

SCALE 0 1 2 3 4 MILES
1986

Piedmont Osen Hensley
ENGINEERS \ ARCHITECTS \ PLANNERS

FIGURE II-1

COST OF THE CURRENT SYSTEM

Cost for solid waste management services are not budgeted by specific components; therefore, it is difficult to identify the cost of individual components. The reported expenditures for solid waste as listed in the Morgan County budget for FY 1993 are shown on Table II.2.

TABLE II.2

**Solid Waste Expenditures
Fiscal Year 1993**

SANITATION SERVICES

Sanitation and Waste Removal

Other Contracted Services	\$ 6,231
Trustee's Commission	4,618
Other Charges	13,905

Landfill

Supervisor/Director	4,423
Teachers	500
Overtime Pay	1,098
Temporary/Part-Time Personnel	33,414
Other Salaries and Wages	64,179
Communication	439
Engineering Services	1,225
Maintenance and Repair Services	6,885
Rentals	747
Electricity	2,629
Equipment and Machinery Part	16,871
Gasoline	12,661
General Construction Material	21,664
Instructional Materials	589
Lubricants	3,340
Natural Gas	367
Tires and Tubes	5,101
Uniforms	322
Water and Sewer	252
Gravel and Chert	739
Motor Vehicles	12,000
Other Equipment	48,750

Capital Outlay

Principal on Notes	92,511
Interest on Notes	7,174

Capital Outlay	99,685
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OTHER CURRENT CHARGES

Employee Benefits

Social Security	5,233
State Retirement	1,553
Premiums on Corporate Surety	0
Vehicle and Equipment Insurance	0
Workman's Compensation Insurance	0

TOTAL	\$369,420
--------------	------------------

REVENUES

Revenues for solid waste management come from general fund appropriations in Morgan County, the City of Oakdale, and the City of Wartburg.

PUBLIC INFORMATION AND EDUCATION PROGRAMS

No solid waste or recycling education programs exist in the Morgan County School System. Area newspapers occasionally public articles on solid waste issues. Morgan County is planning to operate recycling drop-off convenience centers in the future, and Wartburg is planning to initiate curbside pickup of yard waste for recycling.

PROBLEM WASTES

See Chapter X.

STRENGTHS AND WEAKNESSES OF THE EXISTING SYSTEM

The existing municipal solid waste management system is an adequate system for the protection of health and public welfare as required by state rules and regulations for solid waste management prior to 1991 rule amendments. However, as the rules of solid waste management have changed and as the importance of waste reduction and more positive environmental facilities has become evident, the weaknesses of the Morgan County system have become clear. The current system is not a fully integrated municipal solid waste management system.

Three elements of the solid waste management system require significant change or implementation: waste reduction, disposal, and public education. Recycling and waste diversion elements must be integrated into the system to reach a 25 percent reduction in waste. The current

municipal solid waste disposal facility needs to be closed no later than 1996 and a more appropriately designed facility with liner and leachate collection systems used. In addition, an effective public education program will be essential to make the new solid waste management system effective.

CHAPTER III
GROWTH TRENDS, WASTE PROJECTIONS,
AND PRELIMINARY SYSTEM STRUCTURE

GROWTH TRENDS

Population projections from the Division of Information Resources, TDH, indicate a 2.8 percent increase in population in Morgan County during the 10-year planning period from 1994 to 2003. Annual waste generation amounts will be calculated using the per capita waste generation rate calculated in the 1991 Needs Assessment. No scale records were available for preparation of this plan.

The University of Tennessee Center for Business and Economic Research forecasts the inflation-adjusted gross state product will grow at a 3.2 percent compound annual rate between 1990 and 1999. For the purpose of estimating waste generation rates, it was assumed that waste generation in Morgan County will increase by an equal percentage due to economic growth independent of population-projected growth.

Following are tables showing the development of the quantities to be used for solid waste management planning. Recent information suggests that these quantities may be overstated (see discussion in Chapter II). However, until more accurate weight records are obtained, the data from the 1991 Needs Assessment will be used for planning. The fifth column of Table III-1 represents the total annual waste stream for which disposal capacity planning is required.

TABLE III.1

Morgan County Waste Disposal Projections

Year	Population ¹	Annual Tonnage of Waste Requiring Disposal Adjusted for:		
		Population Growth ²	Population and Economic Growth ³	Growth and Waste Reduction/Recycling ⁴
1991	17,367	25,356	26,167	26,167
1992	17,435	25,455	26,292	26,292
1993	17,498	25,547	26,411	26,411
1994	17,560	25,638	26,529	24,615
1995	17,645	25,762	26,682	22,835
1996	17,698	25,839	26,789	20,984
1997	17,766	25,938	26,919	21,091
1998	17,823	26,022	27,033	21,187
1999	17,897	26,130	27,174	21,303
2000	17,958	26,219	27,296	21,406
2001	17,990	26,265	27,377	21,476
2002	18,013	26,299	27,446	21,538
2003	18,044	26,344	27,528	21,610

¹Population projections provided by the Division of Information Resources, TDH, revised November 17, 1992.
²Waste quantities are based on the annual per capita disposal rate computed in Chapter IV.A-4 of the Morgan County Solid Waste Needs Assessment (1.46 tons/capita/year).
³See Table III.2 for economic growth contribution.
⁴See Table III.3 for waste reduction assumptions.

Source: Piedmont Olsen Hensley, 1994.

TABLE III.2**Waste Increase Due to Economic Growth**

Year	Base (tons)	Annual Increment (tons)	New Base (tons)
1991	25,356	811	26,167
1992	26,167	837	27,005
1993	27,005	864	27,869
1994	27,869	892	28,761
1995	28,761	920	29,681
1996	29,681	950	30,631
1997	30,631	980	31,611
1998	31,611	1,012	32,623
1999	32,623	1,044	33,667
2000	33,667	1,077	34,744
2001	34,744	1,112	35,856
2002	35,856	1,147	37,003
2003	37,003	1,184	38,187

This table is an extension of Table IV-2 from the Morgan County Solid Waste Needs Assessment.

TABLE III.3**Annual Waste Reduction**

Year	Assumed per Capita Waste Reduction (tons)	Annual Reduction (tons)
1991	0.000	0
1992	0.000	0
1993	0.000	0
1994	0.109	1,916
1995	0.218	3,847
1996	0.328	5,805
1997	0.328	5,827
1998	0.328	5,846
1999	0.328	5,870
2000	0.328	5,890
2001	0.328	5,901
2002	0.328	5,908
2003	0.328	5,918

¹Based on 1989 base year per capita disposal of 1.31 tons per year.

²8.33 percent reduction occurs in 1994.

³16.67 percent reduction occurs in 1995.

⁴25 percent reduction occurs in 1996 to 2003.

Source: Piedmont Olsen Hensley, 1994.

PRELIMINARY SYSTEM DESIGN

Waste Collection and Transportation

The general structure of the waste collection and transportation element of solid waste management will remain unchanged. What will be considered will be ways to make the system more efficient and better-suited to new or changed elements of the proposed solid waste management system. For example, expected changes in municipal solid waste disposal from a county-operated facility to a service contracted from outside of the county will require more hauling equipment than that currently used and more centralized collection is needed for recyclables. Two of the green box sites must be converted to convenience centers to comply with state regulations.

Following is list of projected waste collection and transportation components for Morgan County and the percentage of the waste stream to be handled by each component. Some of these elements are already in place.

Component	Percent of Waste Stream Currently Handled	Percent of Waste Stream Projected to be Handled
Curbside Collection	10	10
Convenience Centers	0	40
County Transport Vehicles	60 - 80	75
Green Box System	70	30

Elements of the waste stream such as construction/demolition waste, inert waste, and some recyclable material will not be transported by the cities or counties. These elements will be delivered directly to the proposed Class IV landfill or to the recycling drop-off at the convenience center by private haulers or businesses. This fact accounts for there being less than 100 percent of the waste stream handled by any part of the transportation system.

Recycling

The county will endeavor to conduct recycling as part of its waste management efforts. The primary method will be through a drop-off system operated as part of the convenience centers. Some limited recovery may also be achieved at the convenience centers. The materials of the waste stream most likely to be targeted for recycling are cardboard, ferrous metal, aluminum, and newspaper. If markets become more-favorable, materials such as glass and plastics may be considered, as well. It is estimated that recycling drop-off stations will handle 6 to 8 percent of the waste stream.

Composting

An atypically large amount of food waste is generated in Morgan County, primarily by institutions. Prison officials in Morgan County have expressed interest in composting food waste as an alternative means of disposal. The county will encourage this operation and help coordinate expansion to all county institutions. Composting food waste at county institutions can reduce the county's total waste stream by as much as 6 percent.

Disposal

Construction/Demolition Waste Disposal and Yard Waste Disposal - Siting and construction of a Class IV landfill in Morgan County will be considered. The siting and construction cost for a Class IV facility is not as high as the cost for a Class I facility. It may be economical for the county to operate such a facility to avoid the expense of hauling waste to an outside facility. A Class IV facility would have the potential of handling 13 percent of the county's total waste stream.

Municipal Solid Waste Disposal - Due to the extraordinary cost of operating a Class I facility at low waste stream volumes, contracted disposal outside of the county will be considered in comparison to a county-operated facility. It is estimated that 100 percent of the waste stream not diverted or recycled (75 percent of the total waste stream) will be handled by a Class I disposal facility outside the county.

EVALUATION CRITERIA

The evaluation criteria used to examine the potential waste management alternatives include the following:

1. Capital and Operating Costs

This is the primary consideration. In a small county with many programs competing for funds it is vital that these costs be kept to a minimum. Less revenue is available to absorb major capital purchases.

2. Unit Cost

Competing alternatives can be readily compared by determining the bottom line unit cost or cost per ton for each system.

3. Institutional Compatibility

Some systems are obviously not viable options because the system's requirements do not conform to the operational capabilities of the county. Systems that demonstrate ease of operation and low maintenance are preferable to high-maintenance, high-manpower operations.

4. Schedule

The needs of Morgan County require fairly quick implementation. Consideration was also given to ease of implementation.

Additional considerations include public acceptance, environmental impact, availability of markets, and experience of others with the proposed system.

BASE YEAR QUANTITY

According to "Managing Our Waste: Solid Waste Planning in Tennessee" (University of Tennessee, 1990), the 1989 population of Morgan County was 17,900 and the waste generation was 23,400 tons. The per capita waste disposal rate for this base year is:

$$\frac{23,400 \text{ tons}}{17,900} = 1.31 \text{ tons per capita per year}$$

TARGET 1995 WASTE REDUCTION PER CAPITA

The target 1995 per capita reduction is:

$$1.31 \text{ tons/person/year} \times 0.25 = 0.328 \text{ tons/person/year}$$

On a tons-per-year basis for 1995, this will be:

$$0.328 \times 17,645 = 5,788 \text{ tons/year}$$

MEETING THE STATEWIDE WASTE REDUCTION GOAL

The goal of Morgan County is to reduce the municipal solid waste stream by 25 percent from the 1989 per capita figure. The county will attempt to have sufficient handling capacity in place prior to 1996. Actual achievement of this goal, however, will depend upon cooperation from the general public and the industrial and commercial community.

It is projected that the waste reduction goal will be achieved through recycling or diverting the components shown in Table IV.1.

TABLE IV.1				
Potential Components of Waste Reduction				
Component	Estimated Percent of Total Waste Stream	Estimated Percent of Component Diverted/Reclaimed	Total Percent Reduction	Method
Construction/Demolition	10	90	9	Diversion
Yard Waste	8	50	4	Diversion
Cardboard	6	50	3	Recycling ^{1,2}
Ferrous Metal	2	75	1.5	Recycling ^{1,2}
Aluminum	0.5	50	0.25	Recycling ²
Newspaper	3	50	1.5	Recycling ²
Food Waste	12	50	6	Composting
Total	41.5		25.25	
¹ Recycling conducted by industry and commercial establishments. ² Recovery conducted through a drop-off program at the convenience center. Source: Piedmont Olsen Hensley, 1994.				

By economic sector, it is estimated that the reduction will come from the sources shown in Table IV.2.

Sector	Waste Reduction Percent
Residential	6
Commercial	8
Institutional	7
Industrial	4
TOTAL	25

For planning purposes, it is assumed that an 8.3 percent per capita reduction goal will be achieved in 1994, a 16.7 percent per capita reduction in 1995, and a 25 percent per capita reduction will be achieved every year thereafter. Table IV.3 suggests a schedule for achieving the 25 percent per capita waste reduction goal.

Year	Diversion (Class IV Landfill)	Residential Recycling	Commercial/ Industrial Recycling	Food Waste Composting	Total
1994	2	1.5	2	2.8	8.3
1995	9	2	2	3.7	16.7
1996	13	3	3	6	25
1997	13	3	3	6	25
1998	13	3	3	6	25
1999	12	3	4	6	25
2000	12	3	4	6	25
2001	11	4	4	6	25
2002	11	4	4	6	25
2003	11	4	4	6	25

To encourage and support these waste reduction goals, it is recommended that the county ban construction/demolition and inert waste at the convenience centers and green box sites and require that these materials be sent to the construction/demolition landfill to be constructed. An estimate of the tons of material that can be reduced by diversion to Class IV landfills by composting and by recycling is offered in Table IV.4.

TABLE IV.4				
Tons Reduction by Method				
Year	Diversion (Class IV Landfill)	Recycling	Food Waste Composting	Total
1994	462	808	646	1916
1995	2073	921	853	3847
1996	3019	1393	1393	5805
1997	3031	1398	1398	5827
1998	3040	1403	1403	5846
1999	2818	1643	1409	5870
2000	2827	1650	1413	5890
2001	2596	1888	1417	5901
2002	2600	1890	1418	5908
2003	2604	1894	1420	5918
Source: Piedmont Olsen Hensley, 1994.				

Implementation schedules for recycling with milestones are addressed in the following chapters. Responsibilities are outlined in Chapter XI.

CHAPTER V
WASTE COLLECTION AND TRANSPORTATION

REGULATORY REQUIREMENTS OF SERVICE

Morgan County is 522.1 square miles in size. Minimum level of service requires at least one convenience center per 180 square miles or one per 12,000 in population. Morgan County is required to have two convenience centers based on population. Currently, the county maintains 10 green box drop-off points. Not all of these facilities are fully staffed and supervised. The facilities are fairly evenly dispersed throughout the county, and all residents have access to one or more centers.

WASTE COLLECTION AND TRANSPORTATION NEEDS

With closure of the Morgan County Municipal Solid Waste Landfill, the county will require a reorganized transportation system. The first requirement will be to purchase an additional compactor truck. Two of the green box sites must be converted to fully manned convenience centers.

The current collection system provides coverage adequate to meet regulatory requirements for service levels with conversion of two green box sites to convenience centers, but facilities and operational elements will need to be upgraded. Attendant facilities must be improved or, in some cases, new facilities must be provided. Some grading and paving will also be required. This will

leave two manned convenience centers and eight green box drop-off points. The regulatory minimum number of convenience centers is two.

The proposed collection and transportation system will consist of the following:

- Two 10-ton-per-day capacity convenience centers
- Eight 4-ton-per-day capacity green box sites

Equipment required for this system includes the following:

- Three front-end loading compactor trucks
- 125 6-cubic-yard dumpsters
- 10 4-cubic-yard dumpsters

Existing curbside collection systems will not be disturbed.

COLLECTION GOALS AND IMPLEMENTATION SCHEDULE

Goals

The goal of the collection and transportation element of the solid waste management system is to provide convenient points of waste drop-off for the citizens of Morgan County. By making the convenience centers efficient operations, it is hoped that they will be viewed as easy and desirable to use.

Strategies

The following strategies will be used in developing and operating the collection and transportation system:

1. Existing convenience center locations will be used where possible. If a facility is established in a new location, an effort will be made to locate the facility on the highway most commonly used by the residents of the anticipated service area.
2. Hours of operation will be established to accommodate as many citizens as possible. Consideration will be given for individuals working evening and night shifts.
3. An evaluation of current usage of convenience centers will be made before using or relocating an existing center.

Implementation

To avoid the burden of a major capital expenditure, existing collection equipment will be used to the extent possible. The speed of implementation will be influenced by the distance to the expected waste disposal facility. See Table V.1 for implementation schedule.

Integration With Other Waste Management Elements

The convenience centers will be used for the management of recyclable material and problem waste. Further details are provided in Chapters VI and X, as well as on Figure V-1.

TABLE V.1

Morgan County Solid Waste Collection and Transportation System
Projected Cost and Implementation Schedule

	1994	1995	1996	1997	1998	1999	2000	2001	2002	2003
Development and Capital Costs										
Trucks	\$52,000	\$52,000	\$52,000	\$52,000	\$52,000	\$52,000	\$52,000	\$52,000	\$52,000	\$52,000
Convenience Center Upgrade		77,919					5,000			
Subtotal	\$52,000	\$129,919	\$52,000	\$52,000	\$52,000	\$52,000	\$57,000	\$52,000	\$52,000	\$52,000
Operating Costs										
Regular Salaries	134,270	155,070	161,273	167,724	174,433	181,410	188,666	196,213	204,062	212,224
Fuel, Oil, and Lubrication	23,000	35,000	21,632	22,497	23,397	24,333	25,306	26,319	27,371	28,466
Equipment Maintenance and Repair	20,000	31,200	32,448	33,746	35,096	36,500	37,960	39,478	41,057	42,699
Other Operating Supplies	22,000	22,880	23,795	24,747	25,737	26,766	27,837	28,950	30,109	31,313
Surcharge	10,000	10,000	10,000	10,000	10,000	10,000	10,000	10,000	10,000	10,000
Equipment Lease	1,650	1,716	1,785	1,856	1,930	2,007	2,088	2,171	2,258	2,348
Administrative Cost	10,000	10,400	10,816	11,249	11,699	12,167	12,653	13,159	13,686	14,233
Subtotal	\$220,920	\$266,266	\$261,749	\$271,818	\$282,291	\$293,183	\$304,510	\$316,291	\$328,542	\$341,283
TOTAL	\$272,920	\$396,185	\$313,749	\$323,818	\$334,291	\$345,183	\$361,510	\$368,291	\$380,542	\$393,283

Note: Capital cost in years 2000 - 2003 represent replacement or upgrade cost for the indicated line item.
Annual costs are inflated assuming annual inflation of 4 percent.

STAFFING AND TRAINING

Following is a list of the staff positions required to operate the waste collection and transportation elements of the solid waste management system:

- Three truck drivers
- Nine green box site attendants (part-time)
- Two convenience center operators (full-time)

These individuals must be trained to operate the equipment assigned to them and to understand the goals and strategies of the waste collection element of the solid waste management system.

FINANCING

Capital Cost

The primary source of funds for the capital cost of this program will continue to be the general funds of the Morgan County budget (see Chapter II for revenue sources of the general fund account). Efforts will be made each year to obtain grant funds through the available solid waste grant programs. The following grant programs currently exist:

Purpose	Type Grant	Maximum Amount Available	Year Available
Recycling	Competitive	\$20,000	1994-1997
Collection - Convenience Centers	Matching Grant	\$10,000/Site	1994

Operation and Maintenance Cost

Morgan County will continue to fund operation and maintenance cost through general funds.

CHAPTER VI
RECYCLING

RECYCLING PROGRAM NEEDS

There is limited recycling activity at the existing collection system. The reductions achieved are neither recorded nor organized with the rest of the waste management system. A more-controlled program of collection, recording, and removal is needed. The current recycling system can be viewed as non-existent; Morgan County needs an entirely new recycling system.

PROPOSED RECYCLING SYSTEM

Goals and Objectives

The goal of the recycling program is to recover the maximum amount possible of those materials that can be economically recovered from the waste stream and contribute to the 25 percent reduction goal. It is also a goal of the recycling system to keep the cost of recycling the selected materials to less than 110 percent of the cost of transportation and disposal of regular municipal solid waste. In order to achieve this goal, the materials chosen for recovery may need to be changed from time to time to adjust to market conditions. For example, if the cost of transporting and disposing of Class I waste is \$50 per ton, the goal would be to find a way to recycle for a cost of less than \$55 per ton.

Availability of Recycling Opportunities

By providing drop-off points at convenience centers, every household will have an opportunity to recycle. The facilities at the Wartburg convenience center will provide a point of collection for recyclable material from industry and businesses and a staging area for cooperative marketing of materials from the county and the cities implementing recycling programs.

System Description

The focal point for the recycling system proposed for Morgan County will be a drop-off station for specifically defined components of the waste stream. The drop-off points will be located at the two convenience centers described in Chapter V. The drop-off point at the convenience center will consist of containers labeled for the waste stream component accepted. The initial recommendation is to concentrate on aluminum, newspaper, scrap metal, and cardboard.

Each container will be serviced by county trucks; the materials will be delivered to a central collection point at the Wartburg convenience center. A bailer for cardboard and a forklift will be available there for handling recyclable material.

The Wartburg convenience center will serve as a central collection point for collected recyclable material in Morgan County. The baler and forklift planned for purchase with grant funds and will be used for material handling at the central collection point. Short-term storage will be needed for material between pickups. To-market transportation will be provided under contract. Protective shelter will also be required to maintain the quality of certain recyclables.

The major equipment needed is as follows:

Convenience Centers

- Six to eight containers

Recycling Equipment at Wartburg Convenience Center

- One 2,400-square-foot covered storage area and baling floor
- One vertical baler for cardboard and newsprint
- One forklift for material management
- One front-end loader (shared with other county operations)

Rationale of System Selection

The selection of the system described above evolved from an analysis of the current solid waste management system and the proposed transportation and collection element. Cost is a major consideration of any element selection. The cost can be controlled if a system can be developed as a natural extension of another program and facilities and resources can be shared.

It is difficult to compare other types of systems directly with the chosen system. Generally recognized methods of recycling collection include curbside collection, drop-off centers, and co-collection. Curbside collection requires extensive capital expenditure for vehicles and increased manpower to operate these vehicles, and the nature of the current and proposed collection and transportation system would be severely redefined.

From a practical standpoint, curbside collection for the largely rural area of Morgan County would be significantly more expensive than the defined drop-off system.

Size of Program and Service Area

Being associated with the convenience centers, the recycling element of the solid waste management system will be available to all households and businesses in Morgan County.

Estimated Quantity of Recovered Materials

The estimated quantities of materials to be diverted from disposal are as follows:

Component	Percent of Total Waste Stream	Percent Diverted from Total Waste Stream
Cardboard	6	3
Ferrous Metal	2	1.5
Aluminum	0.5	0.25
Newspaper	3	1.5
Total	11.5	6.25

Facility Location

Each convenience center and selected green box sites will have a drop-off point. The proposed locations are shown on Figure XI-3.

The Wartburg convenience center will contain a processing center for baling paper products and storing other recovered materials.

Staffing, Budget, and Funding

Because the recycling element of the solid waste management plan is integral to the transportation and collection system, the staffing and budget for the transportation and collection system includes the staffing and recycling budget.

Funding for recycling will come primarily from general fund appropriations with some contribution from the sale of recovered materials. Morgan County will apply for state grant money in FY 1994/95 to apply to the cost of recycling equipment and/or facility needs.

Data Collection

With the Wartburg convenience center so close to the landfill, the scales there can be used to record the weight of material being recycled. Each load of recyclable material will be weighed as it leaves for market. If the software used to manage the scale system will allow, separate files should be kept on recovered material by type and weight. As a minimum, the following information should be kept for reporting requirements:

- Material - Cardboard, old newsprint, aluminum, ferrous metal, plastic, glass, etc.
- Weight - Record weight by the material type as it leaves the Morgan County Solid Waste Management System.
- Date - Record the date material leaves the Morgan County Solid Waste Management System.

This information will be summarized annually and submitted for state review.

PUBLIC AND PRIVATE RECYCLING COORDINATION

By operating a central collection point for its own recycling/recovery operations, the county can offer a collection point to municipalities in the county and to industries participating in recycling activities. Whether Morgan County will choose to operate as a buy-back center will depend on community interest and market availability. As a minimum, the central collection point offers an alternative for local industry paying for recovered material pickup. At best, enough interest and material will be generated that the central collection point can be a brokerage point.

The county should take advantage of the Office of Cooperative Marketing to identify markets for materials. This and other clearinghouses should be contacted to identify other nearby regions that can cooperate with Morgan County in the marketing of materials.

IMPLEMENTATION SCHEDULE

Table III-3 suggests a schedule for achieving waste reduction through the various means available. The estimate for recycling ranges from 3.5 percent in 1994 to 8 percent in 2003 and is split between residential recycling and commercial/industrial recycling.

RESPONSIBILITY FOR IMPLEMENTATION

The county will provide the lead in regional recycling efforts as reflected in the planned facilities. However, the county will look to each incorporated municipality to conduct or cooperate in recycling. The initial plan is to achieve goals through cooperation and encouragement. However, disposal restriction on certain materials, such as cardboard, may be necessary to promote recovery in the future.

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

The Morgan County region does not have a need for composting, waste processing, or incineration to meet its solid waste disposal requirements. While these management techniques are effective methods of waste reduction/disposal, they are typically most effective with a waste stream larger than that produced by Morgan County. At a planning tonnage of 60 tons per day, composting, waste processing, and incineration are not considered economically viable options.

Composting

Waste from Brushy Mountain State Prison may be conducive to composting, however. As discussed in previous chapters, local institutions tend to produce an inordinate amount of food waste. The state prison system is planning a pilot program to compost food waste. If successful, composting could benefit the prison system by reducing the amount of waste for which the system is required to pay disposal fees. The program will also help Morgan County reach its waste reduction goal. It is possible this operation will result in a 6 percent reduction in waste.

Goals and Objectives

The goal of the composting program is to reduce the amount of food waste disposed by local institutions while producing a reusable commodity: compost.

Location and Description

The proposed facility has been likened to a chicken manure composting facility. It will be operated on a concrete slab and winrowed. Sawdust, and possibly other inert waste items, will be used as bulking agents. The facility will be located on Morgan County Correctional Facility.

Description of Materials

The primary components of the composting program will be food waste and sawdust, according to current plans.

Disposition of End Product

The composted materials will be used within the confines of the prison system. There are no known plans to market the end product for commercial or private use.

Residuals

Any unusable residuals produced by the process will be combined with the normal waste stream of the prison system and hauled to the Morgan County Solid Waste Management System.

Staffing and Budget

Staffing and budgeting data are not available for the composting program because the program will be operated by the prison system, presumably using inmate labor. Morgan County has no plans to actively participate in the operation.

Integration With Other Elements of the Solid Waste System

Morgan County officials have historically had a good working relationship with state and local prison officials and will no doubt wish this to continue. From the county's perspective, the primary benefit of a successful prison composting operation will be waste reduction. The waste reduction will be measured by the absence rather than the physical measurement of the waste stream component.

Implementation Schedule

The composting program will be implemented based upon a schedule controlled by the prison system rather than county officials. However, it is believed that the system will be in full operation by early 1994. The success or failure of the program can be tracked through the prison system's waste stream. A reduction of waste is expected in 1994.

CHAPTER VIII
DISPOSAL CAPACITY

It is evident from information in Chapters II and III that Morgan County will experience a shortfall in capacity almost from the beginning of the planning period. No action has been taken as yet to site a new facility in Morgan County. The time required in siting, designing, and constructing a new landfill eliminates it from consideration for meeting short-term disposal needs. Waste will need to be exported from the county to meet short-term needs.

For long-term needs, a cost comparison by unit cost indicates that the cost of developing a new landfill for Morgan County's waste stream would be higher than the cost of hauling the waste a reasonable distance to a landfill supported by a larger waste stream. The economies of scale weigh heavily against facilities attempting to operate below 250 tons per day.

Goals and Objectives

The solid waste management goals and objectives of Morgan County are as follows:

1. Secure disposal capacity through a contract at a facility with a reasonable tipping fee as close as possible to Morgan County.
2. Monitor available capacities at competing landfills and structure contract length according to the stability of the disposal capacity at area facilities.

Receiving Landfill

Morgan County has entered into an agreement with the Scott County Municipal Solid Waste Landfill to provide Class I disposal. Other facilities that may have disposal capacity available to Morgan County on a contractual basis are as follows:

Facility	Host County	Distance
Roane County MSWLF	Roane County	35 Miles

Class IV Landfill

Morgan County will consider siting and developing a Class IV landfill. The cost of siting, constructing, and operating a Class IV landfill is much lower than for a Class I landfill. The Class IV landfill will benefit the county in two ways. It will provide a disposal place for material that can be diverted out of the municipal solid waste stream. This material will count toward the mandated waste reduction goal. The cost of transporting the material out of county and the cost of Class I landfill tipping fees can be avoided for this portion of the waste stream. Permitting of this facility should start in 1994. Use of the facility is needed no later than 1996.

Table VIII.1 shows an estimated budget for a Class IV landfill.

TABLE VIII.1

Morgan County Class IV Landfill Budget Forecast

	1994	1995	1996	1997	1998	1999	2000	2001	2002	2003
Development & Capital Costs										
Heavy Equipment Purchase				\$150,000						
Development Cost	\$20,000									
Subtotal	\$20,000	\$0	\$0	\$150,000	\$0	\$0	\$0	\$0	\$0	\$0
Operating Costs										
Regular Salaries	\$30,000	\$31,200	\$32,448	\$33,746	\$35,096	\$36,500	\$37,960	\$39,478	\$41,057	\$42,699
Fuel, Oil, & Lubrication	\$5,000	\$5,200	\$5,408	\$5,624	\$5,849	\$6,083	\$6,327	\$6,580	\$6,843	\$7,117
Other Operating Supplies	\$2,500	\$2,600	\$2,704	\$2,812	\$2,925	\$3,042	\$3,163	\$3,290	\$3,421	\$3,558
Utilities	\$1,000	\$1,040	\$1,082	\$1,125	\$1,170	\$1,217	\$1,265	\$1,316	\$1,369	\$1,423
Equipment Maintenance	\$2,500	\$2,600	\$2,704	\$2,812	\$2,925	\$3,042	\$3,163	\$3,290	\$3,421	\$3,558
Subtotal	\$41,000	\$42,640	\$44,346	\$46,119	\$47,964	\$49,883	\$51,878	\$53,953	\$56,111	\$58,356
Closure/Post-Closure Funding										
Subtotal	\$22,000	\$22,000	\$22,000	\$22,000	\$22,000	\$22,000	\$22,000	\$22,000	\$22,000	\$22,000
TOTAL	\$83,000	\$64,640	\$66,346	\$218,119	\$69,964	\$71,883	\$73,878	\$75,953	\$78,111	\$80,356

Assumptions: - 15-acre landfill with a life of 20 years

- Landfill operates no more than 3 days a week

- Only one bulldozer dedicated to landfill. All other equipment borrowed from other county departments as needed.

Municipal Solid Waste Implementation Schedule

The two primary tasks associated with Class I disposal in Morgan County are securing disposal capacity elsewhere and closure of the existing landfill by 1996. Contracting for disposal capacity should occur immediately. Closure of the existing landfill should be staged to spread the closure cost over two years.

TABLE VIII.2	
Disposal Element Implementation Schedule	
June 1994	Identify landfill(s) to be used for disposal. Begin siting for Class IV landfill.
December 1994	Negotiate disposal contract.
January 1995	Begin partial closure of existing Morgan County Municipal Solid Waste Landfill
January 1996	Construct first cell of Class IV landfill.
June 1995	Begin final closure activities of Morgan County Municipal Solid Waste Landfill
December 1995	Complete closure of landfill.

The protracted closing of the existing Class IV landfill will allow the county to fully use the permitted capacity remaining in the existing landfill and control tipping fees to an extent until 1995. The anticipated closure cost estimated by Morgan County personnel for the existing Morgan County landfill is approximately \$425,375. See the approved Morgan County landfill closure plan for more detail.

CHAPTER IX
PUBLIC INFORMATION AND EDUCATION

PROGRAM NEEDS

The two largest public information and education needs of Morgan County solid waste management regard appropriate use of the revised collection and disposal system and recycling participation. Public understanding and involvement can benefit the county by keeping operational costs down and by helping the county reach the mandated solid waste reduction goal.

PLANNED PROGRAMS

Program Focus

The recommended primary focus areas for the education and public involvement element of the solid waste management plan are waste reduction, reuse, and recycling. Every opportunity should be taken, especially during the early implementation of this solid waste management plan, to describe how solid waste management takes place in the community and how it is best used by the public.

The overriding goal of an educational program or public involvement program should be to change the average citizen's attitudes and behavior as they relate to solid waste. The central theme of all programs should be **Reduce, Reuse, and Recycle**.

Reduce - The community's waste stream can be reduced through avoidance. Smart consumerism and a mind towards conservation are key components in the effort to reduce the material that becomes solid waste. The benefits of reduction are apparent in the savings in disposal costs and in the reduction of energy costs associated with manufacturing unnecessary commodities.

Reuse - Like reduction, reuse of materials saves the cost of production and disposal of unnecessary items. Valuable raw materials of finite quantities are conserved and valuable landfill space is saved.

Recycle - Much of the material put into disposal facilities could be converted from wastes to raw materials of manufacturing. Items made of glass, plastic, paper, aluminum, and other metals are obvious examples, but they are not the only items. Teaching the public to identify and salvage these materials from the waste stream is important, but only half the battle. In order for recycling to work, a market for recycled materials must exist. The public must be encouraged to demand and purchase goods made of recycled material.

There are two components to the education and public involvement program. Each must be addressed adequately to provide an effective program.

Education

To achieve the goal of the overall program and to deliver the message of **Reduce, Reuse, and Recycle**, two educational components are planned.

1. **Youth Education** - With the support of local school officials, a curriculum to educate school children about the importance of **Reduce, Reuse, and Recycle** will be introduced into the county school system. There are numerous resources available for school use. Some of these are listed in Appendix F. The first year, a program to introduce solid waste issues to all grade levels is recommended. This might be accomplished as several special presentations throughout the school year; thereafter, a fixed curriculum at one or two grade levels should be instituted.

2. **Adult Education** - Education of adults is more difficult, but not a formidable task. The adult education program will require greater involvement from the county's solid waste management staff. One approach is to develop educational pamphlets. Quick, easy-to-read pamphlets should be developed for handout through the convenience centers, and they can also be used at presentations to community groups. The pamphlets can provide a ready reference to households participating in recycling. A second approach is to develop a list of local speakers, possibly members of the solid waste planning board, willing to speak to local civic groups and organizations about solid waste issues.

Public Involvement

Creating a successful public involvement program will require varied and creative approaches. The first step, creation of the Solid Waste Planning Board, has already been achieved. The board will be, at least in the early stages, the springboard for other methods and programs. In addition to the board, a volunteer organization dedicated to issues related to the environment is needed, and a mechanism whereby these issues can be incorporated into the industrial and commercial community must be designed.

1. **Volunteer Organizations** - While there are numerous organizations with environmental issues on their agenda, organization of a "Clean Tennessee" chapter is recommended for Morgan County. This program is well-established in the state and has a depth of resources in environmental topics. Garden Clubs also have willing volunteers in many communities to promote the **Reduce, Reuse, and Recycle** theme.
2. **Industrial/Commercial Community Involvement** - Local industry and commerce need to be included in efforts to promote a waste-conscience community. Their involvement may be viewed as a responsibility because a significant portion of the waste stream is generated by these organizations. It may also be viewed as an opportunity for these organizations to project themselves in a positive light to their consumers. The Solid Waste Planning Board should contact some of the larger industries in an attempt to establish a forum for these industries to discuss methods for reducing their waste streams.

3. **Government Involvement** - Each local government should provide leadership by educating its own employees and instituting office recycling programs. The governments of the Planning Area should also evaluate procedures for purchasing recycled products for office needs.

Staff and Budget Needs

The intent of this plan is to rely on assistance from the school system, volunteers, members of the planning board, and existing solid waste management staff to make the public information and education element work. The Solid Waste Planning Board will have responsibility for overseeing implementation of an educational curriculum in the school system. This must be accomplished with a sincere spirit of cooperation since the school system is a separate entity without excess funding to implement this curriculum.

The manager of the solid waste management system should oversee development of pamphlets or other written material for education of users of the waste management system. This material will in turn be used by convenience center operators to give to users of those facilities.

Much of the cost of conducting these activities will necessarily be absorbed by volunteers (planning board, recruited civic organizations, individuals) and existing personnel. There will, however, be some cost associated with establishing a curriculum and developing and printing pamphlets and other material. An estimated budget for these activities is shown in Table IX.1.

TABLE IX.1										
Solid Waste Management Education Budget										
Item	1994	1995	1996	1997	1998	1999	2000	2001	2002	2003
Curriculum and Associated Costs	\$ 800	\$600	\$600	\$800	\$600	\$600	\$800	\$600	\$600	\$600
Pamphlet Development	1,000	500	500	1,000	500	500	500	500	500	500
Printing Cost	500	500	500	500	500	500	500	500	500	500
Miscellaneous	500	500	500	500	500	500	500	500	500	500
Total (1993 Dollars)	2,800	2,100	2,100	2,800	2,100	2,100	2,100	2,100	2,100	2,100

With an annual cost of less than 0.5 percent of the total annual solid waste management budget, it is recommended that the cost assigned to public information and education be included in the solid waste collection and disposal as a separate line item and funded from county general funds.

Some grant funds may be available through the Tennessee Department of Environment and Conservation for implementation of the public education tasks described. In addition, the Tennessee Department of Education may provide workshops and in-service training for teachers and establish peer assistance programs (see Tennessee Solid Waste Act 68-211-845 to -848).

Evaluation and Reporting

The success of the public information and education program will be measured generally by usage of the various waste collection systems and specifically by usage of the recyclable goods drop-off system. The success of this program will also be measured by the rise or drop in the quantity of material recycled or disposed. Additional information on evaluation and tracking is provided in Chapters VI and VIII. Negative trends in the tracking of recycling quantities of disposal quantities are indications that further consideration must be given to the public information and education elements of this program. An implementation schedule is provided in Table IX.2.

TABLE IX.2

Implementation Schedule for Public Information and Education

Task	1994	1995	1996	1997	1998	1999	2000	2001	2002	2003
Identify Curriculum for Youth Education	X									
Implement Curriculum in Schools		X	X	X	X	X	X	X	X	X
Re-Evaluate Curriculum; Change if Needed			X			X				
Develop Written Material for Public Distribution		X								
Provide Educational Material to Public		X	X	X	X	X	X	X	X	X
Enlist Support of Industry and Civic Groups	X	X								
Re-Evaluate Public Information and Education Program			X			X				

CHAPTER X
PROBLEM WASTES

County Sheriff's Office. Emergency response will be coordinated through the local fire department.

Another method of controlling the amount of household hazardous waste entering the solid waste stream is by educating citizens about ways to reduce the amount of household hazardous waste producing substances used, including efficient use of material and alternatives to hazardous materials. This effort can include training in the schools and pamphlets and other printed material. Household hazardous waste education should be considered an integral part of the public information and education element. Therefore, the cost of educating the public about household hazardous waste is reflected in the cost of public information and education.

Staffing and Training

Morgan County will use existing staff for coordination and assistance for the one-day collection events. The supervisor of the solid waste management system will have the responsibility of coordinating with the state for the mobile collection unit, coordinating security and emergency response personnel, and assisting during the collection event. Attendance at a hazardous materials handling course either through the state university system or through the technical assistance programs offered to counties would be extremely beneficial to the supervisor of the solid waste management system.

Estimate of Cost

The county will necessarily rely on the state for providing the actual sorting, packaging, and disposal of household hazardous waste. Other services, such as coordination of the collection event, providing security and emergency response, and public information and advertising of the event, will be handled by the county. The cost of this service to the county is estimated as follows:

	Item	Annual Cost
1.	Labor for Coordination and Security	\$ 1,000
2.	Material Used On-Site for Traffic Control Site Identification, Barriers, Etc.	\$ 1,500
3.	Advertising	\$ 500
	Total	\$ 3,000

It will be difficult for Morgan County to provide household hazardous waste collection and disposal opportunities without the support of the state's mobile collection service.

WASTE TIRES

Morgan County maintains a tire storage site at the existing Class I landfill. Tires are stored at this site until the state's mobile tire shredder can be used. Tires are shredded at the landfill in the tire storage area, and the shredded material is disposed of at the landfill. Accurate records of the maximum quantity of tires stored at this site are not available. Prison labor is used to stack and maintain the tire storage area. When the Class I landfill is closed, the county will maintain a storage area for tires at the proposed Class IV landfill. The shredded tires will be disposed of in the Class IV landfill.

There were 3,743 tires sold in Morgan County from July 1, 1992, to June 30, 1993. An accurate record of the number of tires stored at the end of June 30, 1993, is not available, but there appears to be ample storage for waste tires for the period between visits of the state's tire shredder.

Illegal tire piles will be inventoried as they are brought to the attention of the supervisor of the solid waste management system. County road crews will be asked to report illegal piles, and citizens will be given a telephone number to call to report illegal piles. The piles will be investigated as they are reported and quantified.

WASTE OIL

There is currently no organized system of waste oil collection and disposal in Morgan County. A receptacle for waste oil and other used automotive fluids will be provided at the Wartburg convenience center. A private corporation licensed or otherwise authorized to collect, transport, and recycle these used fluids will be contracted to remove the fluid from the county collection point on a routine basis. This collection point will be provided at the Wartburg convenience center.

LEAD ACID BATTERIES

There is no organized method of managing discarded lead-acid batteries in the county. Since businesses that sell batteries must now either collect an old battery or collect a deposit on new battery sales, fewer lead-acid batteries are being seen in the waste stream. Morgan County will not knowingly accept lead-acid batteries. A place for storage of lead-acid batteries will be provided at the Wartburg convenience center as needed, and the county will contract for their removal and subsequent recycling.

LITTER

Morgan County received approximately \$18,000 through the state litter grant. This money was used for roadside litter pickup. Future litter grant funds will be used to support educational efforts and the traditional tasks associated with litter removal.

CHAPTER XI

IMPLEMENTATION: SCHEDULE, STAFFING, AND FUNDING

SYSTEM DEFINITION

Components

The primary components of the solid waste management system for Morgan County will include the following:

1. Two 10-ton-per-day-capacity convenience centers - Includes waste collection for household waste and drop-off receptacles for recyclable material.
2. Eight 4-ton-per-day-capacity green box drop-off sites - These are partially manned green boxes with limited recyclables recovery.
3. One 10-ton-per-day-capacity Class IV landfill - Facility for disposal of construction/demolition waste and inert waste.

Facilities not operated by Morgan County but relied upon for the success of the solid waste management system include:

1. One or more Class I municipal solid waste landfills outside the county.
2. Food waste composting system operated by the prison systems in the county.

Curbside waste collection services are operated by the City of Wartburg and private waste haulers in and around the City of Oakdale.

Goals and Objectives

The overall goal of the system is to provide effective solid waste disposal for Morgan County while reducing the amount of waste disposed in Class I landfills by 25 percent on a per capita basis. This is to be accomplished through the current waste management structure with specific modifications. The primary change will be elimination of the in county Class I disposal facility and upgrade of the collection system for hauling municipal solid waste to an out-of-county disposal facility.

Construction and operation of a Class IV landfill for construction/demolition waste will be important to the system, particularly for reaching the 25 percent waste reduction goal.

The county's recycling efforts will be an inseparable part of the collection system. Residents will be provided a place to drop off recyclable materials, and the county will collect these materials at a central point before marketing them. This central collection point may also be used by area industry as a convenient handling point for recyclable materials.

Projected Solid Waste Handling Needs

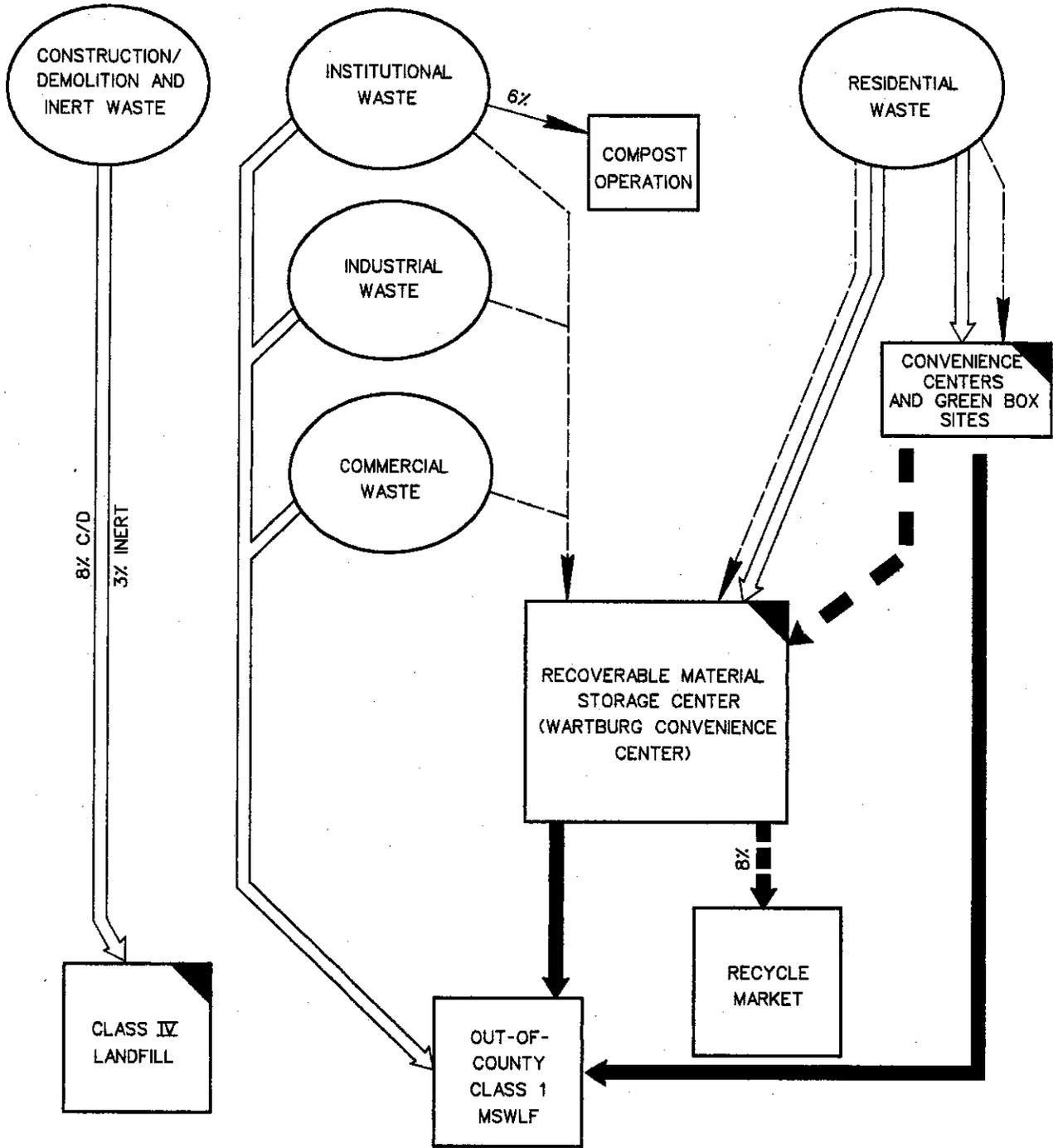
Based on the calculations of Chapter III, the tenth year (2003) solid waste management handling needs will be for 27,549 tons of waste, or approximately 75 tons per day. Figures XI-1 and 2 illustrate the division of waste handling for the integrated system. Figure XI-3 shows the location of management components.

IMPLEMENTATION SCHEDULE

The implementation schedule for the Morgan County Municipal Solid Waste Management System is shown on Table XI.1.

TABLE XI.1
 Composite Implementation Schedule
 Morgan County Solid Waste Management System

ACTIVITY	1994	1995	1996	1997	1998	1999	2000	2001	2002	2003
Transportation										
- Make convenience center improvements										
- Purchase new truck										
Recycling										
- Identify potential markets for recyclables										
- Install drop-off containers for recyclables at convenience centers										
- Construct processing and storage area at Warburg convenience center										
- Deadline for reaching 25 percent reduction goal										
Disposal										
- Identify landfill(s) for municipal solid waste disposal										
- Negotiate disposal contract										
- Site and design Class IV landfill										
- Guidance available for landfill operator certification										
- Begin partial closure of existing Morgan County Class I landfill										
- Construct first cell of Class IV landfill										
Education										
- Begin final closure activities of existing Morgan County Class I landfill										
- Latest possible date of operation for existing Class I landfill										
- All municipal solid waste disposed out of county (Class I landfill)										
- Identify curriculum for youth education										
- Implement curriculum in schools										
- Re-evaluate curriculum and change if needed										
- Develop written material for public distribution										
- Provide educational material to public										
- Enlist support of industry and civic groups										
- Re-evaluate public information and education program										



[] COUNTY OWNED FACILITY
 [] OWNED BY OTHERS

———→ WASTE FLOW
 - - - -> RECYCABLE/RECOVERABLE (R/R) MATERIAL FLOW
 ———→ WASTE FLOW (HANDLED BY MORGAN CO.)
 - - - -> R/R MATERIAL FLOW (HANDLED BY MORGAN CO.)

**MORGAN COUNTY
 SOLID WASTE FLOW PATH
 FIGURE XI-1**

 MORGAN COUNTY, TN

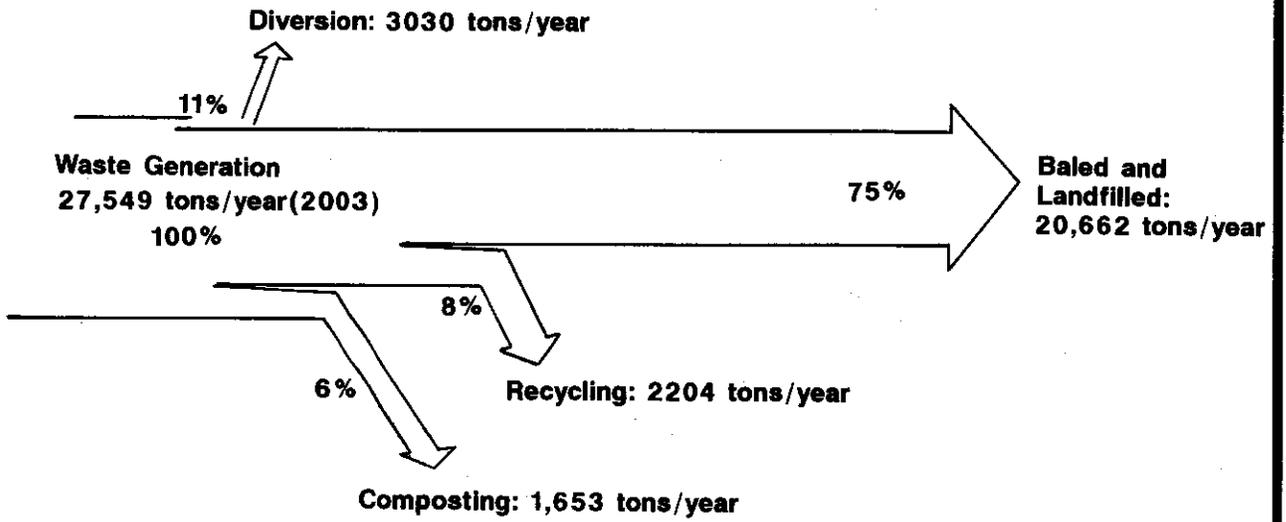
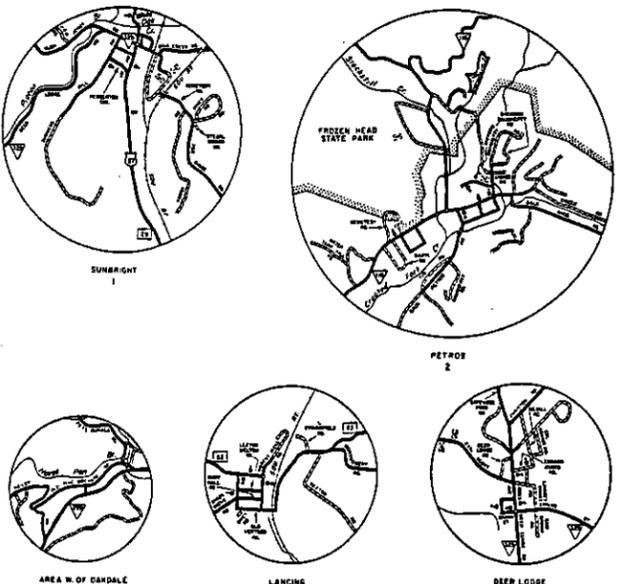
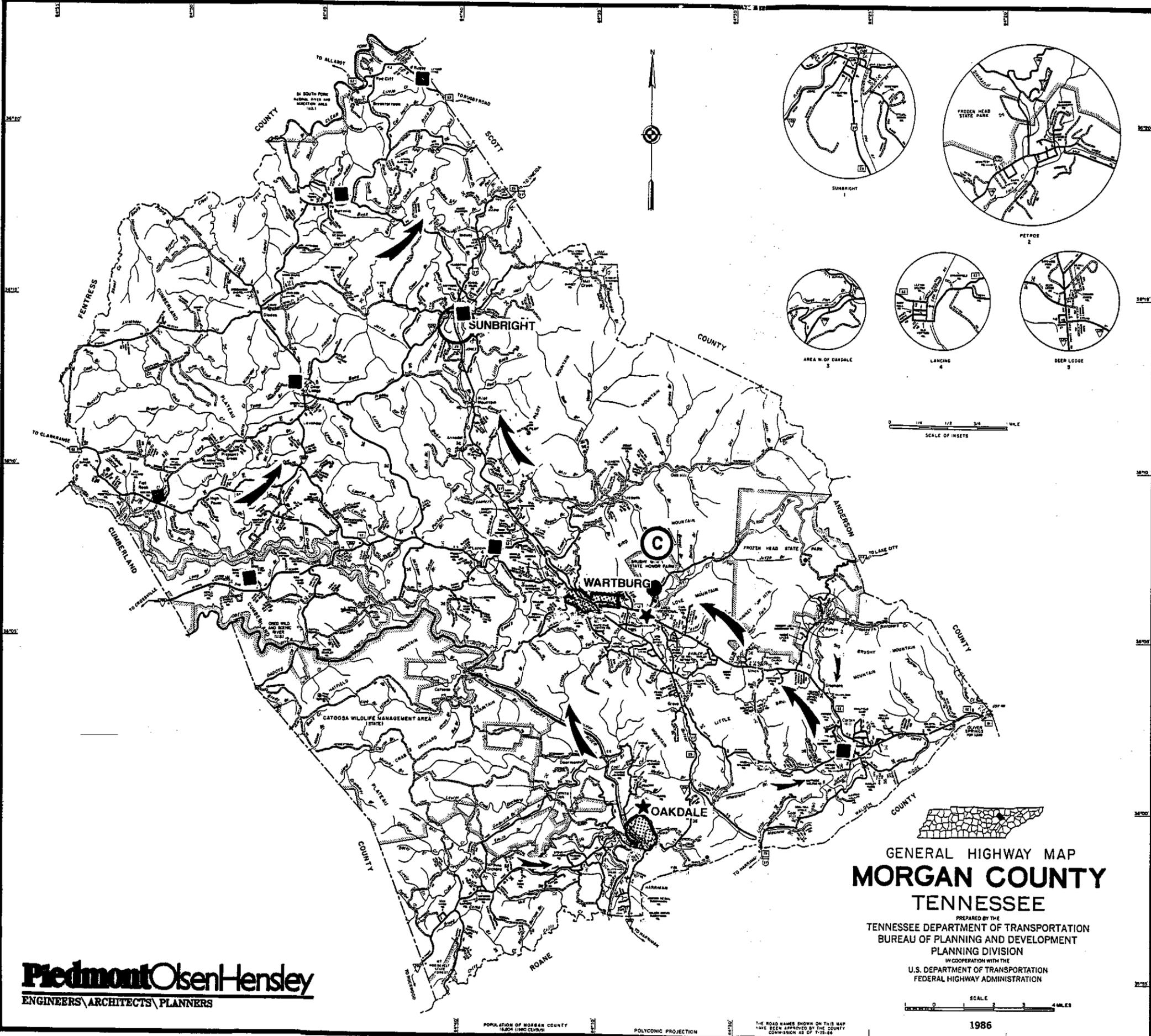


FIGURE XI-2
 PROPORTIONAL SOLID WASTE
 FLOW DIAGRAM
 MORGAN COUNTY SOLID WASTE

COMPOSITE: SOLID WASTE MANAGEMENT SYSTEM



KEY MAP

- WASTE FLOW PATTERNS
- HOUSE-TO-HOUSE COLLECTION AREA
- CONVENIENCE CTR
- GREENBOX
- EXISTING MSW LANDFILL & PLANNED CLASS IV LANDFILL
- PROPOSED COMPOSTING FACILITY

LEGEND

- | | | | |
|--|---|--|--|
| | SCHOOL | | HEAD OF NAVIGATION |
| | CHURCH | | NAVIGABLE STREAM |
| | CHURCH WITH CEMETERY | | RAILROAD STATION |
| | CEMETERY | | GRADE CROSSING |
| | POST OFFICE | | UNDERPASS ROAD BELOW |
| | HOSPITAL | | OVERHEAD ROAD ABOVE |
| | TOWN HALL OR COMMUNITY CENTER | | RAILROAD TUNNEL |
| | HIGHWAY PATROL STATION | | HIGHWAY GRADE SEPARATION |
| | HIGHWAY GARAGE (S-STATE, C-COUNTY) | | HIGHWAY BRIDGE OVER 30 FEET |
| | WEIGHT STATION | | FORD |
| | AIRPORT, COMPLETE FACILITIES | | LOW WATER BRIDGE |
| | AIRPORT, LIMITED FACILITIES | | FREE FERRY OR TOLL FERRY |
| | LANDING AREA OR STRIP | | HIGHWAY BRIDGE LONG RIVER CROSSING |
| | TRIANGULATION STATION | | (C-CONCRETE, S-STEEL, W-WOOD) PRIMITIVE OR UNIMPROVED ROAD |
| | OBSERVATION OR LOOKOUT TOWER | | GRADED AND DRAINED ROAD |
| | COUNTY SEAT | | SOIL, GRAVEL, OR STONE SURFACED ROAD |
| | OTHER CITIES AND VILLAGES | | DIVIDED HIGHWAY |
| | POWER PLANT | | (FCA) FULL CONTROL OF ACCESS |
| | RADIO OR TELEVISION STATION | | NPS NATIONAL PARK SERVICE HIGHWAY |
| | DOT TO INDICATE LOCATION OF ANY CULTURAL FEATURE OUT OF PLACE | | HIGHWAY INTERCHANGE |
| | INTERSTATE HIGHWAY MARKER | | COUNTY LINE |
| | U.S. NUMBERED HIGHWAY MARKER | | STATE LINE |
| | STATE HIGHWAY MARKER (FEDERAL AID PRIMARY SYSTEM) | | MONUMENTED CITY BOUNDARY |
| | STATE HIGHWAY MARKER (FEDERAL AID SECONDARY SYSTEM) | | INCORPORATED CITY BOUNDARY |
| | PROMINENT PEAK WITH ELEVATION | | RESERVATION BOUNDARY |
| | LAKE WITH DAM | | |
| | RESERVOIR, POND OR LAKE | | |
| | LEVEL OR DYKE | | |
| | DRAINAGE CANAL | | |
| | NARROW STREAM | | |
| | WIDE STREAM | | |
| | DAM WITH LOCK | | |

GENERAL HIGHWAY MAP MORGAN COUNTY TENNESSEE

PREPARED BY THE
TENNESSEE DEPARTMENT OF TRANSPORTATION
BUREAU OF PLANNING AND DEVELOPMENT
PLANNING DIVISION
IN COOPERATION WITH THE
U.S. DEPARTMENT OF TRANSPORTATION
FEDERAL HIGHWAY ADMINISTRATION



1986

Piedmont Osen Hensley
ENGINEERS ARCHITECTS PLANNERS

FIGURE XI-3

STAFFING AND TRAINING REQUIREMENTS

It is projected that seven full-time and nine part-time positions are required for operation of the solid waste management system in Morgan County (see Table XI.2). One additional truck driver or utility person should be considered in 1995 and in 2000 to account for waste stream growth and increased recycling and waste diversion activity.

Training needs of personnel will vary in areas of responsibility, but every person must, as a minimum, have a clear understanding of the management component he or she handles and understand the objectives of that component. Certain individuals will require specific training and certification. Individuals driving vehicles on public roads must be appropriately licensed for the vehicle being driven; this is particularly true for the truck driver positions and for any utility personnel assigned to fill in for absent truck drivers. Utility personnel called to manage the Class IV landfill will be required to be certified by the state as a landfill operator. The solid waste management system supervisor should also be certified as a landfill operator at the earliest opportunity. Guidance on certification was scheduled to be issued by March 1994 through the TDEC.

TABLE XI.2				
Personnel Requirements for Operation of Solid Waste Management System				
Personnel/ Area of Responsibility	Convenience Centers	Transportation	Green Box Sites	C/D Landfill
Full-Time Personnel				
Supervisor	X	X	X	X
Convenience Center Operators (2)	X			
Scale Operator/Attendant				X
Truck Drivers (3)		X		
Part-Time Personnel				
Green Box Facility Operators (9)			X	

BUDGET

A summary of the total solid waste management budget is provided in Table XI.3. The estimated 10-year budget in 1994 dollars is \$8,783,313. Based on the assumptions described in Table XI.3, the average cost per ton for solid waste management over the 10-year period will be \$40.

TABLE XI.3

Summary Budget Estimate
Morgan County Solid Waste Management System

ELEMENT	1994	1995	1996	1997	1998	1999	2000	2001	2002	2003
Collection & Transportation	\$272,920	\$396,185	\$313,749	\$323,818	\$334,291	\$345,183	\$361,510	\$368,291	\$380,542	\$393,283
Class IV Landfill	\$83,000	\$64,640	\$66,346	\$218,119	\$69,964	\$71,883	\$73,878	\$75,953	\$78,111	\$80,356
Education	\$2,800	\$2,184	\$2,271	\$2,362	\$2,457	\$3,406	\$2,657	\$2,763	\$2,874	\$2,989
Household Hazardous Waste Collection	\$3,000	\$3,120	\$3,245	\$3,375	\$3,510	\$3,650	\$3,796	\$3,948	\$4,106	\$4,270
Closure/Postclosure of Existing Landfill *		\$212,688	\$212,688	\$50,000	\$52,000	\$54,080	\$56,243	\$58,493	\$60,833	\$63,266
Class I Landfill Disposal **		\$228,350	\$419,680	\$593,262	\$619,720	\$648,250	\$677,072	\$706,560	\$737,246	\$768,884
Total	\$361,720	\$907,167	\$1,017,979	\$1,190,936	\$1,081,941	\$1,126,452	\$1,175,156	\$1,216,008	\$1,263,711	\$1,313,048
Total (1994 dollars)***	\$361,720	\$672,241	\$941,224	\$1,058,742	\$924,843	\$925,831	\$928,726	\$924,045	\$923,394	\$922,547

Ten Year Total (1994 dollars) \$8,783,313

Total S. W. Management Cost in \$/Ton \$40

* Closure cost provided by Morgan County.

** Based on planning tonnages developed in Table III.1.

An average tipping fee of \$20/ton was applied through 1996 and an estimate of \$35/ton was used from 1997 to 2003.

*** An inflation rate of 4% was assumed throughout this report.

APPENDIX A
LEGAL DOCUMENTATION AND ORGANIZATION OF THE REGION

RESOLUTION CREATING MUNICIPAL SOLID
WASTE PLANNING REGION
FOR MORGAN COUNTY, TENNESSEE

WHEREAS Subtitle D landfill regulations adopted by the United States Environmental Protection Agency and companion regulations adopted by the Tennessee Solid Waste Control Board will impact both the cost and method of disposal of municipal solid waste;

WHEREAS at the urging and support of a coalition of local government, environmental, commercial, and industrial leaders, the 97th Tennessee General Assembly enacted Tennessee Code Annotated Section 68-211-801, et seq. entitled the "Solid Waste Act of 1991", herein sometimes referred to as "the Act";

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 have supported and worked for the passage of this Act;

WHEREAS one of the stated public policies of this Act is to institute and maintain a comprehensive, integrated, statewide program for solid waste management;

WHEREAS pursuant to Tennessee Code Annotated Section 68-211-811 the nine development districts in the State of Tennessee have completed a district needs assessment which includes inventories of the solid waste systems in Tennessee;

WHEREAS Morgan County's Board of County Commissioners has given consideration to the needs assessment prepared by the East Tennessee Development District;

WHEREAS Tennessee Code Annotated Section 68-211-813 requires that counties in the State of Tennessee form municipal solid waste regions no later than December 12, 1992;

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;

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

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 (25%) by December 31, 1995, and a planned capacity assurance of its disposal for a ten (10) year period; and

WHEREAS the development of a municipal solid waste regional plan that results in the most cost effective and

*Rec'd a
copy*

H-5
Enrollment
see
wherein (3)

efficient management of municipal solid waste is in the best interest of the citizens of Morgan County.

NOW, THEREFORE, BE IT RESOLVED by the Board of County Commissioners of Morgan County, Tennessee, acting pursuant to Tennessee Code Annotated Section 68-211-801, et seq., as follows:

1. A Municipal Solid Waste Region for and by Morgan County, Tennessee is hereby established.
2. Pursuant to Tennessee Code Annotated Section 68-211-813 (a) (2), the Board of County Commissioners of Morgan County, Tennessee finds and determines that Morgan County shall be and shall constitute a single county municipal solid waste region due to the following: Geographical isolation and lack of adequate highway access to other governmental entities.
3. Morgan County, Tennessee reserves the right to become a multi-county municipal solid waste region if the need arises.
4. Pursuant to Tennessee Code Annotated Section 68-211-813 (b) (1), a Municipal Solid Waste Region Board is hereby established to administer the activities of this Region.
5. This Municipal Solid Waste Region Board shall be composed of five (5) members and shall be known as the Municipal Solid Waste Region Board for Morgan County, Tennessee.
6. Pursuant to Tennessee Code Annotated Section 68-211-813 (b) (1), three (3) Board members shall be appointed by the County Executive and approved by this Board of County Commissioners and, due to the fact that Wartburg City and Oakdale City collect or provides disposal services through its own initiative or by contract, the cities of Wartburg and Oakdale shall each have a Board member appointed by the Mayor of Wartburg and the Mayor of Oakdale, and approved by their respective governing boards.
7. Members of the Board of the Municipal Solid Waste Region shall serve six (6) year terms, except that the initial term of one (1) member appointed by the County Executive shall be for two (2) years, that two (2) members appointed by the County Executive shall have an initial six (6) year term, that one (1) member appointed by the Mayor of Wartburg shall have an initial four (4) year term, and that one (1) member appointed by the Mayor of Oakdale shall have an initial four (4) year term.
8. The Municipal Solid Waste Region Board for Morgan County, Tennessee, shall have all powers and duties as granted to it by Tennessee Code Annotated Section 68-211-813, et seq., and by other applicable law, and in addition, in the performance of its duty to produce a municipal solid waste region plan, it shall be empowered to utilize existing Morgan County governmental personnel, to employ or contract with individuals, private consulting firms, and/or governmental, quasi-governmental, and public entities and agencies and to utilize Morgan County's services, facilities, and records in pursuance of its goals.

9. At the Municipal Solid Waste Region Board's initial organizational meeting, the members shall select from its membership a chairperson, vice-chairperson, and secretary. The Board shall further cause the establishment of a municipal solid waste advisory committee whose membership shall be chosen by the Board and whose duties are set forth at Tennessee Code Annotated Section 68-211-212.

10. Morgan County shall receive, disburse, and act as fiscal agent for the administration of the funds of the Municipal Solid Waste Region of Morgan County, Tennessee.

11. Upon the passage of this Resolution, and no later date than December 31, 1993, the Clerk of Morgan County shall transmit a copy of this Resolution to the Tennessee State Planning Office.

12. This resolution shall take effect immediately upon passage, the public welfare requiring it.

13. All resolutions and enactments of the Board of County Commissioners for Morgan County, Tennessee contrary to this resolution are hereby repealed.

DULY PASSED AND APPROVED BY THE BOARD OF COUNTY COMMISSIONERS OF MORGAN COUNTY, TENNESSEE on this the 12 day of April, 1993.

SPONSOR:

COUNTY COMMISSIONER

ATTEST:

APPROVED:

Carl W. Hodson
COUNTY CLERK

Thomas R. Jones
COUNTY EXECUTIVE

APPROVED AS TO FORM:

John R. Gill
COUNTY ATTORNEY

APPENDIX B
WASTE STREAM CHARACTERIZATION: FIELD NOTES

BY SRW DATE 6/22/93
 CHKD. BY _____ DATE _____

PiedmontOlsenHensley

SHEET NO. 2 OF _____
 JOB NO. 51601.00.001

SUBJECT MOOREAN CO. LANDFILL

DATA COLLECTION SUMMARY

THURSDAY JUNE 17, 1993

NOTE: THURSDAY IS REPORTED AS BEING NEITHER THE LIGHTEST OR HEAVIEST DAY OF THE WEEK.

• TOTAL # VEHICLES = 17

WASTE TYPE / # VEHICLES	TOTAL yd ³
RESIDENTIAL = 11	175
INSTITUTIONAL = 4	33
CONST/DEMOL = 2	9

• TOTAL # yd³ WASTE = 217 yd³

ESTIMATING 200 lb/yd³ UNCOMPACTED
 " 500 lb/yd³ COMPACTED

217 yd³ TOTAL
 - 154 yd³ COMPACTED ⇒ 38.5 TONS
 63 yd³ UNCOMPACTED ⇒ 6.3 TONS
 Σ = **44.8 TONS**

TOTAL FEET ³ /yd ³	FOOD WASTE	F.M.	N.F.M.	YARD WASTE	PAPER & OCC	ALUM.	WHITE GOODS	PLASTIC	GLASS	TEXTILES/CLOTH	TIRMS	WOOD	FOAM RUBBER	AS SHIP
1/3	1.8				0.6	0.3		0.3						
2/10	4				4	0.5		1.0	0.5					
3/30	9				12.0	4.5			3.0	1.5				
4/5		1.5									2.5	1.0		
'3			2.1		0.3			0.6						
2/2			0.4									1.6		
7/10	1.0		2.0		3.5			3.5						
3/30			3.0		10.5	1.5	1.5	7.5	3.0		1.5	1.5		
2/3		1.2		0.6				0.6	0.6					
10/34			5.1		11.9	1.7		10.2	5.1					
1/5		0.5										4.0	0.5	
12/3		0.3										1.2	1.5	
13/10					7.0			1.0				2.0		
4/3			0.3					0.3				2.4		
15/30			3.0		12.0	3.0		9.0	3.0					
16/6														6.0
7/30			1.5		9.0		4.5	13.5	1.5					
TOTAL yd ³	15.8	3.5	17.4	0.6	70.8	11.5	6.0	47.5	16.7	1.5	4.0	13.7	2.0	6.0
% WASTE % COMPOS.	7.3%	1.6%	8%	0.3%	32.6%	5.3%	2.8%	21.9%	7.7%	0.7%	1.8%	6.3%	0.9%	2.8%

Σ TOTAL yd³ = 217 yd³
 Σ % WASTE COMPOS. = 100%

BY SRW DATE 6/23/93
 CHKD. BY _____ DATE _____

Piedmont Olsen Hensley

SHEET NO. 3 OF _____
 JOB NO. 51621.00.001

SUBJECT MORGAN CO. LANDFILL

DATA COLLECTION SUMMARY

MONDAY JUNE 21, 1993

NOTE: MONDAY IS NORMALLY
 1ST OR 2ND BUSIEST DAY
 OF WEEK

• TOTAL # VEHICLES = 26

WASTE TYPE / # VEHICLES

RESIDENTIAL = 13
 COMMERCIAL = 2
 INSTITUTIONAL = 10
 CONST./DEMOL. = 1

TOTAL yd³

221.1
 34
 69
 3

• TOTAL # yd³ WASTE = 327.1 yd³

ESTIMATING 200 1/4 yd³ UNCONTACTED
 " 500 1/4 yd³ COMPACTED

327.1 yd³ TOTAL

- 236 yd³ COMPACTED ⇒ 59 TONS
 91.1 yd³ UNCONTACTED ⇒ 9.1 TONS

NOTE: 110 yd³ OR 23.3 MORE TONS THAN 6/17/93

Σ = **68.1 TONS**

VEH# / OPEN YR	FOOD WASTE	COOK PAPER	PLASTIC	FOAM RUBBER	ALUM.	F.M.	ASPH. SHINGLES	WOOD	GLASS	TIRES	TEXTILES	YARD	ELECTR.
1/8	3.2	3.2	1.2		0.4								
2/3	1.5	0.9	0.45		0.15								
1/8	3.2	3.2	1.2		0.4								
1/9	4.5	2.7	1.35		0.45								
5/9	3.6	3.6	1.35		0.45								
6/28	5.6	11.2	7.0		1.4	2.8							
7/3							2.7	0.3					
8/34	6.8	17.0	8.5		1.7								
9/9	4.5	2.7	1.35		0.45								
10/6	1.2	3.6	0.9		0.3								
11/28	5.6	11.2	7.0		1.4				2.8				
12/34	5.1	13.6	6.8		1.7			5.1	1.7				
13/10	2.0	4.0	2.5		0.5				1.0				
14/6										6.0			
15/3			0.6			0.6		1.2			0.6		
16/6	0.6	3.0	1.8		0.3				0.3				
17/28	5.6	11.2	7.0		1.4						2.8		
18/6		3.6	0.6					0.6			0.6	0.6	
19/12	2.4	3.6	3.0		0.6						1.2	1.2	
20/5	2.5	1.5	0.75		0.25								
21/34	6.8	13.6	10.2		1.7				1.7				
22/1	0.2	0.4	0.3		0.05				0.05				
23/24	5.6	7.0	7.0		1.4	1.4		1.4			1.4	1.4	1.4
24/3	0.3	0.9	0.75			0.3		0.3		0.15	0.3		
1/6		3.0	0.9	0.3				1.8					
26/0.1			0.05			0.05							
TOTAL yd ³	70.8	124.7	72.55	0.3	15	5.15	2.7	10.7	7.55	6.15	6.9	3.2	1.4
% WASTE	21.6%	38.1%	22.2%	0.1%	4.6%	1.6%	0.8%	3.3%	2.3%	1.9%	2.1%	1%	0.4%

Σ TOTAL yd³ = 327.1 yd³
 Σ % WASTE COMPAS. = 100%

BY SRW DATE 6/23/93
 CHKD. BY _____ DATE _____

Piedmont Olsen Hensley

SHEET NO. 4 OF _____
 JOB NO. 51601.00.001

SUBJECT MORGAN CO. LANDFILL
 DATA COLLECTION SUMMARY

* RECORDS FROM 11/17/92 TO 6/17/93 \approx 31 WEEKS OR 7 MONTHS
 → FOR THIS STUDY THE COMPLETE MONTHS FROM 12/92 TO 5/93 WILL BE USED (6 MO)

- FOR BILLING PURPOSES THE FOLLOWING ARE AVG. TONS / WEEK OR MONTH
- CITY OF WARTBURG = 25 TONS/WK → 5 WORKING DAYS/WK ⇒ 5 TONS / DAY
 - BRUSHY MTN STATE PEN. = 10 TONS/WK → " ⇒ 2 TONS / DAY
 - REGIONAL = 16 TONS/WK → " ⇒ 3.2 TONS / DAY
 - BILL'S SANITATION = 8 TONS/MONTH → AVG. 21.7 ^{WORKING} DAYS/MO. ⇒ 0.37 TONS / DAY
- $\Sigma = 10.57$ TONS/DAY

MORGAN CO. LANDFILL RECORDS FOR FRONT LOADER TRUCKS:

(USING AN AVG. # OF 8 TONS / LOAD)

MONTH	# TONS/MO.	# WORKING DAYS/MO.	MORGAN CO. FRONT LOADER TRUCK AVG. # TONS / DAY	TOTAL COUNT	AVG. TONS/DAY
12/92	809	23	809/23 = 35.2	+ 10.57	= 45.8
1/93	706	21	706/21 = 33.6	+ 10.57	= 44.2
2/93	697	20	697/20 = 34.9	+ 10.57	= 45.5
3/93	784	23	784/23 = 34.1	+ 10.57	= 44.7
4/93	872	22	872/22 = 39.6	+ 10.57	= 50.2
5/93	924	21	924/21 = 44.0	+ 10.57	= 54.6
	$\Sigma = 4792$	$\Sigma = 130$	$\Sigma = 221.4$		$\Sigma = 285$
	Avg. = 798.7	Avg. = 21.7	Avg. = 36.9		Avg. = 47.5

KEY INFORMATION:

- AVG. # TONS / MO. = 798.7
- AVG. # TONS / DAY = 47.5 5.5 DAYS / WEEK

APPENDIX C
PUBLIC PARTICIPATION ACTIVITIES



Morgan County Executive

Tommy Kilby

PO Box 87
Wartburg, Tennessee 37887
615/246-6888

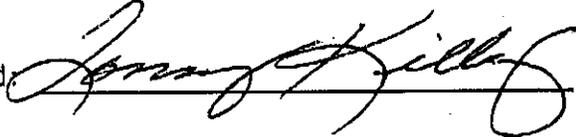
Minutes
of the
Public Hearing
for the
Morgan County Municipal Solid Waste Management Plan

January 5, 1995
6:00 p.m.

Morgan County advertised in the local newspaper an opportunity for the public to hear and discuss the contents of the proposed solid waste management plan for Morgan County, Tennessee. A public hearing was held in the main courtroom of the Morgan County Courthouse in Wartburg, Tennessee on the date and time specified above.

The hearing was called to order by the County Executive Tommy Kilby. Mr. Kilby turned the floor over to Mr. Damon Riggs, P.E. of Piedmont Olsen Hensley, who prepared the plan for the county, in order to summarize the contents of the plan and answer any questions concerning the plan. Copies of the proposed plan were made available to all present for review. Several questions concerning the content of the plan were asked. The questions were mostly concerned with implementation of the plan. No objections or revisions were communicated.

There being no further discussion the hearing was closed by County Executive Tommy Kilby.

Signed: 

Attest: _____

PLAN JANUARY 5, 1995

IN ATTENDANCE

	<u>NAME</u>	<u>REPRESENTING</u>
1	Tommy Kelly	P.O. Box 656 Wartburg, Co. Exc.
2	Brynn Kugel	404 Laurel Rd. Warrens County Commission
3	Paul Hund and	P.O. Box 202 Oakdale, TN County Commission
4	Stewart Stone	Box 165 Oliver Sp. TN- 37840 Co. Comm.
5	Danell Dougherty	Morgan County Solid Waste Board
6	Dana Rippy	PIEDMONT OLSEN HENSLEY
7	Bobbey W. Elmer	
8	John Daleon	1878 Berryville Rd. Sumner, TN 37872
9	Harrison Howard	104 Was. Howard Rd. Lansing, TN 37770
10	Michael A. Davis	P.O. Box 756 Wartburg, TN Co. Comm. 5th Dist.

Offices:
Greenville, SC
Raleigh, NC
Atlanta, GA
Chattanooga, TN

PiedmontOlsenHensley

Engineers/Architects/Planners

January 11, 1995

611 Chestnut Street, Suite 200
Chattanooga, TN 37450
(615) 756-7193 Fax: (615) 756-7197

The Honorable Tommy Kilby
Morgan County
P.O. Box 387
Morgan County Courthouse
Wartburg, TN 37887

Subject: Morgan County Solid Waste Management Plan
POH Project No. 51601

Dear Mr. Kilby:

As the consultant responsible for the development of this plan, I can document the following meetings with the Municipal Solid Waste Region Board prior to your administration.

July 13, 1993

Consultant met with Board to review findings of waste stream analysis and discuss progress of plan and the intended contents.

September 23, 1993

Consultant met with Board to review a preliminary (50 percent complete) draft of plan and discuss the direction of the plan.

February 1, 1994

Consultant met with Board and Commission to review 95 percent complete plan

These meetings were used to discuss alternatives for elements of the plan and to solicit the input of the Board. Board input was incorporated after each meeting. I trust this information will be helpful to you in documenting the process used in development of Morgan County's solid waste management plan. Please let me know if I can be of further assistance.

Sincerely,

PIEDMONT OLSEN HENSLEY, INC.



Damon R. Riggs, P.E.
Project Manager

dc/008

COMPANY:

James Coffey d/b/a Scott Solid Waste Disposal
Highway 63
Huntsville, Tn. 37756

CUSTOMER:

Company Name Morgan County

Address: 415 N. Kingston Street, P.O. Box 387

Tax I.D. No. 62-6000771

City Wartburg

State: TN

Zip: 37887

County: Morgan

Contact: Tommy Kilby

Telephone: 615/ 346-6288

P.O. # 387

1 Solid Waste Disposal. Subject to the terms and conditions contained herein, the Company agrees to accept at its Landfill (the "Landfill") acceptable solid waste as defined in Paragraph 2 hereof (collectively, "Waste") delivered by Customer

2 Acceptable Waste. The following types of waste are the only types of waste which the Company will accept at the Landfill and Customer agrees that it shall not dispose of any waste not specifically listed below:

(a) See Attachment

(c) _____

(b) _____

(d) _____

No hazardous, explosive, highly flammable, infectious, pathological, radioactive, residual, toxic or illegal waste, as defined under any applicable law or regulation, and no waste other than those types specifically provided for herein, will be acceptable for disposal at the Landfill. In addition, all Waste delivered to the Company for disposal must conform to all applicable federal, state and local laws, regulations, rules and orders relating at any time to the transportation and disposal of Waste

3 Rates for Disposal.

Type of Waste	Volume	Rate	Type of Waste	Volume	Rate
<u>M.S.W.</u>	_____	<u>\$20.00/ton</u>	_____	_____	_____
_____	_____	_____	_____	_____	_____
_____	_____	_____	_____	_____	_____

County and State of Origin of Waste _____

Disposal Quantity (per week) _____

4 Term of Agreement. This Agreement is effective for 23 months, commencing 12-1-94 unless terminated upon thirty (30) days prior written notice by either party, or immediately upon breach hereof or upon the occurrence of any event described in paragraph 11 hereof. ~~The disposal rates herein may be adjusted by the Company upon thirty (30) days prior written notice.~~
DELETED J.F.C.

THIS AGREEMENT IS SUBJECT TO THE TERMS AND CONDITIONS ON THE REVERSE SIDE, ATTACHED

Customer

Tommy Kilby
SIGNATURE

Tommy Kilby
NAME (PLEASE PRINT)

Morgan County Executive
TITLE

12/5/1994
DATE

Company

James S. Coffey
SIGNATURE

James Coffey
NAME (PLEASE PRINT)

Owner/Scott Solid Waste Disposal
TITLE

12-05-1994
DATE

FOR COMPANY USE ONLY

Cust # _____ Region _____ Unit _____ I.C. _____ Type _____ Interest _____

Credit Limit _____ Remittance Code _____ Alpha Sort _____

Contract Review _____ Reason _____

ATTACHMENT I

1. This site will accept domestic, commercial, institutional, municipal, demolition/construction, farming waste, and such special waste as may be specified in the permit to be issued or otherwise specifically approved in writing by the Tennessee Department of Health and Environment. No hazardous waste will be accepted. Any waste originating in and received from an area which is not regulated by the Tennessee Department of Health and Environment must be accompanied by a manifest, stating the source of the waste, the composition of the waste, the total weight of the shipment, the name of the shipper, and the name of the destination facility and such other information or requirements as may be prescribed by the Tennessee Department of Health and Environment and/or the Federal Environmental Protection Agency.

Any unacceptable waste received at the site will be rejected and must be promptly removed at the customer's expense.

2. Operating Rules:

- (a) The Company reserves the right to make and enforce reasonable rules and regulations concerning the operation of the Landfill, the conduct of the drivers and others on the Landfill premises, quantities and sources of Waste and any other matters necessary or desirable for the safe, legal and efficient operation of the Landfill including, but not limited to, speed limits on haul roads imposed by the Company, the wearing of hard hats by all individuals allowed on the Landfill premises, and the admittance order of vehicles arriving at the Landfill. Customer agrees to conform to such rules and regulations as they may be established and amended from time to time.
- (b) The Company shall have the right to refuse to allow disposal of any Waste which does not conform to the requirements of this Agreement or to any applicable law, regulation, rule or order, even if only a part of the waste load is nonconforming. Customer shall inspect all Waste at the place of collection, and shall remove any unacceptable Waste before transporting it to the Landfill. The Company shall have the right to inspect all trucks of waste haulers including Customer in order to determine whether the Waste is conforming or nonconforming. It is understood, however, that the failure of the Company to perform any such inspections, or the failure of the Company to detect unacceptable Waste despite such inspections, shall in no way relieve Customer of its obligations to dispose of only such Waste as is acceptable hereunder and under law. Customer shall be responsible for, and bear all reasonable expenses incurred by Company in, the reloading and removal of unacceptable Waste disposed of in the Landfill by Customer.

ATTACHMENT I

- (c) All of the Waste shall be weighed or its volume determined at the Landfill by the Company, and such weight or measurement shall be conclusive on the parties.
- (d) In the event that Customer's vehicle should become incapacitated or unable to move while on the Landfill premises, the Company may, but shall not be obligated to provide assistance in moving the vehicle. In such circumstances, Customer's driver or agent shall make any necessary connections to Customer's vehicle, and Customer expressly agrees that the Company shall have no liability for damage to Customer's vehicle or property while providing such assistance.
3. Payment. Customer shall pay the Company for disposal of Waste upon receipt of invoice. A service charge of 1.5% per month or, if less, the maximum permitted under law, shall be applied to all overdue amounts. If Customer's account is thirty (30) days past due, the Company shall have the option to terminate this Agreement (other than payment obligations) or to temporarily suspend disposal privileges until the account is brought current without terminating this Agreement or otherwise affecting the remaining terms hereof.
- J. S. C. J.K.*
12-5-94
4. Rights of Disposal. This Agreement does not grant any rights to dispose of Waste other than in accordance herewith. The Company reserves the right immediately to terminate access to the Landfill to Customer in the event of breach or violation by Customer of any of the terms of this Agreement, the Company's operating rules or payment policies or any applicable laws.
5. Indemnification.
- (a) Customer shall indemnify, defend and hold harmless the Company and its subsidiaries, affiliates and parent corporation, as applicable, and their respective officers, directors, employees and agents, from and against any and all claims, suits, losses, liabilities, assessments, damages, costs and expenses, including reasonable attorneys' fees, arising under federal, state or local laws, regulations or ordinances relating to pollution or protection of the environment, or relating to the collection, transportation or content of the Waste, or resulting from injury (including death) to the person or damage to or loss of the property of anyone (including the Company and the Customer, and employees of the Company and Customer), arising out of or in connection with the collection, transportation and disposal of Waste by Customer, provided however that such

the company and customer, arising out of or in connection with the collection, transportation and disposal of Waste by Customer, provided however that such

indemnification shall not apply to claims for loss, damage, injury or death if caused by the sole negligence of the Company.

(b) Customer shall be responsible for and shall pay or reimburse the Company for any and all expenses incurred by the Company as a result of breaches by Customer of its obligations hereunder including, but not limited to, fines and clean-up expenses resulting from materials delivered by Customer other than acceptable Waste as defined in Paragraph 2 above, and increased inspection, testing, study and analysis costs made necessary due to reasonable concerns of the Company as to the content of the Waste following discovery of unacceptable Waste.

(c) The indemnification and other obligations stated in this Paragraph 5 shall survive the termination of this Agreement.

6. Insurance. Customer shall maintain in full force and effect throughout the term of this Agreement the following types of insurance in at least the limits specified below:

Coverages	Minimum Limits of Liability
Worker's Compensation	Statutory
General Liability	\$300,000 combined single limit
Automobile Liability	\$500,000 combined single limit

All insurance will be by insurers authorized to do business in the state in which the Landfill is located. Prior to Customer being allowed on Landfill premises. Customer shall provide the Company with certificates of insurance or other satisfactory evidence that such insurance has been procured and is in force, naming the Company as an additional insured. Said policies shall not thereafter be cancelled, be permitted to expire or be changed without thirty (30) days advance written notice to the Company.

7. Failure to Perform. Neither party hereto shall be liable for its failure to perform hereunder due to circumstances beyond its reasonable control including, but not limited to, strikes or other labor disputes, riots, and disturbance or sabotage; fires, floods, explosions, accidents, weather or acts of God affecting either party hereto.

In the event of any of the circumstances listed in the preceding sentence or if any federal state or local court or authority takes any action which would (i) close or restrict operations at the Landfill, (ii) limit the quantity or prohibit the disposal of waste at the Landfill, or (iii) limit the ability of or prohibit Customer from delivering waste to the Landfill, the Company shall have the right, at its option,

ATTACHMENT I

to reduce, suspend or terminate Customer's access to the Landfill immediately, without prior notice and without any additional liabilities between the parties, other than Customer's payment obligations hereunder.

8. Miscellaneous.

- (a) This Agreement shall be governed by the laws of the state in which the Landfill is located.
- (b) No waiver of a breach of any of the covenants contained in this Agreement shall be construed to be a waiver of any prior or succeeding breach of the same covenant or of any other covenant of this Agreement.
- (c) No modification, release, discharge, or waiver of any provision hereof shall be of any force or effect, unless in writing, signed by all parties to this Agreement.
- (d) Company and Customer shall treat as confidential and not disclose to others during or subsequent to the term of this Agreement, except as is necessary to perform this Agreement, any information (including any technical information, experience or data) regarding the other party's plans, programs, plants, processes, products, costs, equipment, operations or customers which may come within the knowledge of the parties or their employees in the performance of this Agreement without in each instance securing the prior written consent of the other party.
- (e) If any term, covenant or provision of this Agreement shall be held to be invalid, illegal or unenforceable in any respect, this Agreement shall remain in effect and be construed without regard to such provision.
- (f) This Agreement may not be assigned by Customer without the prior written consent of the Company.
- (g) This Agreement constitutes the entire understanding between the parties, replacing and amending any prior agreements between the parties, and shall be binding upon both parties.



SANTEK
ENVIRONMENTAL

1306 South Lee Highway
Cleveland, Tennessee 37311
615/646 9160
Toll Free 1 800 467 9160
FAX: 615/479 1952

December 14, 1994

Mr. Paul Lunsford, Chairman
Morgan County Solid Waste Committee
Post Office Box 202
Oakdale, Tennessee 37829

Dear Mr. Lunsford:

It was a pleasure meeting you and your committee members last week. I appreciated the opportunity to tell you about Santek's relationship with the Roane County Solid Waste Authority and how it has the potential to be beneficial to Morgan County.

To reiterate my purpose for attending your meeting:

- Roane County has agreed to expand its landfill's service area to include Morgan County. Santek can accept up to 400 tons per day of solid waste.
- Roane County's tipping fee will be \$21.16 per ton. Santek and the Authority are modifying their agreement to reflect this rate. Once the modifications are complete, Santek will be better prepared to discuss a tipping fee for Morgan County waste.
- Santek expects to complete a new phase of the landfill by October 1995. The new phase will meet all of the federal and state landfill requirements, commonly referred to as Subtitle D, and will provide Roane County with at least 15 years of disposal capacity.
- Santek is willing to accept waste from Morgan County and will not require a minimum amount of tonnage to be delivered to the landfill. However, Santek is willing to negotiate a sliding tipping fee scale that will reflect a decrease in tipping fees as volume from Morgan County increases.
- Morgan County can transport its own waste to the landfill or can contract with a private hauler.

I trust this information will prove helpful to your committee as you deliberate and discuss your disposal options. If you should need additional

*Landfill Partnerships
That Work.*

information or if I can be of any help to you, please feel free to call at (800)
467-9160.

Sincerely,

A handwritten signature in cursive script that reads "Cheryl L. Dunson". The signature is written in black ink and is positioned above the printed name.

Cheryl L. Dunson
Marketing/Community Affairs Manager

cc: Mr. Burt Pemberton, Chairman
Roane County Solid Waste Authority

APPENDIX E
REGIONAL PLANNING COMMISSION REVIEW

MORGAN COUNTY LEGISLATIVE BODY
RESOLUTION
APPROVING MORGAN COUNTY SOLID WASTE 10 YEAR MANAGEMENT PLAN

WHEREAS, it is required by Tennessee Law that each Solid Waste Region submit a 10 Year Solid Waste Management Plan to the Department of Environment and Conservation, Solid Waste Division for approval;

AND WHEREAS, Morgan County is a single county planning region, and whereas, the Municipal Solid Waste Region Board of Morgan County has officially approved the Solid Waste Management Plan as revised and submitted by Piedmont, Olsen, and Hensley;

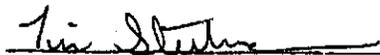
AND WHEREAS, the Morgan County Legislative Body Solid Waste Committee has also recommended approval of the Morgan County Solid Waste Plan.

NOW, THEREFORE BE IT RESOLVED that the Morgan County Legislative Body gives approval of the Solid Waste 10 Year Management Plan as presented by the Solid Waste Management Body.

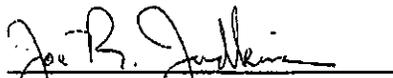
Duly passed this the 9th day of January, 1995.


Tommy Kilby
Morgan County Executive

ATTEST:


Tim Steelman
Morgan County Court Clerk

APPROVED:


Joe R. Judkins
Morgan County Attorney

APPENDIX F
EDUCATIONAL RESOURCES

SOLID WASTE MANAGEMENT RESOURCES

**Georgia Department
of Natural Resources
Land Protection Division**
205 Butler Street
Suite 1154
Atlanta, GA 30334
(404) 656-2833

**Georgia Clean and
Beautiful**
Georgia Department of
Community Affairs
1200 Equitable Building
100 Peachtree Street
Atlanta, GA 30303
(404) 656-3898

**Keep America Beautiful,
Inc.**
9 West Broad Street
Stamford, CT 06902
(203) 323-8987

**American Paper
Institute**
260 Madison Avenue
New York, NY 10016
(212) 340-0654

**Glass Packaging
Institute**
1133 20th Street, N.W.
Washington, DC 20036
(202) 887-4850

**American Public Works
Association**
1313 East 60th Street
Chicago, IL 60637
(312) 667-2200

**Institute of Scrap
Recycling Industries,
Inc.**
1627 K Street, N.W.
Suite 700
Washington, DC 20006
(202) 466-4050

**National Oil Recyclers
Association**
2600 Virginia Ave., N.W.
Suite 1000
Washington, DC 20037
(202) 333-8800

**National Tire Dealers
and Retreaders Assoc.**
1250 I Street, N.W.
Suite 4000
Washington, DC 20005
(202) 789-2300

**Society of the Plastics
Industry**
1275 K Street, N.W.
Suite 400
Washington, DC 20005
(202) 371-5200

**Solid Waste Association
of North America**
P.O. Box 7219
Silver Spring, MD
20910
(301) 585-2898

Aluminum Association
900 19th Street, N.W.
Washington, DC 20006

**National Solid Waste
Management Association**
1730 Rhode Island Ave.
Suite 1000
Washington, DC 20036
(201) 659-4613

**U.S. Department of
Energy, Biofuels, and
Municipal Waste
Technology Division**
1000 Independence Ave.
Washington, DC 20036
(202) 586-6750

**Steel Can Recycling
Institute**
680 Anderson Drive
Pittsburgh, PA 15220

**National Association
For Plastic Container
Recovery**
4828 Parkway Plaza
Blvd.
Suite 260
Charlotte, NC 28217

**U.S. Environmental
Protection Agencies,
Region IV**
Waste Management Div.
345 Courtland St., N.E.
Atlanta, GA 30308
(404) 347-3454

PUBLICATIONS

Georgia Recycling Directory

Georgia Department of
Community Affairs
1200 Equitable Building
100 Peachtree Street
Atlanta, GA 30303
(404) 656-3898

Recycling Today

4012 Bridge Avenue
Cleveland, OH 44113
(216) 961-4130

Biocycle

Box 351
Emmaus, PA 18046
(215) 967-4135

Resource Recycling

P.O. Box 10540
Portland, OR 97210
(503) 227-1319

Waste Age / Recycling Times

1730 Rhode Island
Avenue, N.W.
Suite 1000
Washington, DC 20036
(201) 861-0708

American City & County

6255 Barfield Road
Atlanta, GA 30328
(404) 256-9800

Solid Waste Report

951 Pershing Drive
Silver Spring, MD
20910-4464

Resource Recovery Report

5313 38th Street, N.W.
Washington, DC 20015
(202) 362-6034

Resources Recovery

1700 K. Street, N.W.
Suite 1300
Washington, DC 20006
(202) 659-1522

Solid Waste & Power

410 Archibald Street
Kansas City, MO 64111
(816) 931-1311

Waste-to-Energy Report

(McGraw-Hill)
1221 Avenue of the
Americas
New York, NY 10020
(212) 223-6180

**CURRICULA AND EDUCATION ACTIVITY GUIDES ON
LITTER PREVENTION/RECYCLING/SOLID WASTE MANAGEMENT**

A-Way with Waste: A Waste Management Curriculum for Schools, 2nd Edition

(Accompanying slide show is also available.)

Washington State Department of Ecology, 4350 150th Avenue, NE, Redmond, WA 98052

(206) 867-7134. Contact: Peggy Hamilton

Biodegradable: A Science Unit for 4th Grade (\$10 includes shipping)

Columbus Clean Community, 181 Washington Boulevard, Columbus, Ohio 43215

(614) 645-6179. Contact: Barb Gomon

Frog Pond video and curriculum on litter

Tennessee Department of Transportation, Maintenance Division, 400 J. K. Polk Building,

Nashville, TN 37243-0333 (615) 741-2877. Contact: Martin Kennedy

The Great Glass Caper: An Education Kit (grades 4-6) brochure - no charge

The Glass Packaging Institute, Suite 1105-L, 1801 K Street, NW, Washington, D.C. 20006

(202) 887-4850. Contact: Cynthia Lewis

Here Today, Here Tomorrow: A curriculum on Recycling, Energy, Solid Waste

State Department of Environmental Protection, CN 402, Trenton, NJ 08625,

(609) 292-9450. Contact: Marlena Gloff-Straw

Oscar's Options (curriculum) Books Vol. 1 and 2, \$50 each, includes shipping

Department of Environmental Management, State of Rhode Island, 83 Park Street,

Providence, RI 02908 (401) 277-3434. Contact: Carole Bell

Project Learning Tree (Workshops for K-6 and 7-12, includes activity guides)

Computer program (Apple PC only - \$19.95 plus \$3 shipping);

Video/film (Galactic Gardens - \$10) and poster (\$1 each for first 24) are available separately.

American Forest Council, 1250 Connecticut Avenue, NW, Suite 320, Washington, D.C. 20036

(202) 463-2455.

Recycling Study Guide Bureau of Information and Education, Wisconsin Department of Natural

Resources, P.O. Box 7921, Madison, WI 53707 (608) 266-2711.

Super Saver Investigators (a curriculum for grades K-6)

Division of Litter Prevention and Recycling, Ohio Department of Natural Resources,

Fountain Square, Building F, Columbus, OH 43224 (614) 265-6444. Contact: David Landis

The Trash Monster \$23; *The Wizard of Waste* \$20 (recycling education kits for grades 2-3 and 4-5, respectively), California State Department of Education, Publication Sales, P.O. Box 271,

Sacramento, CA 95802 (916) 445-4688. Contact: Carmen Bradburn

**Waste in Place* (curriculum for grades K-6) \$40 plus \$4 postage/handling

Keep America Beautiful, Inc., Mill River Plaza, 9 West Broad Street, Stamford, CT 06902

(203) 323-8987. Contact: Kit Tobin

Woody Waste Wise (slides, tape, and script with activities - elementary) \$39

Also, *Waste Wise - High School, College* \$49

Cornell Media Services, Audio Visual Resources Center, Research Park, Building B,
Ithica, NY 14850 (607) 255-2090. Contact: Holly Ouderkirik

**Waste: A Hidden Resource* (curriculum for grades 7-12, software available)

Keep America Beautiful, Inc., Mill River Plaza, 9 West Broad Street, Stamford, CT 06902
(203) 323-8987

The Rotten Truth

You Can't Grow Home Again

Bottom of the Barrel

Down the Drain

30-minute videos for elementary children

3-2-1 Contact Products, available by calling 1-800-822-1105

*These curricula are available through the Georgia Clean and Beautiful program.

APPENDIX G
HOUSEHOLD HAZARDOUS WASTE COLLECTION SITE CRITERIA

Add Title 22, Division 4.5, Chapter 45 70, Section 67450.4
66792/2 and Title 26, Division 22, Section 22-67450.4 66792/2 of
the California Code of Regulations to read as follows:

67450.4 66792/2 Requirements Applicable to Temporary Household
Hazardous Waste Collection Facilities Deemed to Have a Permit by
Rule.

(a) The owner/operator of a temporary household hazardous
waste collection facility (THHWCF) deemed to have hold a permit
by rule pursuant to Section 66270.60(d)(5) 66792(e) shall do all
of the following:

(1) accept only household hazardous waste except that the
following may be accepted:

(1)(A) Pursuant to Health and Safety Code Section 25158.1(a),
hazardous waste that is generated by small quantity commercial
sources as defined in Health and Safety Code Section 25158.1(d)
and pursuant to Health and Safety Code Section 25158.1(a)(1)
participating generators must comply with the requirements of
Health and Safety Code Section 25163(c) restricting the transport
of wastes to a total volume of five gallons or a total weight of
fifty pounds:

(2)(B) extremely hazardous wastes if they are managed in
accordance with the requirements of Chapter 43 Article 7 of this
division. Chapter: Additionally, participating small quantity
commercial source generators must themselves comply with the
requirements of chapters 42 and 43 of this division for the
transport of extremely hazardous wastes to the THHWCF; and

(3)(C) unidentified household hazardous wastes if upon
receipt they are placed in overpacked drums (lab packs) as
specified in Section 66265.316 67424. analyzed to determine the
chemical and physical characteristics of the wastes as required
in Section 67102(a) and comply with all requirements of this
section if applicable

(2) Not accept compressed gases, explosives, infectious or
radioactive wastes, // any such wastes inadvertently received shall
be handled in accordance with the regulations of all appropriate
federal, state and local agencies // this restriction does not
apply to small compressed gas containers // up to 20 pounds //
aerosol cans and smoke detectors or smoke alarms // all of which
shall be directed to authorized treatment or recycling facilities
or returned to the manufacturers/

(b)(1) The operator of a THHWCF shall prepare, maintain at the
facility, and operate in compliance with an operation plan as
specified below. and The operator must make the operation plan
available upon demand to any representative of the Department,
the U.S.EPA or local governmental agency. A copy of the
operation plan shall also be delivered in person or by certified
mail with return receipt requested to the Department when
requested by the Department. The Any request from the Department
shall specify the operation/plan documents which is are required,
where and how to submit the required operation/plan documents.

and the date by which the documents shall be submitted. The operation plan shall include:

- (1) (A) a description of the location and the address of the THHWCF;
 - (2) (B) A copy of a map showing the general THHWCF perimeters and traffic pattern. The map shall include all of the information as specified in Sections 66270.14(b)(18)(A), (F), (G), (H), (J) and (L) 66291.14(18)(A), (F), (G), (H), (J) and (L);
 - (3) (C) a list of the days and hours of operation including alternate dates as appropriate;
 - (4) (D) the name, address, contact person, telephone number and identification number of the THHWCF;
 - (5) the name, address and telephone number of the contact person for the THHWCF;
 - (6) (E) the name, address and telephone number of the agency or contractor which will be providing the designated site supervisor(s) for the THHWCF(s). The name(s) of the individual site supervisor(s) for each THHWCF session must be recorded in the operation plan on or before the date of that session.
 - (7) (F) a description of the length of time the waste will be held at the THHWCF;
 - (8) (G) a description of the procedure to be followed to ensure that the facility will be managed in an environmentally safe manner in the event of inclement weather;
 - (9) if wastes from small quantity commercial sources will be accepted, a description of the measures which will be taken to handle the acceptance of the small quantity commercial source wastes separately from the household wastes. These measures shall include:
 - (A) directing small quantity commercial source generators to a receiving area of the THHWCF separate from the receiving area for household waste; or
 - (B) limiting small quantity commercial source waste acceptance to different hours than household waste acceptance.
 - (10) (H) a description of the measures to be taken to ensure that all waste is removed from the facility and all contaminated facility structures, equipment and soil are either decontaminated or removed following termination of the THHWCF;
 - (11) (I) training documents as specified in Section 66264.16(d) 67103.14;
 - (12) (J) a contingency plan which contains the information specified in Section 66264.52 67141;
(K) Waste analysis plan as specified in Section 67102.14;
 - (13) (L) a copy of the documents as specified in Section 66264.17(c) 67103.14 if applicable; and
 - (14) (M) a copy of the financial assurance certification for liability coverage as specified in Section 67450.16 67037.
- (c) (4) The operator of a THHWCF shall maintain compliance with Sections 66264.16 67103 and 66264.17 67106 and the following regulations:
- (1) (A) Chapter 12 Article 6. Requirements for Generators of

Hazardous Waste:

(2)(B) Chapter 14, Article 3 Article/18. Preparedness and Prevention; for/Interim/Status/and/Permitted/Facilities/Verdejo for/Section/67120/(B)(1) and

(3)(C) Chapter 14, Article 4 Article/20. Contingency Plan and Emergency Procedures. for/Interim/Status/and/Permitted Facilities/

(4)(B) The operator of a THHWCF shall operate the THHWCF in a location that:

(1)(X) is secured to control public access;

(2)(B) has a buffer zone that is consistent with local codes and ordinances;

(3)(C) is large enough to accommodate all of the necessary equipment, personnel and anticipated number of vehicles for safe operation;

(4)(D) has a continuous base for the receiving, handling and waste storage areas (excluding vehicle traffic lane(s)). The continuous base shall be designed in accordance with Section 66264.175(B)(1) 67243(B)(1) or shall be covered with at least 15 mil plastic sheeting or equivalent material;

(5)(F) has a physical barrier such as cones or tape to delineate the perimeter of to/prevent/entry/by/unauthorized persons/to the handling and storage areas;

(6)(F) has an area(s) or structure(s) that meets all local codes and ordinances to store all containers holding ignitable and/or reactive waste;

(7)(G) has a canopy or other roof structure, when necessary/ to prevent exposure to excessive heat or precipitation, that covers waste handling area(s) designated for sorting, bulking and packaging;

(8)(H) has signs posted warning that the receiving, handling and storage areas contain hazardous waste. Additionally, signs shall be posted that prohibit food, beverages and smoking in the receiving, handling and storage areas. The signs shall be:

(A)(1) in English, Spanish and any other language predominant in the area surrounding the facility; and

(B)(2) legible from a distance of at least 25 feet and with the legend, "Danger! Hazardous Waste Area - Unauthorized Personnel Keep Out";

(9)(I) has a storage area that:

(A)(1) is surrounded by a fence constructed in a manner to prevent access by unauthorized persons; or

(B)(2) is contained within a secured area with controlled access; or

(C)(3) is under monitored by continuous/surveillance/ a 24-hour surveillance system (e.g., television monitoring or surveillance by guards or facility personnel) which continuously monitors and controls entry into the storage area; and

(D)(4) has artificial lighting to ensure safe, effective management of the waste if the THHWCF operates or stores wastes during hours of darkness; and

(E)(5) has a separate area/for/the/temporary storage area of

the hazardous waste received by or to transport off-site by a registered hazardous waste hauler or other authorized persons for wastes which are ready to be transported off-site; and

- (10)(Y) provides traffic control shall be which is:
- (A)1/ monitored by the appropriate local agency;
 - (B)2/ directed by staff and/or volunteers authorized by the owner or operator, fire department or law enforcement agency police department;
 - (C)3/ routed in a one-way direction to minimize backing up or turning around; and
 - (D)4/ controlled to assure that persons delivering the wastes remain in their vehicles while at the facility.

(e)(6) The operator of a THHWCF shall handle the waste received at the facility as follows:

- (1)(X) assure that bulking of wastes shall be performed:
- (A)1/ in a manner which prevents the mixing of incompatible wastes; and
 - (B)2/ in a secured area away from the receiving area;

(2)(BY) Limit Bulking and filtering of wastes at the THHWCF shall be limited to water-based paints, oil-based paints, compatible solvents, gasoline, antifreeze, used oil and roofing tar. If solvents or gasoline are to be bulked, the operator shall observe the following restrictions:

- (A) the bulking of solvents or gasoline shall not occur during hours when wastes are being accepted at the THHWCF; and
- (B) the bulking of solvents or gasoline shall be conducted in compliance with protocol specified by local fire and air pollution prevention agency jurisdictions in which the THHWCF is located;

(3)(CY) bulk, package and ship used oil to a facility authorized to receive used oil pursuant to Section 25200, Health and Safety Code;

(4)(DY) package and label the properly sorted waste in accordance with Department of Transportation (DOT) requirements pursuant to Subchapter C, Title 49, Code of Federal Regulations (CFR);

(5)(EY) assure that personnel who sort, bulk and package waste meet the personnel training requirements specified in Section 65264.16(a) 67103.1Y and the requirements of the Occupational Safety and Health Administration (California Code of Regulations, Title 8);

(FY) assure that personnel who bulk and filter waste comply with the Occupational Safety and Health Administration (California Code of Regulations, Title 8) with respect to safety equipment and use of respiratory protection;

(GY) ship all types of spent batteries received, i.e., lead acid, nickel-cadmium, alkaline, carbon-zinc, and other batteries similar in size to authorized battery recyclers, if available;

(F)(HY) The operator of a THHWCF shall assure that removal and/or decontamination of structures, equipment, soil and all collected materials and wastes shall be completed within 144 hours after termination of the session; and shall (I) assure

that all contaminated materials and wastes are removed by a registered hazardous waste hauler or other authorized person.

(g)(7) The operator of a THHWCF shall establish a separate record which identifies the name, address, and identification number of the generator (if any); the type(s) and quantity(ies) of hazardous wastes accepted from small quantity commercial sources, and the fees paid to the THHWCF for the acceptance of those wastes.

(h)(8) The operator of a THHWCF shall assure that the copies of the following reports and records pertaining to the THHWCF operations are maintained and available readily/accessible upon demand to the Department by the owner/of operator of the THHWCF for a period of at least three years from the commencement of the THHWCF:

(1)(X) the operation plans required by subsection (a)(2) of this section;

(2)(B) the notifications submitted as required by Section 66270.60(e) 66392(e); and

(3)(C) all records which identify receipts and shipments of hazardous wastes from household and small quantity commercial sources.

(i)(9) The operator of a THHWCF shall provide public notice of operation of a THHWCF within/seven/days/of submitting/the notification/required/in/section/66392(e)/of/this/chapter at least 30 days prior to the date of commencement of the THHWCF session by publication of a notice or an advertisement in a daily or weekly major local newspaper of general circulation within the area to be served by the THHWCF. The notice or advertisement shall at a minimum contain the following information:

(1)(X) the name of the owner/of operator of the proposed THHWCF followed by the words "has notified the State Department of Toxic Substances Control Health/Services of the intended operation of a temporary household hazardous waste collection facility under a permit by rule at (the physical location of the proposed THHWCF) on (the days and hours of operation)";

(2)(B) the name, address and telephone number of a person from whom interested parties may obtain further information;

(3)(C) a brief description of the waste(s) to be accepted and the waste(s) that will not be accepted and whether wastes from small quantity commercial sources will be accepted; and

(4)(D) a list of the agencies including the Department that have been notified of the proposed THHWCF.

(j)(10) The operator of a THHWCF shall submit a written report to the appropriate regional office of the Department of any incidents of noncompliance with these regulatory requirements that may have occurred within 15 days of such an occurrence. The report shall include all of the following:

(1)(X) the name, address and telephone number of the owner/of operator;

(2)(B) the location and address of the THHWCF;

(3)(C) the days and hours of operation;

(4)(D) a description of the incident and the reason for the

occurrence; and
(5)(EY) the procedures to be implemented to prevent a recurrence of the incident if applicable.

(k) If the facility accepts wastes from small quantity commercial sources which wastes cumulatively total more than 1,000 kilograms, the operator shall submit a biennial report pursuant to Code of Federal Regulations Title 40, Section 262.41.

NOTE: Authority cited: Section 208 58012, Health and Safety Code. Reference: Sections 25112.5, 25150, 25159, 25159.5, 25185.6, 25186, 25200, 25200.2, 25209.9 and 25205.1, Health and Safety Code, and Code of Federal Regulations Title 40, Section 262.41.