

**REGIONAL SOLID WASTE  
MANAGEMENT PLAN AMENDMENT  
2002-2022  
Volume II**

Adopted by the South East Texas Regional Planning  
Commission Executive Committee in  
April, 2005

*This plan was funded through a solid waste management grant provided by  
the Texas Commission on Environmental Quality (TCEQ) through the  
South East Texas Regional Planning Commission. This funding  
does not necessarily indicate TCEQ endorsement or support  
of this plan's findings and recommendations.*



**A RESOLUTION  
APPROVING THE ADOPTION OF THE  
AMENDED REGIONAL SOLID WASTE MANAGEMENT PLAN**

**WHEREAS**, the issues concerning solid waste and its management are of importance to the citizens of the Southeast Texas region; and,

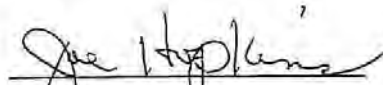
**WHEREAS**, the South East Texas Regional Planning Commission has been authorized to develop and implement an amended regional solid waste management plan; and,

**WHEREAS**, the SETRPC Solid Waste Advisory Committee, upon its final review of the plan, brings forth a recommendation of adoption:

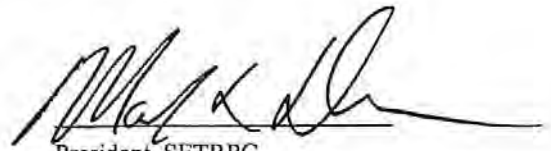
**NOW, THEREFORE, BE IT RESOLVED BY THE SOUTH EAST TEXAS REGIONAL PLANNING COMMISSION EXECUTIVE COMMITTEE THAT:**

- 1) The amended regional solid waste management plan be adopted by the South East Texas Regional Planning Commission; and that,
- 2) The amended regional solid waste management plan as adopted be forwarded to the Texas Commission on Environmental Quality for approval.

**INTRODUCED AND PASSED BY THE SOUTH EAST TEXAS REGIONAL PLANNING COMMISSION EXECUTIVE COMMITTEE ON THE 20<sup>th</sup> DAY OF APRIL, 2005.**



Secretary, SETRPC  
Joe Hopkins  
Mayor, City of Vidor



President, SETRPC  
Mark Domingue  
Commissioner, Jefferson County

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## **EXECUTIVE SUMMARY**

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**SOUTH EAST TEXAS REGIONAL PLANNING COMMISSION  
SOLID WASTE MANAGEMENT PLAN AMENDMENT**

# EXECUTIVE SUMMARY

## REGULATORY AUTHORITY AND ROLE OF THE AMENDED REGIONAL PLAN

This document amends the *South East Texas Solid Waste Management Plan 1992-2012*, as required by the Texas Commission on Environmental Quality (TCEQ). The amended regional plan is reviewed by TCEQ for conformance with Subchapter O of Municipal Solid Waste (MSW) Regulations. The plan must also support the recommendations of the state plan, *Solid Waste Management in Texas – Strategic Plan 2001-2005*. The amended regional plan is approved by TCEQ through a formal rule process.

Important applications of the amended regional plan include: directing solid waste management activities at the regional and subregional levels; establishing regional grant funding priorities; developing and maintaining a regional closed landfill inventory; and assisting in MSW facility permitting decisions.

## PLAN AMENDMENT PROCESS

The development of the amended regional plan was guided by the Solid Waste Advisory Committee (SWAC) of the South East Texas Regional Planning Commission (SETRPC). Southwest Texas State University (Geography Department, Solid Waste Planning and Management Team) was contracted to develop the plan, with input from the SWAC and SETRPC staff. Additional input was solicited from various parties in the region through questionnaires.

The amended regional plan consists of two volumes. Volume I contains the main body of the plan, with current data and information, as well as revised goals, objectives, and action plan. Volume II contains the regional Closed Landfill Inventory (CLI). The completed amendment was adopted by resolution of the SETRPC Executive Committee, and then formally submitted to TCEQ.

## THE SOUTHEAST TEXAS REGION

The Southeast Texas region includes Jefferson, Hardin, and Orange counties. Major cities in the region include Beaumont, Orange, and Port Arthur. The total population of the region according to the 2000 Census is 385,090. The regional population is projected to grow at a rate of 0.47%, reaching 425,043 by 2022. Although this growth rate is lower than the 1.7% projected for the state as a whole, this increase in population will simply mean more solid waste for the region to manage.

Population growth trends in the region indicate more acreage in rural areas is being devoted to residential uses. This will impact solid waste collection, disposal, and management needs in the region. New problems will be encountered with effective waste collection in those newly developing areas. All of the incorporated cities in the region have organized collection service, whereas rural areas still rely more on burning, burial, collection centers, or private haulers. This growth pattern may also increase the potential for land use conflicts relating to the siting or expansion of solid waste management facilities. However, due to the current and expected capacity of existing facilities, this is not expected to be a major issue for the region.

The economy of the region has experienced a series of ups and downs along with the rest of the state. However, the region should expect to continue to see a significant percentage of its total solid waste generation coming from commercial sources. Additionally, the growth that has occurred in the health care industry may result in increases in medical waste management needs, and the growth that has occurred in the government sector may result in increases in paper and other office waste.

## **SOLID WASTE MANAGEMENT IN THE SOUTHEAST TEXAS REGION**

There are currently four MSW landfills in the region, and their existing and projected disposal capacity is sufficient to meet the long-range needs of the region. In 2000, these landfills accepted a total of 533,136 tons of waste, the three largest components of which being residential waste, cleanup from illegal dump sites, and commercial waste. The amount of cleanup from illegal dump sites is an indicator of the success of regional efforts to control illegal dumping. However, it has the effect of increasing the region's per capita disposal rate. Not counting this particular waste component, the regional per capita disposal rate would have actually decreased rather than increased since 1991.

All municipal curbside recycling programs in the region have been discontinued due to poor participation, relatively high costs, and the lack of reliable markets for recyclables. There are still other opportunities to recycle, and the private sector does a good job of handling commercially generated recyclables. The region also does a good job of minimizing the impact of green waste on landfill disposal capacity. Much of the green waste is chipped, mulched, composted, or incinerated.

A preliminary risk assessment of the 41 sites identified in the CLI indicated that 14 sites presented a potentially high risk, based on the number and proximity of schools, hospitals, and public water supply intakes and bodies of water. These particular sites may warrant further investigation.

### **CHANGING PRIORITIES**

After a thorough review of the goals and recommended actions of the previous plan, the SWAC concluded that certain needs and priorities had changed since 1991. Although recycling should still be encouraged, the diversion of green waste from landfilling has been very effective and should continue to be encouraged. Public education and outreach programs and efforts to control illegal dumping have also been successful and should continue to be encouraged. Privatization of solid waste management services has increased in the region, and it will be important to establish and maintain cooperation between public and private interests. In order to satisfy new storm water permit requirements, it may be necessary to place even more emphasis on the management of household hazardous waste, and regional approaches may be desirable. Although the region may benefit from special solid waste management studies, there does not appear to be a need for promoting the development of subregional or local solid waste management plans through regional grant funding.

### **IMPLEMENTING THE AMENDED REGIONAL PLAN**

The amended regional plan provides a set of revised goals and objectives, based on changing needs and priorities in the region. The revised objectives are arranged by short-term (present to five years), mid-term (six to ten years), and long-term (11-20 years) planning periods, providing an "action plan." Accomplishing those objectives that fall in the short-term planning period should be the main focus of regional activities and the regional solid waste grants program at this time. In addition to administering the regional solid waste grants program and maintaining the regional plan, SETRPC will need to continue providing a number of regional coordination services.

In addition to reviewing MSW facility permit and registration applications for conformance with the goals and objectives of their regional plans, TCEQ recently instructed the councils of governments (COGs) to establish factors and procedures for considering general land use compatibility concerns as part of regional plan implementation. Many of the COGs have been reluctant to take on this responsibility, preferring to defer to local governments. Whereas the siting of new facilities is not expected to be a major issue in the Southeast Texas, the conformance review factors and procedures established in this plan represent a streamlined approach to meeting this requirement.



THE SOUTH EAST TEXAS  
REGIONAL PLANNING COMMISSION

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SOUTH EAST TEXAS REGIONAL PLANNING COMMISSION  
SOLID WASTE MANAGEMENT PLAN AMENDMENT

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## THE SOUTH EAST TEXAS REGIONAL PLANNING COMMISSION

The South East Texas Regional Planning Commission (SETRPC) is a voluntary association of local governments that serves the area composed of Hardin, Jefferson and Orange Counties (see map on Page xi). SETRPC was established in June, 1970 under authority provided by the Texas Legislature in 1965. SETRPC is one of 24 Regional Planning Councils that serve all of Texas. Regional council boundaries conform to the State Planning Region System, whereby 24 areas are delineated according to socio-economic and physical characteristics that set one area apart from another. Each of these regional councils was founded for the purpose of solving area-wide problems by promoting intergovernmental cooperation and coordination, conducting comprehensive regional planning, and providing a forum for the discussion and study of area issues.

SETRPC is not a government. It does not possess powers of enforcement or taxation. Consequently, its programs are implemented by member local governments which do possess such powers. Membership in SETRPC is open to all general and special purpose local governmental bodies in the three-county region: counties, cities, school districts and other special purpose districts such as water and sewer districts, municipal utility districts and port and drainage districts. SETRPC is governed by an Executive Committee composed of elected officials from the various city councils, county commissioner's courts, and special district boards that form its membership. These member governments pay yearly dues to SETRPC based on their population. These local tax dollars are supplemented by state and federal grants to form the SETRPC budget.

SETRPC maintains a Solid Waste Advisory Committee (SWAC) to provide guidance in regional solid waste management. An important role of the SWAC is to oversee development and revision of the regional solid waste management plan. Following is the current membership of the SWAC:

Taylor Shelton, City of Port Neches, Chairman	Charles Rivette, Waste Management, Inc.
Steve Hamilton, City of Nederland	Eric Rast, BFI
Mike Tentrup, City of Port Arthur	C. R. Nash, City of Pinehurst
George Newsome, City of Groves ( <i>Liaison</i> )	Billy Caraway, Hardin County
Dr. Bruce Drury, Lamar University	Kristi Lemmons ( <i>Ex Officio</i> , TCEQ)

### SETRPC Staff

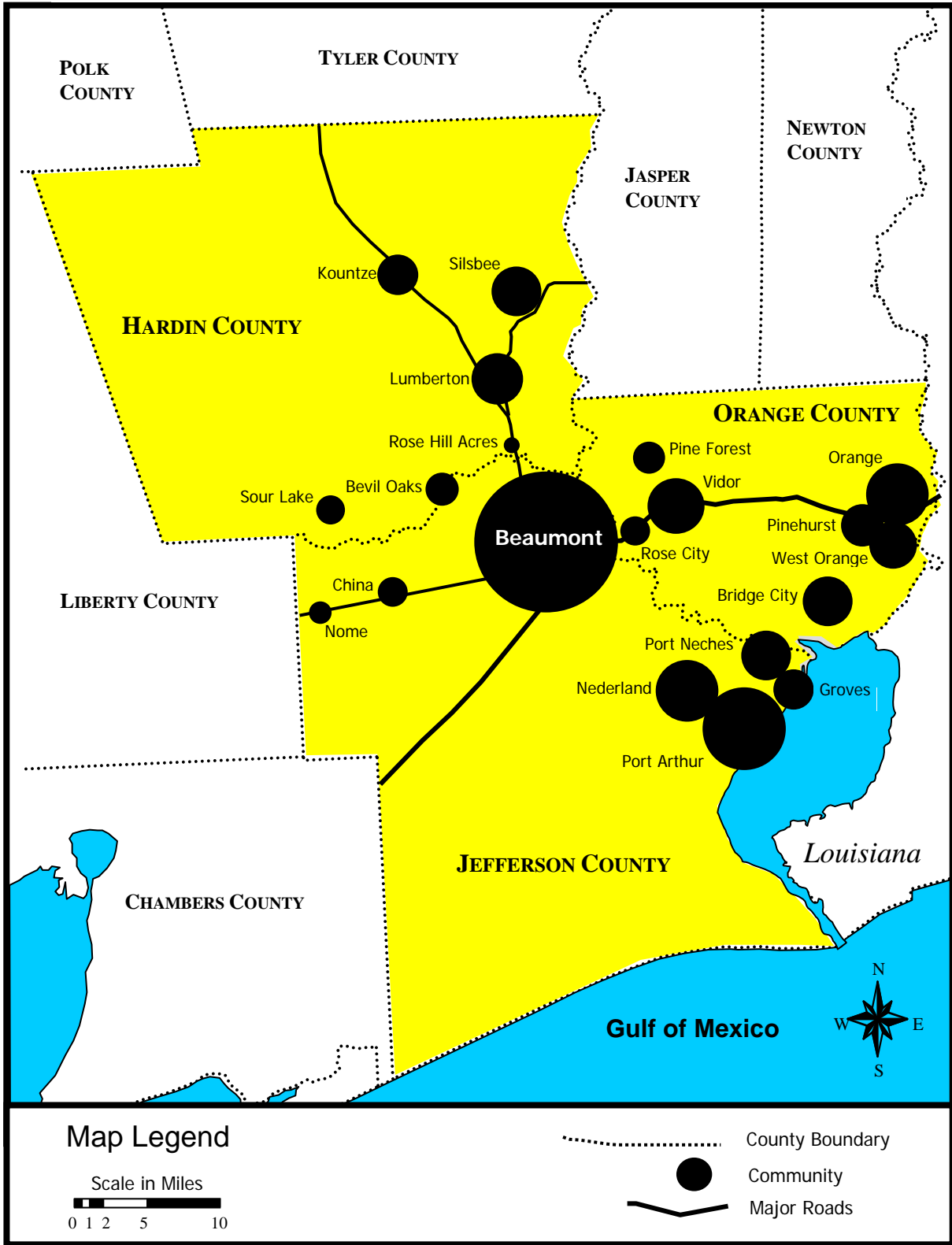
Chester R. Jourdan, Jr., Executive Director  
Michael Foster, Environmental Resources Coordinator

## SWT SOLID WASTE PLANNING AND MANAGEMENT TEAM

This amended plan was produced for SETRPC by the Solid Waste Planning and Management Team – Department of Geography at Southwest Texas State University, San Marcos, Texas. Staff includes the following:

Dr. Robert D. Larsen – Project Director  
Ronald J. Stephenson, Ph.D. Candidate – Project Manager  
James W. Vaughan, M.A.G., AICP – Project Manager for Research, Data Collection, and Production  
Amanda K. Grantham – Project GIS Specialist  
Lee Huntoon – Project Research Assistant  
Joey Crumley, MS, AICP – Consultant

# The Southeast Texas Region





## INTRODUCTION

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SOUTH EAST TEXAS REGIONAL PLANNING COMMISSION  
SOLID WASTE MANAGEMENT PLAN AMENDMENT

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# INTRODUCTION

## REGULATORY AUTHORITY AND ROLE OF THE AMENDED REGIONAL PLAN

In December 2000, the Texas Commission on Environmental Quality (TCEQ) published a new state solid waste management plan, *Solid Waste Management in Texas – Strategic Plan 2001-2005 (SFR-42/01)*. This revised plan outlined policy, goals, objectives, and recommendations for action by TCEQ and regional/local entities, and included direction and priorities to be incorporated into regional solid waste management plans.

In light of the direction in the new state solid waste management plan, and as a condition for each Council of Governments (COG) to receive continued state solid waste grant funding, each COG's solid waste management plan developed per §363.062(a), Texas Health and Safety Code, needed to be amended to comply with the revised state plan.

Plan amendments must be approved through a formal TCEQ rule adoption process that includes a public hearing and notification in the Texas Register. The amendments must comply with Subchapter O of TCEQ regulations which outline the standards for the contents of regional solid waste management plans, while focusing on information and policy that are important to the needs of the individual COG. Of major importance, the COGs should focus policy direction toward those mechanisms that are available for their use to implement the regional plan.

Important applications of the regional plan include:

1. Role of the Plan in Directing Solid Waste Planning and Management Activities:

Regional Level:

- The plan sets a regional agenda for planning and implementation activities.
- It guides the ongoing solid waste management programs being conducted by SETRPC including public education, technical assistance, and intergovernmental coordination.
- Regardless of funding sources, the plan should provide direction for future SETRPC regional coordination activities.

Subregional and Local Level:

- SETRPC has the primary responsibility to coordinate local solid waste management efforts within the region.
- The plan should identify existing solid waste management plans that have been adopted and specify whether these plans have been maintained and in effect.
- The plan must identify areas on the subregional or local level where a local plan is needed.
- State approval of local and subregional plans is predicated on conformance to the amended regional plan.

2. Establishing Grant Funding Priorities: The existing *South East Texas Solid Waste Management Plan 1992-2012* was adopted prior to TCEQ's new grants program, so it does not directly address the use of grant funds to implement its regional plan. The amended plan will be used to establish priorities for the use of grant funds by SETRPC as directed by *SFR-*

042/01. The action plan for implementing the amended regional solid waste management plan should:

- Include a detailed funding plan that identifies key projects and priorities for use of grant funds.
  - Identify a limited number of needs and problems that can reasonably be addressed over the short-term (present to five years) through the use of grant funds.
3. Closed Municipal Solid Waste Landfill Inventory: The complete Closed Municipal Solid Waste Landfill Inventory (CLI) for the Southeast Texas region can be examined at the SETRPC office in Beaumont. Maps and datasheets for each site are included in Volume II of this plan. The original Phase I of the CLI was completed in 1999 by Southwest Texas State University (SWT). During Phase I, SWT identified 53 closed municipal solid waste landfill sites within the Southeast Texas region. During Phase II of the CLI, completed by SETRPC, 14 of the originally identified sites were eliminated and two new ones were added, resulting in a total of 41 sites being listed in the Phase II CLI Report. Fourteen of the 41 sites were identified as having been permitted and 27 were identified as unauthorized dumps in Phase II of the inventory process. The CLI section of the plan summarizes the information from the CLI, such as the number of sites identified in each county, site location levels of confidence, etc. Also, included in this section, will be information on any risks to human health or the environment, or other problems identified or suspected at the closed landfills included in the inventory. Furthermore, the CLI section can also be used to outline the need for continued work on the inventory to verify the location of known sites, as well as identify new sites.
4. Role of the Plan in Permitting Decisions: Currently, SETRPC must provide a recommendation to TCEQ regarding the degree of conformance of a Municipal Solid Waste (MSW) facility permit application with the *South East Texas Regional Solid Waste Management Plan 1992-2012*, that was adopted by TCEQ on May 3, 1995. SETRPC's amended plan must clearly explain the factors and priorities that will be considered or used to determine whether a proposed MSW facility permit application conforms to the amended regional plan.

#### **PLAN AMENDMENT PROCESS**

This amended plan is the result of a thorough evaluation of the *South East Texas Regional Solid Waste Management Plan 1992-2012*. In meetings with SETRPC and TCEQ Region 10, and the SWAC, the goals, recommendations, and action plans were re-examined in light of developments since 1992.

In July, 2002, the SWT Solid Waste Planning and Management Team sent out 28 questionnaires to SWAC members, local government officials, schools, hospitals, and special districts to determine the current status of solid waste management issues including:

- Waste transfer/disposal
- Collection/hauling
- Treatment of sludge and other liquid wastes
- Disposal of oil drilling mud
- Recycling and waste minimization (e.g., composting/chipping/mulching)
- Household hazardous waste
- Litter and illegal dumping
- Concerns regarding siting, expansions, maintenance, and operations of MSW facilities
- Proposed goals and actions for the amended plan

New goals and priorities emerged from the survey and meetings with the SWAC. Many initial recommendations were found to either have been accomplished, no longer relevant, or were in need of updating. The SWAC showed a desire for the amended regional plan to be an effective, useful tool for decision-making; it should be concise, not redundant, current, and easy to use and understand. A detailed analysis of the SWAC's review of the existing regional plan is provided in Appendix A.

The amended regional solid waste management plan consists of two volumes. Volume I contains the main body of the plan, with current data and information, as well as revised goals, objectives, and action plan. Volume II contains the regional Closed Landfill Inventory.

A formal public hearing on the amended plan was held on \_\_\_\_\_, 2003. The amended regional plan was reviewed and approved by the SWAC on \_\_\_\_\_, 2003. The amended plan was officially adopted by the SETRPC Executive Committee on \_\_\_\_\_, 2005. (The resolution of the Executive Committee is included behind the inside cover page.)

## CHAPTER ONE

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### SOUTH EAST TEXAS REGIONAL PLANNING COMMISSION Solid Waste Management Plan Amendment

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## CHAPTER ONE

# REGIONAL ANALYSIS OF DEMOGRAPHIC, ECONOMIC, AND LAND USE CHARACTERISTICS

## POPULATION

U.S. Census population data, Texas State Data Center (TSDC) population projections, and population projections developed for the *South East Texas Water Quality Management Plan* dated June, 2002, are presented by county level and summarized for the Southeast Texas planning region in Tables 1.1 and 1.2, and Figure 1.1. The historical data indicate a relatively high growth rate from 1970 to 1980 (11.8%), followed by a decline in population from 1980 to 1990 (-3.8%), and then modest growth from 1990 to 2000 (6.6%). Of the three counties in the region, Hardin County had the highest rate of population growth, but it should be noted that it started from a much smaller population base in 1970 than the other two counties.

TSDC population projections are based on the “One-half 1990-2000 Migration (0.5) Scenario.” This scenario assumes rates of migration one-half of those of the 1990s. TSDC suggests that this scenario is the most appropriate one to use because it is unlikely that Texas counties will continue to experience the levels of relatively extensive growth of the 1990s. The projections developed for the *South East Texas Water Quality Management Plan* are slightly higher than the TSDC projections, due to a more detailed analysis of the region and subsequent expectations that TSDC did not necessarily take into account. These expectations include:

- The petrochemical industry has stabilized while the paper products industry will continue to grow along with a more diversified economy than experienced in the past.
- The geographical location of the Southeast Texas region will continue to attract service and transportation oriented businesses.
- The approximately 3,500 permanent jobs related to the correctional facilities will continue to provide stability as a base industry for the region.
- Texas will continue to be one of the leading growth states in the United States.
- A portion of the rapidly increasing elderly population of the United States will migrate to the areas such as Southeast Texas where warmer climates occur and the cost of living remains relatively low.

**Table 1.1 – Southeast Texas Region Population: 1970-2000**

U.S. CENSUS OF POPULATION					
COUNTY	1970	1980	1990	2000	GROWTH RATE*
Hardin	19,996	40,721	41,320	48,073	4.68%
Jefferson	244,773	250,938	239,397	252,051	0.10%
Orange	71,170	83,838	80,509	84,966	0.65%
<b>Total</b>	<b>335,939</b>	<b>375,497</b>	<b>361,226</b>	<b>385,090</b>	<b>0.49%</b>
Texas	10,862,716	13,850,016	16,625,284	20,466,730	2.90%

\*Growth Rate is average annual and is calculated by subtracting 1970 population from 2000 population, dividing the resulting amount by 1970 population, and then dividing by 30.

Source: U.S. Census, Texas State Data Center and *South East Texas Water Quality Management Plan*, June 2002.

**Table 1.2 – Southeast Texas Region Population Projections: 2005-2022**

TSDC POPULATION PROJECTIONS					
County	2005	2010	2015	2022	Growth Rate*
Hardin	50,316	52,467	54,387	56,965	0.83%
Jefferson	256,052	260,779	266,287	274,747	0.41%
Orange	87,323	89,424	91,132	93,332	0.44%
<b>Total</b>	<b>393,691</b>	<b>402,670</b>	<b>411,806</b>	<b>425,043</b>	<b>0.47%</b>
Texas**	22,086,491	23,775,837	25,525,039	28,236,991	1.67%

PROJECTIONS FROM SETRPC WATER QUALITY MANAGEMENT PLAN					
County	2005	2010	2015	2022	Growth Rate*
Hardin	50,717	53,760	55,373	58,039	0.93%
Jefferson	258,352	264,811	271,431	281,113	0.52%
Orange	87,175	89,529	91,946	95,484	0.56%
<b>Total</b>	<b>396,244</b>	<b>408,100</b>	<b>418,750</b>	<b>434,636</b>	<b>0.58%</b>
Texas**	22,083,938	23,770,407	25,518,095	28,227,398	1.67%

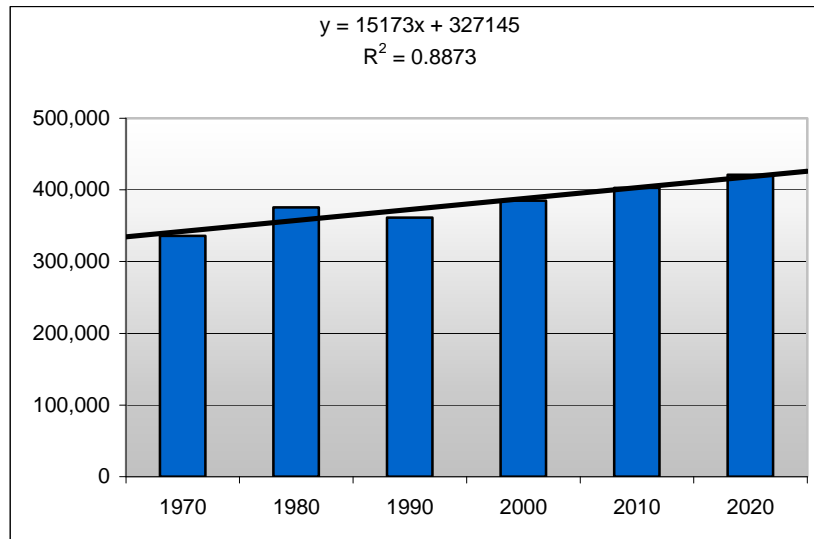
\*2000-2020 growth rate is average annual and is calculated by subtracting 2000 population from 2020 population, dividing the resulting amount by 2000 population, and then dividing by 20; this rate is then extended to 2022.

\*\*Texas Population is the total projected population in the State for each time period, minus the projected population of the Southeast Texas counties for each time period. This is done to be able to compare the Southeast Texas Region’s population growth rate to the population growth rate in the rest of the State.

Source: U.S. Census, Texas State Data Center (TSDC) and *South East Texas Water Quality Management Plan*, June 2002.

Overall, the population growth rate for the Southeast Texas planning region is projected to be about the same as it has been since 1970, or slightly higher, using the Water Plan projections (See Table 1.2). The average annual growth rate from 1970 to 2000 was 0.49%, and the average annual projected growth rate from 2000 to 2022 is 0.47% or 0.58%. It must be noted that both projected growth rates are considerably lower than the growth rate projected for the rest of the state. TSDC projects that population in Texas (based on the 0.5 migration scenario) is expected to grow from 20,851,820 in 2000 to 28,662,034 in 2022, an average annual growth rate of 1.67%.

**Figure 1.1 – Southeast Texas Region Population Trend by Decade\***



\*Using TSDC projections. Sources: U.S. Census and Texas State Data Center.

Currently, about two-thirds of the population in the Southeast Texas region resides in Jefferson County, with 22% in Orange County and 14% in Hardin County. These proportions are expected to remain about the same through the year 2022.

Table 1.3 compares the number of households and persons per household in the three Southeast Texas region counties for 1990 and 2000. All three counties and the entire region saw a decrease in the number of persons per household, which follows state and national trends. The total number of households in the region grew by 8,089, or 6.0%, from 1990 to 2000. For comparison purposes, the number of households in Texas grew from 6,070,937 in 1990 to 7,393,354 in the year 2000, or a growth rate of 21.8%, over 3.5 times the rate in the Southeast Texas region.

**Table 1.3 – Households and Persons per Household: 1990 and 2000**

County	CENSUS 1990		CENSUS 2000	
	Households	Persons per Household	Households	Persons per Household
Hardin	14,693	2.79	17,805	2.68
Jefferson	90,520	2.60	92,880	2.55
Orange	29,025	2.75	31,642	2.65
<b>Total</b>	<b>134,238</b>	<b>2.65</b>	<b>142,327</b>	<b>2.59</b>

Source: U.S. Bureau of the Census.

While the population in Hardin County grew at a rate greater than the other two counties, the most significant demographic pattern in the region is the comparison of population growth of the incorporated cities with the population growth of areas outside the incorporated limits of the cities (see Table 1.4). The three largest cities, Beaumont, Port Arthur and Orange, all lost population between 1990 and 2000. In that same time period, the combined growth rate for all of the incorporated cities in the region was only 0.6%, compared to 29.2% for the areas outside the incorporated limits of these cities. Stated another way, the Southeast Texas Region grew by 23,864 persons between 1990 and 2000. Of this amount, 22,164 persons, or 92.9% of the population growth, occurred outside the region's cities, and only 1,700 persons, or 7.1% of the region's population growth, was within the region's 20 incorporated cities.

Table 1.5 illustrates the city/unincorporated-area population growth by county, and shows that the gain in unincorporated-area growth was most dramatic for Jefferson County. In 1990 population in Jefferson County outside of the cities accounted for 7.4% of the county total, but in the year 2000 this percentage had grown to 12.2%. In Orange County, population outside the cities grew from 42.2% in 1990 to 45.5% in the year 2000. The total population of Orange County cities actually shrank from 1990 to 2000 (46,500 to 46,270).

Population growth in itself is expected to result in more solid waste being generated. However, the population growth trend in the region toward unincorporated areas may have particular implications to solid waste management in those areas, where collection and other services may not be readily available.

**Table 1.4 – Growth in Incorporated Cities Versus Rural Areas: 1990 and 2000**

CITY	1990 CENSUS	2000 CENSUS	% CHANGE
<b>Hardin County</b>			
Kountze	2,056	2,115	2.9%
Lumberton	6,640	8,731	31.5%
Rose Hill Acres	468	480	2.6%
Silsbee	6,368	6,393	0.4%
Sour Lake	1,547	1,667	7.8%
<b>Jefferson County</b>			
Beaumont	114,323	113,866	-0.4%
Bevil Oaks	1,350	1,346	-0.3%
China	1,144	1,112	-2.8%
Groves	16,745	15,733	-6.0%
Nederland	16,192	17,422	7.6%
Nome	448	515	15.0%
Port Arthur	58,551	57,755	-1.4%
Port Neches	12,974	13,601	4.8%
<b>Orange County</b>			
Bridge City	8,034	8,651	7.7%
Orange	19,381	18,643	-3.8%
Pine Forest	709	632	-10.9%
Pinehurst	2,682	2,274	-15.2%
Rose City	572	519	-9.3%
Vidor	10,935	11,440	4.6%
West Orange	4,187	4,111	-1.8%
<b>Urban Area Total</b>	<b>285,306</b>	<b>287,006</b>	<b>0.6%</b>
<b>Outside Urban</b>	<b>75,920</b>	<b>98,084</b>	<b>29.2%</b>

Sources: U.S. Bureau of the Census. *South East Texas Solid Waste Management Plan 1992-2012*

**Table 1.5 – Population Change: Cities Versus Rural**

Entity	CENSUS 1990		CENSUS 2000	
	Population	Percent of Total	Population	Percent of Total
<b>Hardin</b>	41,320		48,073	
City	17,079	41.3%	19,386	40.3%
Rural	24,241	58.7%	28,687	59.7%
<b>Jefferson</b>	<b>239,397</b>		<b>252,051</b>	
City	221,727	92.6%	221,350	87.8%
Rural	17,670	7.4%	30,701	12.2%
<b>Orange</b>	<b>80,509</b>		<b>84,966</b>	
City	46,500	57.8%	46,270	54.5%
Rural	34,009	42.2%	38,696	45.5%
<b>TOTAL</b>	<b>361,226</b>		<b>385,090</b>	
City	285,306	79.0%	287,006	74.5%
Rural	75,920	21.1%	98,084	25.5%

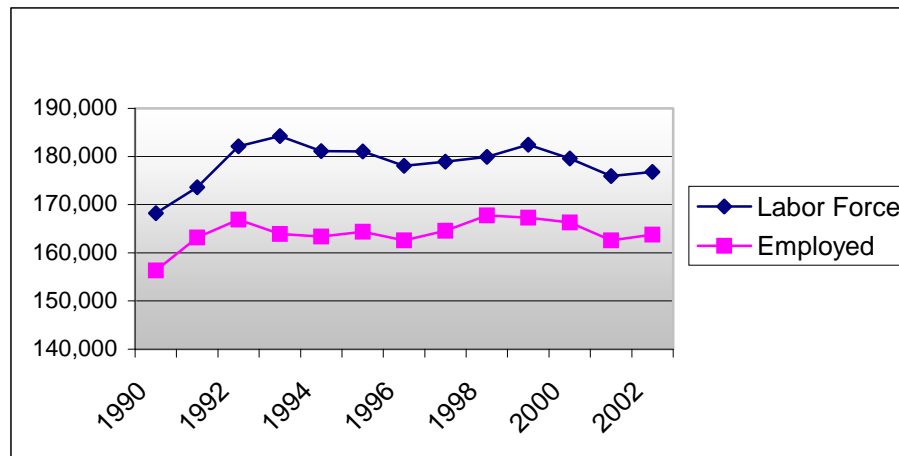
Sources: U.S. Bureau of the Census. *South East Texas Solid Waste Management Plan 1992-2012*.

## ECONOMY

The Southeast Texas region has recovered from the downswing in the Texas economy caused by the oil and gas price collapse and the financial institution crisis of the mid-1980s. The region's economy has been supported primarily by petroleum-related industries, shipping through three public ports, and agriculture, mostly centered around timber, rice, and beef production.

The last 20 years have seen a series of economic ups and downs. The Southeast Texas region enjoyed rapid employment growth in the early 1990s when more than 13,000 new jobs were created during a period of plant expansions and modernizations in the petrochemical industry. The economy has been relatively stable over the past ten years with a moderate expansion in the latter 1990s and a downturn beginning in 2000 following the national and state pattern (see Figure 1.2).

**Figure 1.2 – Southeast Texas Region Civilian Labor Force and Number of Employed: 1990-2002**



Source: Texas Workforce Commission Labor Market Information 2002, [www.twc.state.tx.us/lmi](http://www.twc.state.tx.us/lmi).

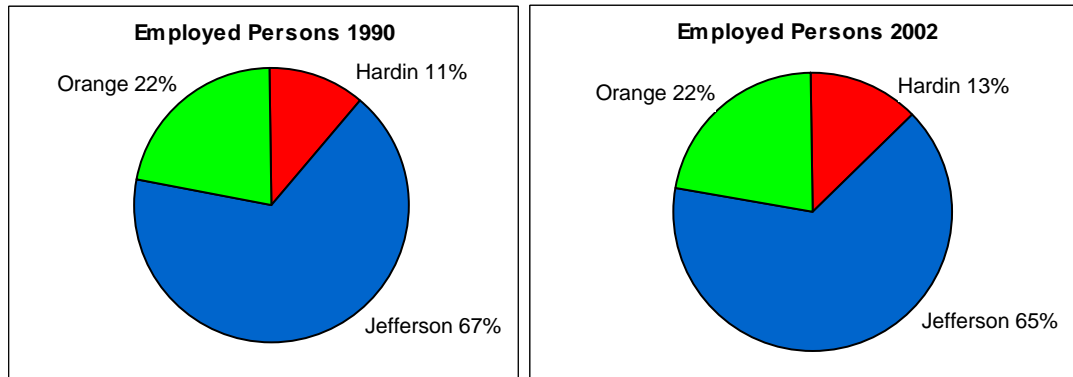
Trade, manufacturing, and services accounted for over 60% of the jobs in the Southeast Texas region in April, 2002. The economic base has broadened over the past years, and health care is now a major industry, accounting for 47% of the total services-sector employment. The area's largest employers as of spring 2001 were:

- Baptist Hospital of Southeast Texas
- Beaumont Hospital Holdings, Inc.
- Christus Health
- E. I. Dupont De Nemours & Co.
- H. B. Zachry, Inc.
- Huntsman Corporation
- M & E Food Mart, Inc.
- Exxon/Mobil Oil Corporation
- Motiva Enterprise LLC (Texaco)
- Wal-Mart Associates, Inc.

The strongest growth sector through the late 1990s was government, as a large federal and four state correctional institutions hired staff. Federal and state government employment accounted for 8,900 employees in the region in the spring of 2001. New construction, mostly at state, federal, and local

correctional facilities, helped the employment picture in the mid-1990s. The region's non-farm employment figures are illustrated in Figure 1.3, and unemployment rates are illustrated in Figure 1.4.

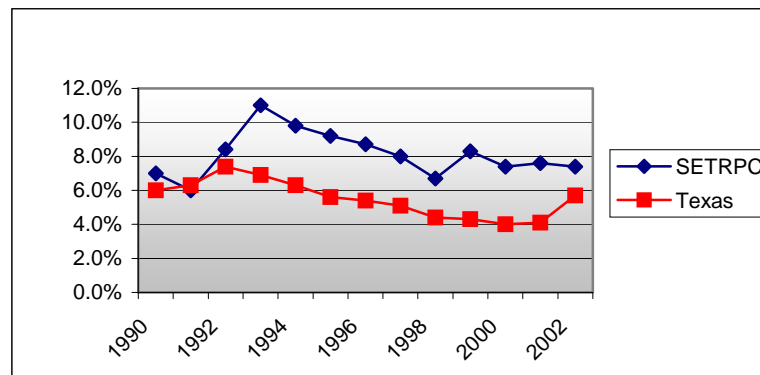
**Figure 1.3 – Percent of Total Southeast Texas Region Employment by County: 1990 and 2002**



Source: Texas Workforce Commission Labor Market Information 2002, [www.twc.state.tx.us/lmi](http://www.twc.state.tx.us/lmi).

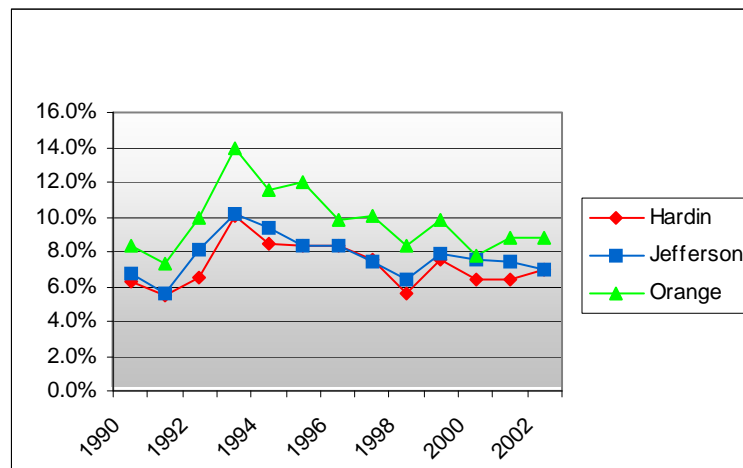
Over the past ten years the employment rate in the area has been consistently higher than that of the State as a whole. However, the gap has narrowed over the past year (see Figure 1.4).

**Figure 1.4 – Southeast Texas Region Unemployment Rates**



Source: Texas Workforce Commission Labor Market Information 2002, [www.twc.state.tx.us/lmi](http://www.twc.state.tx.us/lmi).

**Figure 1.5 – Unemployment by County: 1930-2002**



Source: Texas Workforce Commission Labor Market Information 2002, [www.twc.state.tx.us/lmi](http://www.twc.state.tx.us/lmi).

Employment projections by industrial category are given in Table 1.6. Employment in the Southeast Texas region is projected to grow at a 13% rate from 1998 to 2008; a rate slower than the rest of the State at 17.4%. The slower growth is more pronounced in the “goods producing” categories, which includes agriculture, mining, construction, and durable/nondurable manufacturing. Employment in oil and gas drilling is likely to grow and decline in line with state and national trends. The categories in which the region is expected to outstrip the rest of the State are transportation, communications, and utilities.

**Table 1.6 – Southeast Texas Region and Texas Employment by Industrial Category: Actual and Projected for 2008**

	SETRPC			TEXAS		
	1998	2008	% Change	1998	2008	
<b>Total All Industries</b>	<b>302,950</b>	<b>344,400</b>	<b>13.0%</b>	<b>17.4%</b>	<b>9,840,450</b>	<b>11,554,600</b>
<i>Goods Producing</i>	43,950	47,700	8.5%	13.8%	1,870,200	2,128,650
Ag/Mining	1,700	1,750	2.9%	7.6%	270,550	291,050
Construction	16,450	18,550	12.8%	21.5%	492,250	597,850
Manufacturing	25,800	27,400	6.2%	12.0%	1,107,400	1,239,750
<i>Service Producing</i>	129,500	148,350	14.6%	18.3%	7,970,300	9,425,950
Trans, C & E	9,350	11,100	18.7%	18.7%	591,850	702,250
Trade	36,300	41,750	15.0%	16.5%	2,095,700	2,441,200
Finance, Ins, RE	5,300	5,900	11.3%	11.9%	490,250	548,450
Services	67,300	76,500	13.7%	20.2%	4,204,050	5,051,450
Government	11,250	13,100	16.4%	16.0%	588,450	682,600

Source: Texas Workforce Commission Labor Market Information 2002, [www.twc.state.tx.us/lmi](http://www.twc.state.tx.us/lmi).

While overall growth in employment is expected to lag behind the rest of the state, it must be remembered that the region’s three major public ports, two navigable rivers, and the intra-coastal canal are major assets. They provide ocean-going shipping access to South Texas, and coupled with the highway and rail transportation networks, facilitate the movement of raw materials and finished products. This is a major factor to heavy industry. The warm temperate climate of South Texas is attractive to business because it lowers operating costs and offers employees a Sun Belt lifestyle. As water shortages loom in other parts of the state, the abundant rainfall and surface water the region enjoys should act as a positive factor for population and subsequent employment growth. With the majority of the general population of the United States growing older, and more people taking early retirement, there is potential in luring retirees to the warm, coastal climate of Southeast Texas, and this would help create supporting jobs in the region.

The region should expect to continue to see a significant percentage of its total solid waste generation coming from commercial sources. Additionally, growth in the health care industry may result in increases in medical waste management needs, and growth in the government sector may result in increases in paper and other office waste.

## LAND USE

Land use within the three-county area is dedicated to residential, commercial, agricultural, and industrial uses. Specific land use data at the county or COG level are not available.

The population growth trends in the region strongly indicate that more and more land in the rural areas is being devoted to residential uses, and perhaps some accompanying commercial uses. These community growth patterns could not only result in changing collection and other waste management needs, they could also result in problems of land use compatibility with solid waste management facilities and their operations. However, as explained in later chapters, this is not expected to be a major issue for the region due to the current and expected capacity of existing facilities.

The COGs are required by TCEQ to review MSW permit and registration applications for conformance with the goals and objectives of their regional plans and general land use compatibility. Through this review, consideration is given to the impacts that MSW facilities may have on residents and the community.

The *Solid Waste Management in Texas – Strategic Plan 2001-2005 (SFR-42/01)* lists several factors related to land use that should be addressed by the COGs in their conformance reviews, including:

- Zoning in the vicinity of the proposed facility
- Compatibility of land use in the vicinity of the proposed facility
- Community growth patterns in the region
- Other factors associated with the public interest

SETRPC revised goals and objectives related to facility siting and land use compatibility are included in Chapter Four, as well as regional plan conformance review procedures.

## SIGNIFICANT FINDINGS

The population growth trends in the region indicate more acreage in rural areas is being devoted to residential uses. This will impact solid waste collection, disposal, and management needs in the region. New problems will be encountered with effective waste collection in those newly developing areas. All of the incorporated cities in the Southeast Texas region have organized collection service, whereas rural areas still rely more on burning, burial, collection centers, or private haulers.

The region should expect to continue to see a significant percentage of its total solid waste generation coming from commercial sources. Additionally, growth in the health care industry may result in increases in medical waste management needs, and growth in the government sector may result in increases in paper and other office waste.

The higher rate of growth in unincorporated areas, coupled with the pattern of residential land uses spreading out into the rural areas, will increase the potential for land use conflicts relating to the siting or expansion of solid waste management facilities. However, due to the current and expected capacity of existing facilities, this is not expected to be a major issue for the region.



## CHAPTER TWO

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### SOUTH EAST TEXAS REGIONAL PLANNING COMMISSION Solid Waste Management Plan Amendment

*“Printed on Recycled Paper”*

## CHAPTER TWO

# DESCRIPTION OF REGIONAL SOLID WASTE MANAGEMENT SYSTEMS, FACILITIES, AND SERVICES

## WASTE GENERATION

Waste generation may be determined by the following equation:

$$\text{Generation} = (\text{Disposal} + \text{Exports}) - (\text{Imports} + \text{Recycling})$$

This equation is largely a series of adjustments to the disposal amount. As indicated in Table 2.1, 533,136 tons of waste was disposed of in the Southeast Texas region in 2000. Compared to 423,000 tons in 1991, this represents an increase of 26%. The disposal amount is expected to increase along with population. However, the per capita disposal rate for the region also increased between 1991 and 2000. Although this may seem discouraging on the surface, it would appear that a positive factor is the likely cause: waste from the cleanup of illegal dumping was the second-largest component of landfill disposal in the region in 2000 (see Table 2.4). Subtracting this 127,930 tons from the total disposal amount of 533,136 tons would leave a remainder of 405,206 tons. Not only is this less than the 1991 disposal amount, it would also equate to a comparatively lower per capita disposal rate of 1.05 tons per year.

**Table 2.1 – MSW Disposal in the Southeast Texas Region: 1991 and 2000, and the State 2000**

AREA	NUMBER OF MSW LANDFILLS	TOTAL TONS ACCEPTED	POPULATION	DISPOSAL RATE IN POUNDS PER CAPITA PER DAY	DISPOSAL RATE IN TONS PER CAPITA PER YEAR
SETRPC 1991	4*	423,000	361,226	6.42	1.17
SETRPC 2000	4**	533,136	385,090	7.58	1.38
Texas	227	28,635,117	20,851,820	7.52	1.37

\* In 1991 the active landfills were the City of Beaumont, City of Port Arthur, Hardin County and Orange County landfills.

\*\* In 2000 the active landfills were the City of Beaumont, City of Port Arthur, Hardin County and BFI Golden Triangle landfills. The Orange County landfill closed in 1992.

Sources: TCEQ Annual Reporting Program for Permitted MSW Facilities, 2000 Data Summary and Analysis. South East Texas Solid Waste Management Plan 1992-2012.

In 2000, about 26% of the region's population lived outside incorporated city limits (see Chapter 1, Table 1.5). Some of this "rural" waste is collected by private haulers and taken to disposal facilities. However, some of this waste is burned or buried on site, and is therefore not included in officially reported disposal amounts. Therefore, it is impossible to account for this waste in the generation equation. The same holds true for illegally dumped waste that is not reported as cleaned up.

In April, 2000, the SETRPC Executive Committee approved an update to the original 1992 plan, titled the *SETRPC Regional Solid Waste Management Plan 2000 Update*. This document reported that approximately 85,000 tons of MSW left the region (mostly from Orange County) and approximately 20,000 tons of MSW came into the region, mostly from Chambers and Liberty counties. The report also stated that approximately 35,000 tons of special wastes (including medical

and industrial non-hazardous wastes) were also exported from the region. Therefore, to more accurately estimate the waste amounts generated in the region, these imports and exports must be accounted for.

The determination of the total amount of wastes generated within the region is also dependent on the rate of recycling that is occurring within the region. While the Texas Recycling Project (1998) provides information on the amount of recycled materials in Texas in 1997, the data are only available by TCEQ Planning Regions. TCEQ Planning Region 10 includes SETRPC and the Deep East Texas Council of Governments (DETCOG). DETCOG consists of 12 counties with a 1997 population estimate of 344,455. Table 2.2 indicates that Region 10 recycled at a 1,068 pounds per capita annual rate, slightly lower than the 1,224 pounds per capita annual rate for the state.

At the time the Texas Recycling Project was completed, approximately 52% (372,566) of the population in TCEQ Region 10 resided within the Southeast Texas region. Based on the amounts of recycled materials presented in Table 2.2 and the population distributions, we can estimate that 199,018 tons (382,728 x 52% = 199,018) were recycled in the Southeast Texas region.

**Table 2.2 – Recycling Rate Project Figures: 1998, TCEQ Region 10**

	STATE OF TEXAS		TCEQ REGION 10*	
Population	19,128,261		717,021	
Materials	Total Tons	Lbs. Per Capita	Total Tons	Lbs. Per Capita
Old Newspapers	421,158	44.04	10,260	28.62
Old Corrugated Cartons	827,199	86.49	37,353	104.16
Office and High Grade Paper	289,636	30.28	4,656	12.99
Mixed and Other Paper	118,865	12.43	3,269	9.12
Container Glass	107,909	11.28	2,400	6.69
Other Glass	61,236	6.40	580	1.62
Steel Cans	33,695	3.52	762	2.14
Other Ferrous Metal	4,340,813	453.86	150,716	420.39
Aluminum Cans	53,423	5.59	3,401	9.49
Other Non-Ferrous Metal	1,399,119	146.29	110,848	309.19
Plastic Bottles	20,175	2.11	1,020	2.85
Other Plastic	9,910	1.04	98	0.27
Yard Trimmings, Brush, Trees & other Clean Wood	567,984	59.39	55,740	155.48
Food materials, Plant and Animal By-Products	175,615	18.36	1,260	3.51
Biosolids (Sludge)	156,904	16.41	0.00	0.00
Construction/Demolition Debris	3,115,069	325.70	0.00	0.00
Other	11,801	1.23	360	1.00
<b>Totals</b>	<b>11,710,511</b>	<b>1,224.42</b>	<b>382,728</b>	<b>1,067.55</b>

\* TCEQ Region 10 includes South East Texas Region Planning Commission and Deep East Texas Council of Governments  
Source: Texas Recycling Rate Project (1998).

Table 2.3 shows waste generation in the Southeast Texas region projected from 2000 to 2022. Disposal amounts are based on population projections, with the per capita disposal rate assumed to remain constant. Also assumed to remain constant are imports, exports, and recycling.

The equation below shows that total waste generation in the Southeast Texas region in 2000 was 832,154 tons. Of that total, recycling made up 23.9%. However, the SWAC has noted that this rate may be an overestimation.

$$\begin{array}{rcccccl} \text{Disposal} & + & \text{Exports} & - & \text{Imports} & + & \text{Recycling} & = & \text{Generation} \\ 533,136 & & 120,000 & & 20,000 & & 199,018 & & \mathbf{832,154} \end{array}$$

**Table 2.3 – Projected MSW Generation in the Southeast Texas Region: 2000 - 2022**

YEAR	DISPOSAL (TONS)	EXPORT (TONS)	IMPORTS (TONS)	RECYCLING (TONS)	GENERATION (TONS)
2000	533,136	120,000	20,000	199,018	832,154
2005	543,294	120,000	20,000	199,018	842,312
2010	555,685	120,000	20,000	199,018	854,703
2015	568,292	120,000	20,000	199,018	867,310
2020	581,077	120,000	20,000	199,018	880,095
2022	586,559	120,000	20,000	199,018	885,577

Sources: TCEQ Annual Reporting Program for Permitted MSW Facilities, 2000 Data Summary and Analysis. SETRPC Regional Solid Waste Management Plan 2000 Update. U.S. Census and Texas State Data Center.

## WASTE CHARACTERIZATION

As evidenced in Table 2.2, ferrous and non-ferrous metals account for the bulk (68%) of recycled materials in Region 10. Yard trimmings, brush, trees, and other clean wood account for the next greatest component (15%) of recycled materials.

Table 2.4 gives estimates of the types of MSW that went to the four landfills within the region in 2000. The plan defined only three basic types of MSW disposed of in the region’s landfills in 1991: residential waste accounted for 43%; commercial/industrial waste accounted for 33%; and construction/demolition debris accounted for 11%. There is no further breakdown of these waste types and, therefore, the 1991 and 2000 data are not comparable.

The largest component of landfill disposal in the region in 2000 was residential waste making up some 33% of the waste stream. The second-largest component of landfill disposal in the region was construction/demolition debris (31%) followed by commercial waste (21%). It is estimated that yard waste represents 25% of the total residential waste in the region. (Note that brush is a separate waste category, differentiated from typical yard waste.)

**Table 2.4 – Detailed Characterization of MSW Disposal in the Southeast Texas Region: 2000**

WASTE TYPE	LANDFILLS THAT ACCEPTED WASTE	DISPOSAL (TONS)	PERCENTAGE OF TOTAL DISPOSAL
<b>Typical MSW</b>			
Residential	4	173,790	33.00%
Commercial	4	114,527	21.00%
Institutional	1	3,354	1.00%
Recreational	0	0	0.00%
Brush	2	19,412	4.00%
Construction/Demolition Debris	3	171,289	31.00%
Dump Cleanup	2	4	0.00%
<b>Non-hazardous Industrial Waste</b>			
Class I NHIW Asbestos	0	0	0.00%
Class I NHIW Non-Asbestos	0	0	0.00%
Class II / Class III	1	24,364	5.00%
<b>Special Wastes from Non-industrial Sources</b>			
Incinerator Ash	0	Trace*	0.00%
Medical	0	0	0.00%
Asbestos	1	1,755	0.33%
Dead Animals	3	523	0.10%
Sludge	3	23,471	4.00%
Grease Trap	1	0	0.00%
Grit Trap	1	0	0.00%
Septage	0	0	0.00%
Contaminated Soil	2	643	0.12%
Tire Pieces	1	8	0.00%
Rejected Materials	0	0	0.00%
Other	0	0	0.00%
<b>Total</b>	<b>0</b>	<b>533,136</b>	<b>100.00%</b>

\*Ash produced by the Crochet incinerator located in Nederland.

Source: TCEQ Annual Report 2000

No waste characterization studies for the region have been undertaken since the two studies that were conducted in April and August of 1991. The major components identified in those studies included paper and cardboard, glass, metal, plastics, rubber and leather, textiles, wood, yard waste, diapers, and miscellaneous waste. At the Beaumont landfill, corrugated cardboard, paper, and yard waste accounted for almost 17% of the total solid waste characterized. The Port Arthur facility accepted significant amounts of corrugated cardboard and newspaper along with textiles, leather, food waste, and yard waste. At the Hardin County landfill, approximately 15% of the waste characterized was corrugated cardboard and 19% was miscellaneous paper and newspaper.

The TCEQ *Solid Waste Management in Texas Strategic Plan 2001-2005* provides more recent estimates of the components of solid waste disposed in MSW landfills throughout the state, and generally these types of MSW are comparable in most urbanized areas across the state (see Table 2.5). TCEQ's data were estimated from the results of six local waste characterization studies in Texas conducted between 1990 and 1998. The amount of yard waste disposed of will vary based on length of growing season, amount of precipitation, local growing conditions, etc.

**Table 2.5 – Estimated Components of Disposal in Texas MSW Landfills**

COMPONENT	PERCENT DISPOSAL
Glass	5%
Plastic	8%
Paper	36%
Yard Wastes	20%
Metal	5%
Food	9%
Wood	6%
Other	11%

Source: TCEQ Strategic Plan 2001-2005.

### **RURAL WASTE**

Some rural waste is either burned, disposed of on-site, or illegally dumped. The SWAC is of the opinion that burning and on-site disposal of solid waste in rural areas is still occurring, but there are no data currently available regarding the amount of this waste.

The TCEQ rule regarding outdoor burning can be found in 30 TAC Sections 111.201-221. Rural residents in Texas are allowed to burn their domestic waste when:

*... The local governmental entity that has jurisdiction over such matters does not provide on-premises trash collection service or authorize a business or other entity to provide that service. To qualify for this exception, the waste must come from a property that is both designed to be a private residence and used exclusively as a private residence for no more than three families. The waste must also be burned on the property where it was produced.*

Also, 30 TAC Environmental Quality, Part 1, Chapter 330, Subchapter A, Rule §330.4 addresses the burial or on-site disposal of waste in rural areas:

*A permit, registration, or other authorization is not required for the disposal of litter or other solid waste, generated by an individual, on that individual's own land where:*

- (1) the litter or waste is generated on land the individual owns;*
- (2) the litter or waste is not generated as a result of an activity related to a commercial purpose;*
- (3) the disposal occurs on land the individual owns;*
- (4) the disposal is not for a commercial purpose;*
- (5) the waste disposed of is not hazardous waste or industrial waste;*
- (6) the volume of waste disposed of by the individual does not exceed 2,000 pounds per year;*
- (7) the waste disposal method complies with §111.201-111.221 of this title (relating to Outdoor Burning);*
- (8) the waste disposal method does not contribute to a nuisance and does not endanger the public health or the environment. Exceeding 2,000 pounds per individual's residence per year is considered to be a nuisance; and*
- (9) the individual complies with the deed recordation and notification requirements in §330.7 of this title (relating to Deed Recordation) and §330.8 of this title (relating to Notification Requirements).*

## **AGRICULTURAL WASTE**

According to communications with TCEQ, as of 2002 there are no concentrated animal feedlots (CAFOs) in the Southeast Texas Region.

# **WASTE MANAGEMENT REGULATIONS**

## **RULES, ROLES, RESPONSIBILITIES, AND INSTITUTIONAL ARRANGEMENTS**

The following discussion highlights the major federal, state, and local laws, rules, and agencies that regulate MSW management in Texas.

***Federal Rules/Regulations/Agencies*** – The basic federal legislation for the management of solid waste is the 1976 Resource Recovery Conservation and Recovery Act (RCRA). Subtitle D and subsequent amendments of RCRA have had significant impacts on MSW management in the nation, the state, and the Southeast Texas region. The original law and its 1993 Subtitle D Amendments increased the stringency of standards and requirements for the location, design, construction, operation, monitoring, closure and post-closure care of MSW landfills. Primarily as a result of Subtitle D, four of the seven landfills serving the Southeast Texas region in 1991 have since closed.

The Clean Air Act applies to certain solid waste management activities, such as landfill gas emissions and incinerator particulate emissions. Other federal legislation affecting MSW management includes the Comprehensive Environmental Response, Compensation and Liability Act (CERCLA) and SARA (Superfund Amendments and Reauthorization Act), the Safe Drinking Water Act, and the Water Pollution Control Act.

The U.S. Environmental Protection Agency (EPA) is the primary federal entity responsible for adopting regulations and standards to carry out the requirements of RCRA and the other federal laws previously mentioned regarding the management of solid waste.

***State Rules/Regulations/Agencies*** – The Texas Solid Waste Disposal Act (Texas Health and Safety Code, Chapter 361) establishes the primary requirements for solid waste facilities and operations in the State, and assigns responsibility to TCEQ for administering MSW permitting and control operations. Under Texas Health and Safety Code, Chapter 363, TCEQ has designated the regional COGs as the primary entities for regional planning for MSW management.

During the 2001 session, House Bill 2912, of the 77<sup>th</sup> Texas Legislature (the TCEQ Sunset Bill) amended Subchapter C of Chapter 361 of the Texas Health and Safety Code. Some of the major changes addressed were:

- Ensure that a solid waste processing facility is regulated as a solid waste facility and is not allowed to operate unregulated as a recycling facility
- Within 45 days of filing an application, an applicant for a new MSW facility is required to hold a public meeting in the county of the proposed location of the facility
- TCEQ is authorized to establish procedures for the applicant to pay for cost of notices
- TCEQ must ensure MSW facilities are regulated and not operating as an unregulated recycling facility
- Notice of hearing and requirements for reopening inactive or closed landfills.
- Permits certain sludge land application

- Prioritizing of new technology
- Contracting preferences for solid waste disposal
- Providing corrective action as relates to hazardous waste and
- Permitting requirements for a Type IV Landfill

House Bill 352, of the 77<sup>th</sup> Texas Legislature amended §364.034 of the Texas Health and Safety Code by permitting counties to contract with a private or public entity to collect solid waste fees. Texas law authorizes counties to provide and require MSW services and permits them to collect fees for the service, but had not provided for enforcement to compel payment.

House Bill 631, of the 77<sup>th</sup> Texas Legislature amended §365.012 of the Texas Health and Safety Code with the following provisions:

- Increases penalties for illegal dumping
- Modifies standards for misdemeanor offenses by decreasing the weight and volume limitations for solid waste that is illegally dumped
- Defines state felony illegal dumping offense standards
- Protects a generator of solid waste from hauler mischief

TCEQ is the lead state agency for administering MSW programs and is responsible for adopting and implementing regulations that comply with federal requirements. Other state agencies that are involved in various aspects of solid waste management such as litter abatement, recycling and source reduction are the Texas General Land Office, the Texas Department of Transportation, Texas General Services Commission, and the Texas Department of Commerce.

***Regional Rules/Regulations/Agencies*** – The state’s 24 Councils of Government are designated as the regional solid waste management planning and coordinating entities. The state’s river authorities also have solid waste management authority and responsibilities.

***Local Rules/Regulations/Agencies*** – The 254 counties in Texas as well as incorporated and unincorporated cities, school and nonprofit entities are also involved in some aspect of providing solid waste management services, litter abatement, waste minimization and/or recycling. The Texas Health and Safety Code in §363.112 authorizes local governments to adopt rules for regulating solid waste collection, handling, transportation, storage, processing or disposal, including authorizing counties to designate areas where certain solid waste facilities may and may not be located. Most incorporated cities have ordinances addressing penalties for littering and illegal dumping.

**WASTE TRANSFER, STORAGE, TREATMENT, AND PROCESSING**

**MEDICAL WASTE MANAGEMENT**

There are fourteen hospitals or other types of medical facilities in the Southeast Texas Region that must make special arrangements for their medical waste (see Table 2.6). There are no permitted or registered medical waste treatment facilities in the region. All of the medical waste is leaving the region, and some of it may be going to the new Chambers County incinerator facility.



**Table 2.6 – Medical Waste Disposal in the Southeast Texas Region\***

ENTITY	SOURCE	DISPOSAL ORGANIZATION / FACILITY
<b>Jefferson County</b>		
Beaumont	Memorial Herman Baptist Hospital	3CI, Inc.
Beaumont	Southeast Texas Rehabilitation Hospital	Stericycle, Inc.
Beaumont	Christus St. Elizabeth Hospital	BFI, Inc.
Beaumont	Christus St. Elizabeth Outpatient Surgical	BFI, Inc.
Beaumont	Christus St. Elizabeth Outpatient Rehabilitation	BFI, Inc.
Beaumont	Beaumont Medical and Surgical Hospital	Stericycle, Inc.
Groves	Doctor's Hospital	BFI, Inc.
Nederland	The Birth Place	BFI, Inc.
Nederland	Mid-Jefferson Hospital	Air and Sea, Inc.
Port Arthur	Christus St. Mary Hospital	BFI, Inc.
Port Arthur	Port Arthur Day Surgery	Physician's Medical Waste
Port Arthur	Park Place Hospital	Air and Sea, Inc.
<b>Orange County</b>		
Orange	Biotronics Kidney Center	BioHazard, Inc.
Orange	Memorial Herman Baptist Hospital	Stericycle, Inc.

\* There are no medical waste generators listed for Hardin County.

Sources: SWAC, SETRPC Staff and SWTSU Survey, July 2002.

**LIQUID WASTE MANAGEMENT**

Currently, there is one registered liquid waste processing facility (Type 5GG, #43000) in the region, JTB Recycling Facility, Inc., in Jefferson County. There is also one registered liquid waste transfer station (Type 5TL, #40122) in the region, Safety-Kleen in Orange County.

Table 2.7 lists the city sludge transporters and the disposal method of their wastes. As is evidenced in Table 2.7, most of the sludge generated and transported by the cities in the region is dewatered and destined for regional landfills, where it may be disposed of or used for alternative daily cover (ADC).

**Table 2.7 – City Sludge Transporters as Identified by TCEQ: 2000**

ENTITY	PERMIT NUMBER (if permitted)	DISPOSAL METHOD
<b>Hardin County</b>		
Kountze		IESI Landfill
Lumberton		IESI Landfill
Rose Hill Acres		IESI Landfill
Silsbee		BFI Landfill
Sour Lake		Land Applied
<b>Jefferson County</b>		
Beaumont		Beaumont Landfill
Bevil Oaks		Land Applied
China		Land Applied
Groves	21770	BFI Landfill
Nederland	22613	BFI Landfill
Nome		Land Applied
Port Arthur	21769	Port Arthur Landfill
Port Neches	21776	BFI Landfill
<b>Orange County</b>		
Bridge City		WMI Landfil
Orange	22025	WMI Landfill
Pine Forest		IESI Landfill
Pinehurst		BFI Landfill
Rose City		IESI Landfill
Vidor		IESI Landfill
West Orange		BFI Landfill

Source: TCEQ Sludge Transporter Query 2002

In addition to city sludge transporters, the private sector also handles a variety of liquid wastes. The major private sludge transporters operating in the region as well as the types of liquid wastes being hauled by each are identified in Table 2.8.

**Table 2.8 – Private Transporters of Sludge and Other Liquid Wastes by County and TCEQ Permit Number**

PERMIT #	COUNTY	SLUDGE TRANSPORTER	ADDRESS	CITY	WASTE TYPES
20922	Hardin	Triangle Vacuum Service	798 Country Wood Circle	Sour lake	Grit Trap
21121	Hardin	James Williams	8537 Bussey Road	Silsbee	Septic tank
21371	Hardin	A-1 Wastewater Services	925 Hayes Road	Silsbee	Septic tank, Grease trap
22676	Hardin	NPS – Big Thicket National Preserve	6044 FM 420	Kountze	Septic Tank, Chemical Toilet
21543	Jefferson	American Waste Services	5350 W Cardinal Drive	Beaumont	Wastewater Treatment Sludge
20682	Jefferson	Waste Management of Houston, Inc.	2175 Cardinal Drive	Beaumont	Wastewater treatment Plant Sludge
20704	Jefferson	Kindra Environmental Enterprises, Inc.	4895 Romeda Road	Beaumont	Septic Tank, Grease/Grit Trap, Wastewater Treatment Plant Sludge
20704	Jefferson	J & R Services	P.O. Box 5783	Beaumont	Grease/Grit Trap, Septic Transport
21735	Jefferson	BFI Waste Systems - Nederland	6425 Highway 347	Beaumont	Water Supply Treatment Plant Sludge, Wastewater treatment Plant Sludge
22069	Jefferson	Carwash Operations Company, Inc.	7695 Calder	Beaumont	Grit Trap
21361	Jefferson	PWI Beaumont, Inc.	9045 Highway 124	Beaumont	OT/ Wastewater Treatment Plant Sludge
22348	Jefferson	C Johnny on the Spot Portable Toilets	Hwy. 69 at Green Ave.	Nederland	Septic Tank /Chemical Toilet
22765	Jefferson	AAA Septic Pumping	1285 W. Cardinal Dr.	Beaumont	Septic tank
22844	Jefferson	Eastex Waste Systems, Inc.	1115 West Calder	Beaumont	Wastewater Treatment Sludge
23190	Jefferson	Lewis Acres Service, Inc.	200 Valley Forge	Port Arthur	Septic Tank, Grease/Grit Trap, Chemical Toilet
20741	Orange	A-1 Peterson Plumbing	1010 Border	Orange	Septic Tank
20750	Orange	Troy's Septic Service	2205 Crabtree	Orange	Septic tank, Grease trap
22359	Orange	Orange County Water Control District #1	640 Oakland	Vidor	Wastewater treatment Plant Sludge
23129	Orange	Jet Aeration Service	645 Doty	Vidor	Septic Tank

Source: TCEQ Sludge Transporter Registration Query.

## WASTE COLLECTION AND TRANSPORTATION

Eleven of the 20 incorporated cities in the Southeast Texas region used municipal crews for solid waste collection in 1992. The *2000 Update* reported that this number had fallen to seven cities using municipal crews for solid waste collection. Currently, six cities are using municipal crews for waste collection with the remainder using private collection and hauling services (see Tables 2.9 and 2.10).

**Table 2.9 – Municipal Solid Waste Collection in the Southeast Texas Region**

ENTITY	COLLECTION	DESTINATION	CHIPPING	COMPOST MULCH	RECYCLING	YARD WASTE PROGRAM
<b>Hardin County</b>						
Kountze	Private	BFI	N	N	N	N
Lumberton	Private	BFI	N	N	N	N
Rose Hill Acres	Private	BFI	N	N	N	N
Silsbee	Private	BFI	N	N	Y	N
Sour Lake	Private	BFI	N	N	N	N
<b>Jefferson County</b>						
Beaumont	Public	Beaumont	Y	Y	N	Y
Bevil Oaks	Private	BFI	N	N	N	N
China	Private	Newton	N	N	N	N
Groves	Public	BFI	N	N	N	Y
Nederland	Public	BFI	N	N	N	Y
Nome	Private	Hardin	N	N	N	N
Port Arthur	Public	Port Arthur	Y	N	Y	Y
Port Neches	Public	BFI	N	N	N	Y
<b>Orange County</b>						
Bridge City	Private	BFI	N	N	Y	N
Orange	Private	WMI	N	N	N	Y
Pine Forest	Private	BFI	N	N	N	N
Pinehurst	Private	WMI	N	N	Y	Y
Rose City	Private	BFI	N	N	N	N
Vidor	Public	BFI	N	N	N	N
West Orange	Private	WMI	Y	Y	N	Y

Source: SWT Survey, July 2002.

**Table 2.10 – Residential Solid Waste Collection Practices in Incorporated Communities: 1992 and 2002**

TYPE OF SERVICE	1991			2002		
	Number of Incorporated Communities	1990 Population Served	Percent of Incorporated Communities 1990 Population Served	Number of Incorporated Communities	2000 Population Served	Percent of Incorporated Communities 2000 Population Served
Municipal Crews	9*	255,970	89.7	6**	229,986	80.1
Private	11	29,336	10.3	14	57,020	19.9
<b>Total</b>	<b>20</b>	<b>285,306</b>	<b>100.0</b>	<b>20</b>	<b>287,006</b>	<b>100.0</b>

\*Beaumont, Groves, Nederland, Port Arthur, Port Neches, Orange, Pinehurst, Vidor, West Orange.

\*\*Beaumont, Groves, Nederland, Port Arthur, Port Neches, Vidor.

Sources: SWT Survey, July 2002. South East Texas Solid Waste Management Plan 1992-2012. E-mail communication with SETRPC staff 8/29/2002.

It is apparent from Tables 2.9 and 2.10 that the private sector currently collects municipal waste from more cities within the region than does the public sector. However, the larger communities such as Beaumont, Port Arthur, Nederland, and Port Neches have retained public municipal solid waste collection. Thus, municipal crews provide collection services for more of the population of the region than does the private sector. It should be noted that while the public sector still collects 80% of the MSW in the region, the percent of population in municipalities served by privatized collection has doubled from 10% in 1991 to 20% in 2002.

Waste collection services in the incorporated areas of the Southeast Texas region occur once or twice a week. Prices range from a low of \$8.50/month per residence in the City of West Orange to a high of \$15.25/month per residence in Port Arthur. A few of the cities have gone to automated waste collection systems while others still utilize municipal crews.

Unincorporated areas in the region may in some cases be served by private haulers, but detailed information on their number and service areas is not available. Even if private collection services are available in unincorporated areas does not guarantee their use. People may choose to dispose of waste on private property or resort to illegal dumping if they are not willing to pay for the service.

### **SOLID WASTE TRANSFER STATIONS - CITIZENS COLLECTION STATIONS**

The Southeast Texas region currently has no permitted or registered solid waste transfer stations, nor does it have any citizens collection stations. The City of Silsbee has a “transfer site” with “roll-offs” for use by residents that handles mostly brush, wood, and furniture for \$5.00 a truck load or \$7.00 for a lowboy trailer load.

## WASTE DISPOSAL AND LANDFILL CAPACITY

In 1991, there were seven permitted landfills serving the Southeast Texas region, four of which were within the region. Of these seven landfills, three are still active (City of Port Arthur, City of Beaumont and IESI, Inc. in Hardin County), and there are two new landfills that were not operational in 1991, the BFI Golden Triangle site in Jefferson County and the WMI site in Newton County. The four landfills serving the region in 1991 were closed primarily as a result of the passage of the sweeping federal Resource Conservation and Recovery Act Subtitle D amendments requiring landfills to have such features as liners, impermeable covers, and monitoring wells to detect pollution and protect against potential groundwater contamination and off-site gas migrations. The four closed landfills are:

- Permit #94, Orange County Landfill, a 130-acre tract ten miles west of the City of Orange, was closed in 1992 and is currently owned by Orange County.
- Permit #504, City of Jasper Landfill was on a 54-acre tract located just north of the City of Jasper; 41 acres of the tract were permitted. A total of 23.6 acres of the site were closed. The site, located approximately 2.7 miles east of the city, is owned by the City of Hallettsville with transfer station Permit #2220 being located there currently.
- Permit #343, Tyler County Landfill, a 40-acre tract located approximately three miles northeast of Woodville, was closed in 1994 and is currently owned by Tyler County.
- Permit #4 Polk County Landfill, a 52-acre tract located east of Leggett off FM 942, was closed in late 1991 and is currently owned by Champion International.

The permits for two of the closed landfills (Tyler and Polk County) have expired and final inspections have been made. Both the Orange County Landfill and the City of Jasper Landfill are still awaiting final inspection, respectively.

The majority of the municipal solid waste in the region is currently being sent to the three landfills in Jefferson County. The remainder from Hardin County is being sent to the IESI site with some parts of Orange County being sent to the WMI site in Newton County.

A map showing the locations of the five sites currently receiving wastes from the region may be found in Figure 2.1.

Figure 2.1– Map Showing Active Landfills Currently Serving the Southeast Texas Region

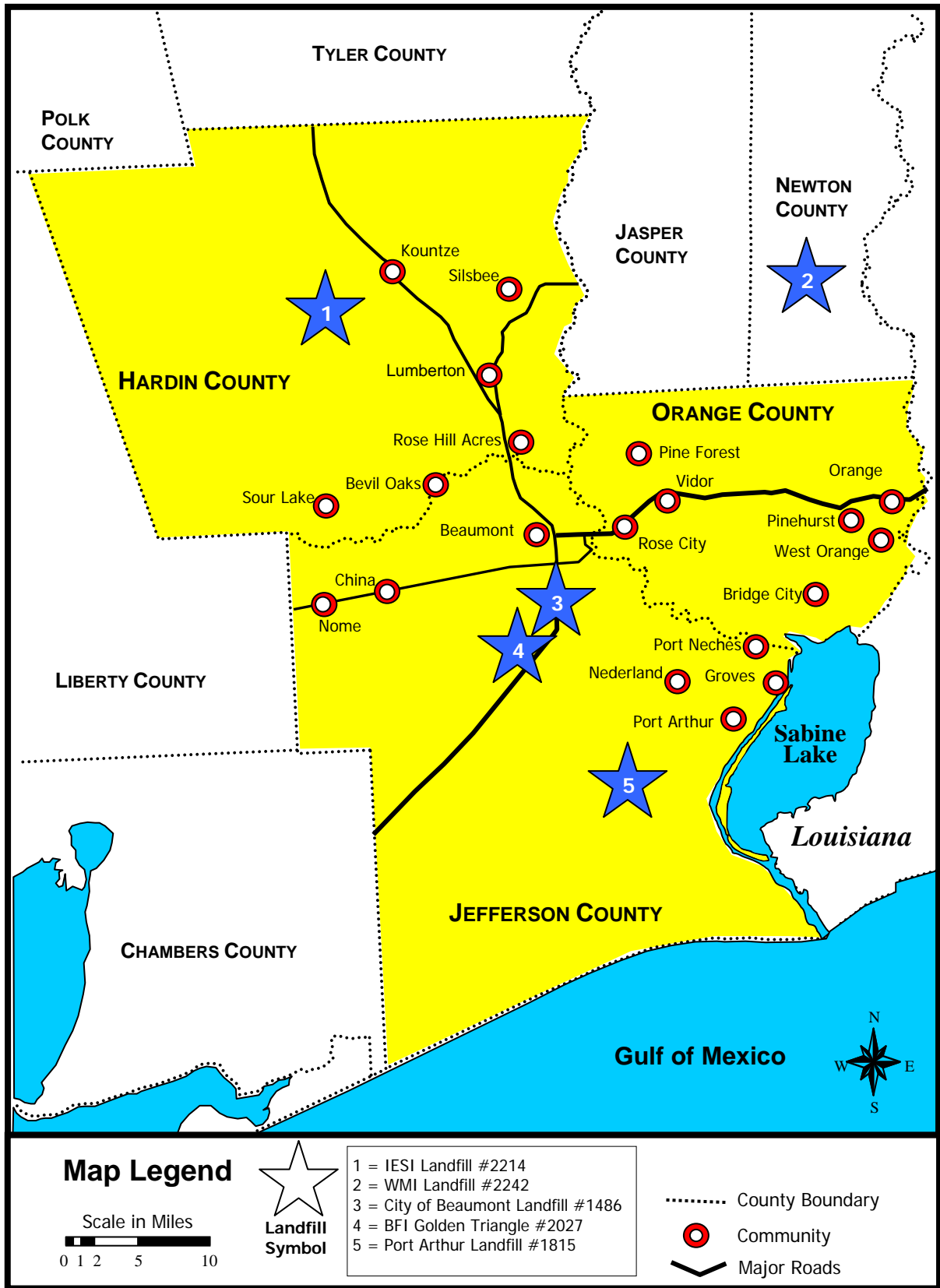


Table 2.11 gives projections of remaining landfill disposal capacity based on Texas State Data Center population projections and the year 2000 per capita disposal rate in tons per person per year. The calculations are based on there being no additional capacity added to any landfills in the region. Since vertical expansions are already being planned for the City of Beaumont and City of Port Arthur landfills, the remaining landfill disposal capacities will be higher for the projected years when they are included in the calculations. As an example, the City of Beaumont estimates that their vertical expansion will increase the remaining life of the landfill to approximately 45 years. Specific information is not available for Port Arthur.

**Table 2.11 – Projected MSW Landfill Disposal Capacity in the Southeast Texas Region\***

YEAR	POPULATION	LANDFILL DISPOSAL IN TONS	TONS PER CAPITA PER YEAR DISPOSAL RATE	REMAINING LANDFILL DISPOSAL CAPACITY (TONS)	REMAINING LANDFILL DISPOSAL CAPACITY (YEARS)
2000	385,090	533,136	1.38	16,551,639	31.1
2005	393,691	543,294	1.38	16,008,345	29.5
2010	402,670	555,685	1.38	15,425,660	27.8
2015	411,806	568,292	1.38	14,857,368	26.1
2020	421,070	581,077	1.38	14,276,291	24.6
2022	425,043	586,559	1.38	13,132,921	22.4

\*SWT Staff projections for 2015 and 2020 were based on an assumed constant per capita disposal rate.

Source: South East Texas Solid Waste Management Plan 1992-2012

The facility operational data for the five landfills currently serving the Southeast Texas Region are portrayed in Table 2.12. Current prices per compacted cubic yard range from \$5.50 to \$10.20.

**Table 2.12 – Facility Operational Data for Landfills Serving the Southeast Texas Region: 2001**

DESCRIPTION	BEAUMONT #1486	BFI BEAUMONT #2027	PORT ARTHUR #1815	IESI #2214	NEWTON COUNTY #2242
<b>Operations</b>					
Hours of Operation	8-5:30 M-F 8-12 Sat. Citizen's only for Composting	6-5 M-F 7-1 Sat	6:30-5 M-F 6:30-3:30 Sat	8-4 M-F 8-2 Sat	7-5 M-F 7-12 Sat
Service Area	Jefferson, Hardin, Orange	Jefferson, Orange, Liberty	Jefferson, Orange	Hardin, Jasper, Tyler	Jefferson, Orange, Newton
<b>Other</b>					
Asbestos	No	Yes	No	No	No
Industrial Non-Hazardous	No	Yes- Class II / III	No	No	Yes-Class I (other than asbestos)
Planned Expansions	Yes	Yes	Yes	No	Yes
Permitted Height	42 ft.	66 ft.	34 ft.	22.18 ft.	60 ft.
Permitted Depth	6 ft.	14 ft.	5 ft.	25.08 ft.	20 ft.
Permitted Acreage	287 acres	330 acres	266 acres	79 acres	420 acres

Sources: TCEQ Annual 2001 Report and personal communications with landfill operators.

Site-specific data, such as tons of waste accepted, remaining capacities, compaction rates, and years of remaining life based on existing conditions are included in Table 2.13. It should be noted that the major permit amendment applications proposing planned expansions for the cities of Beaumont and Port Arthur landfills are not reflected in the years of life remaining for those two facilities.

**Table 2.13 – Facility Site Data for Landfills Serving the Southeast Texas Region: 2001**

DESCRIPTION	BEAUMONT #1486	BFI BEAUMONT #2027	PORT ARTHUR #1815	IESI #2214	NEWTON COUNTY #2242
<b>County</b>	Jefferson	Jefferson	Jefferson	Hardin	Newton
Permit Holder	City of Beaumont	BFI Waste Systems, Inc.	City of Port Arthur	IESI	Western Waste Industries
Landfill Type					
Landfill Name	City of Beaumont Municipal Landfill	Golden Triangle Landfill	City of Port Arthur Landfill	IESI Landfill	Newton County Landfill
Tons Accepted in 2001	154,908	257,108.4	70,035	6,672	233,288
Remaining Volume in Cubic Yards	4,459,589	11,591,911	4,353,462	1,256,211	14,483,300
Compaction Rate in Pounds per Cubic Yard	1,250	1,938	1,000	1,000	1,200
Remaining Tonnage Capacity-2001	2,787,243	11,234,903	2,176,731	628,105.5	8,689,980
Remaining Years	17.99	44	31.1	99.1	37.3

Source: TCEQ Annual 2000 Report.

A point of particular note in Table 2.13 is the relatively small number of years of service remaining at the City of Beaumont site. However, as pointed out previously, this is subject to change to 45 years conditional on approval of a vertical expansion request.

Other points of interest in the table are the very small amounts of regional wastes managed at the IESI landfill in Hardin County and the very high compaction rates being achieved at the BFI Golden Triangle landfill. It appears that the region has very adequate disposal capacities available to it for decades to come. This excellent situation will be further improved if the two proposed site expansions are approved.

In Table 2.14, it is interesting to note that the amounts of waste accepted at the City of Beaumont, City of Port Arthur, and IESI landfills have all decreased significantly from 1991 to 2001. During this time period, the annual intake of waste at the City of Beaumont landfill decreased nearly 42%. Port Arthur's annual disposal rate during the same time period fell about 24%, while IESI's facility was off 36%. During this timeframe, BFI's Golden Triangle facility was opened and has dramatically increased its annual waste disposal amounts.



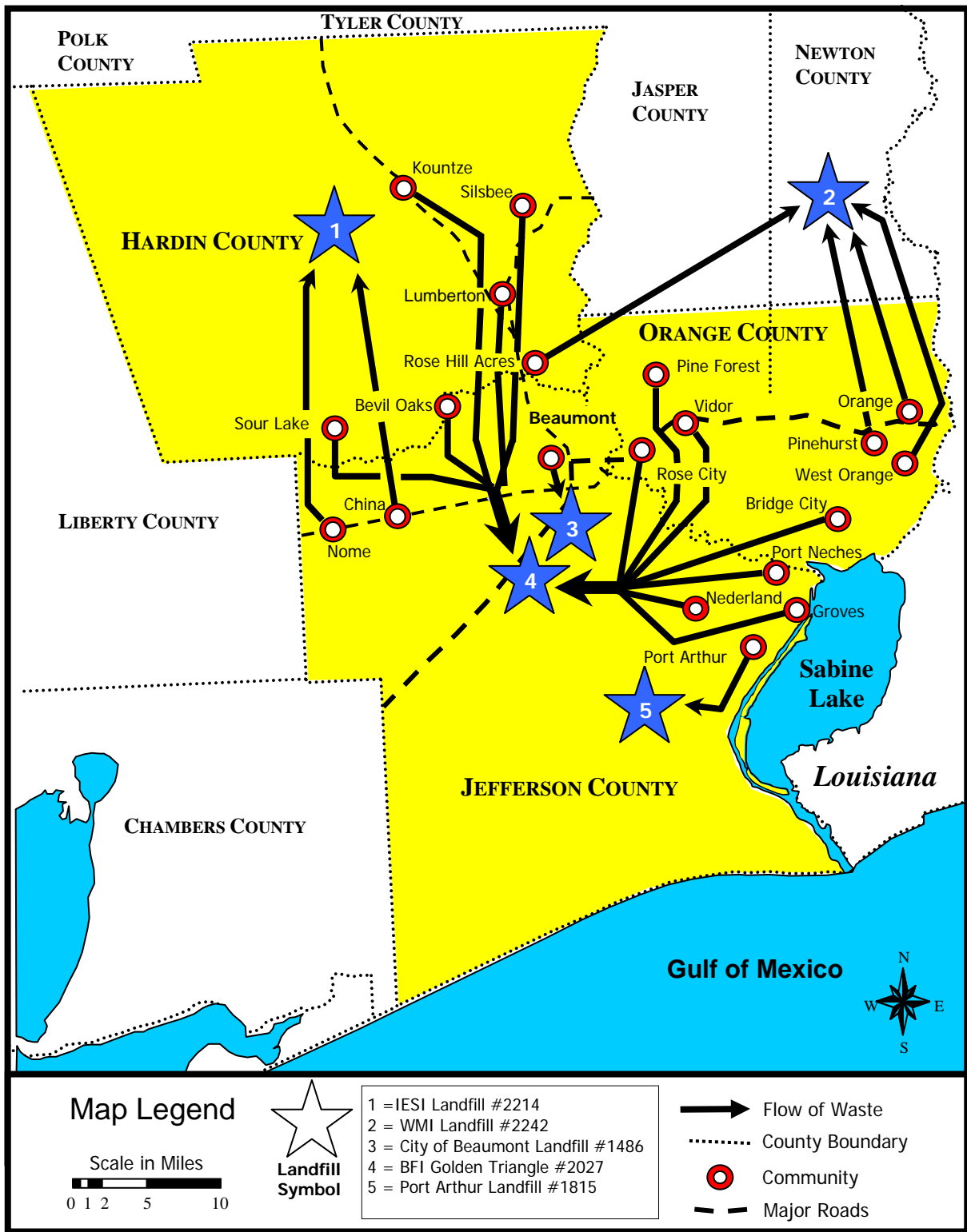
**Table 2.14 – Comparative Data on Landfills Serving the Southeast Texas Region: 1991 and 2000**

LANDFILL NAME	TONS ACCEPTED IN 1991	TONS ACCEPTED IN 2001	PERCENT CHANGE
City of Beaumont	265,500	154,908	-41.7%
City of Port Arthur	92,000	70,035	-23.9%
BFI Golden Triangle	N/A	257,108	N/A
IESI Landfill	10,500	6,672	-36.5%
Newton County Landfill	N/A	233,288	N/A

Sources: TCEQ Annual 2001 Reports, Telephone Communication with Landfills, August 2002. *South East Texas Solid Waste Management Plan 1992-2012.*

Waste acceptance policies at the region’s landfills and population growth outside the major cities have also played major roles in the changes in the annual amounts of waste taken in at each of the facilities. Current waste flows are illustrated in Figure 2.2.

**Figure 2.2 – Map Showing Current Flow of Municipal Solid Waste in the Southeast Texas Region**



## RECYCLING AND WASTE REDUCTION

The *2000 Update* reported that six municipal curbside recycling programs were in place in the region (Beaumont, Groves, Nederland, Port Neches, Pinehurst, and Bridge City). Currently, no cities are offering curbside recycling services unless special arrangements are made. BFI and the City of Pinehurst offer curbside service on a contractual basis separate from household solid waste collection.

The plan stressed identifying markets for recyclables, but consistent and reliable markets for recyclables never developed. In addition, participation rates in curbside recycling were very low. Due to poor participation and relatively high costs, the City of Silsbee dropped curbside recycling and established a “recyclable” site located at 105 South 3<sup>rd</sup> Street where BFI picks up the materials deposited at no charge. As in the case of the City of Silsbee, with regional markets for recyclables and prices fluctuating wildly, costs of services increasing, and participation rates remaining very low, all of the cities that had instituted curbside recycling programs ceased such operations.

Private collection companies still operate commercial cardboard collection programs for businesses throughout the region. Stores and refineries make bales that then go out of the region. Gulf Coast Recycling handles most of the cardboard with BFI handling a small percentage. White goods or “bulkies” and corrugated cardboard are mostly handled by private enterprise. White goods programs were in effect at the Hardin County, Beaumont and Port Arthur landfills.

A cooperative arrangement has been established between the three County Extension Services involving trained volunteers who go out into communities and educate the public on solid waste issues such as recycling. They utilize informal classroom settings such as 4-H and the Scouts.

Table 2.15 identifies area recycling companies and the types of materials they manage.

**Table 2.15 – Area Recycling Companies**

Source: SETRPC Staff

COMPANY	COMMODITIES RECEIVED	COMPANY	COMMODITIES RECEIVED
BFI 6425 Highway 347 Beaumont, 409-727-1551	Residential: (Bridge City Contract) Plastic, Aluminum cans, paper. Commercial: Cardboard	Sampson Steel 210 South Fourth Beaumont, 409-838-1611	Steel, Copper, Brass, Aluminum, Stainless Steel
Beaumont Iron & Metal 3190 Hollywood Beaumont, 409-833-8931	Steel, Aluminum, Copper, Brass, Stainless Steel	Southern Iron & Metal 5250 College Beaumont, 409-842-3316	Aluminum, Iron, Car Bodies, Tin, Brass, Copper, Radiators, Batteries, Lead, Catalytic Converters, Plastics
Environmental Resources 939 Hillebranch Beaumont, 409-833-3596	Waste Oil, Grease	Trudy's Metals 215 S. Dewitt Road Vidor, 409-769-0338	Aluminum, Copper, Scrap metal
Gulf Coast Recycling 1995 Cedar Beaumont, 409-838-1639	Waste paper, Cardboard, Aluminum Cans, Computer Paper	Wright Scrap Metal 5802 Washington Beaumont, 409-842-2496	Aluminum, Copper, Brass, Radiators, Batteries, Stainless Steel
J & R Services Call for Pickup Beaumont, 409-835-9862	Restaurant Grease, Municipal Waste Oil	Hudson Salvage, Inc. 4040 Sparrow Pinehurst, 409-882-0085	Aluminum Cans, Copper, Brass, Lead, Radiators
Reynolds Aluminum 2604 South Fourth Beaumont, 409-835-6455	Aluminum Cans, Foil, Misc. Scrap Aluminum, Copper, Brass, Stainless Steel, Radiators.	Eastside Recycling 2659 Old Evadale Rd. Silsbee, 409-385-0136	Aluminum, Brass, Copper

## GREEN WASTE – CHIPPING, MULCHING, AND COMPOSTING

The diversion of yard waste from the waste stream has become one of the region's top priorities. The SWAC and SETRPC staff estimate that due to the region's long growing season and ample precipitation, about 25% of the residential waste stream in the region is yard waste. Programs dealing with green waste have been the most successful effort at diverting waste from the landfills.

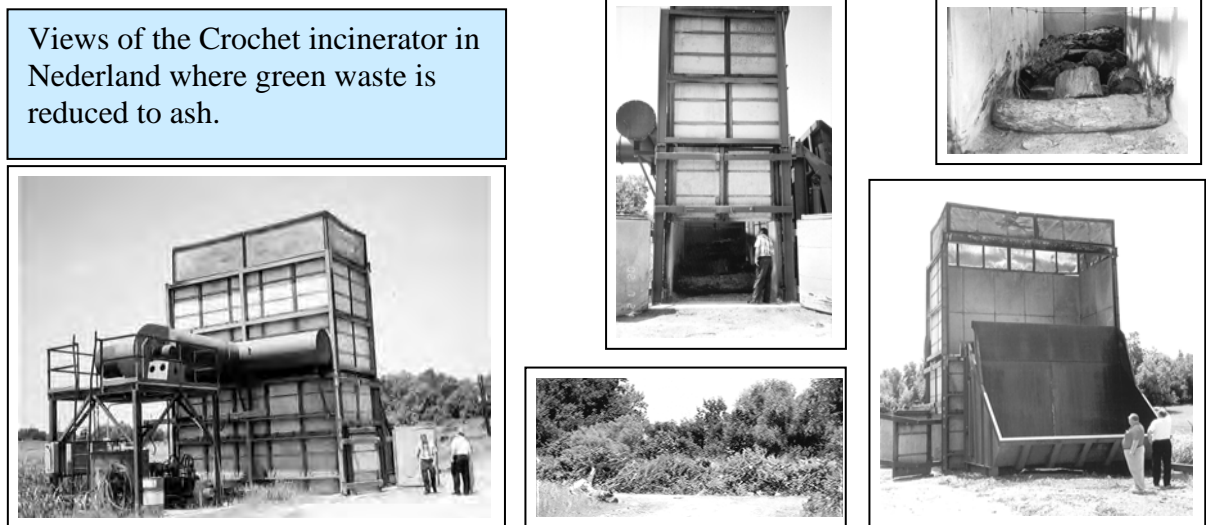
According to the *2000 Update* Port Arthur, Beaumont, Groves, Port Neches, Nederland, West Orange, Pinehurst, and Vidor have active efforts to reduce the amount of yard waste. All of the cities with public collection have curbside yard waste collection but with some limitations. In the privatized cities, BFI picks up yard waste with household trash. Source reduction emphasis revolves around those cities trying to educate citizens to separate out only green waste.

Currently, the cities of Beaumont and Port Arthur have chipping and/or composting programs at their landfill sites diverting as much green waste from landfill disposal as possible. The City of Beaumont landfill gets a 20% rebate on tipping fees from TCEQ because, in addition to composting yard waste, they voluntarily ban the disposal of yard waste at their landfill (\$330.604 – Municipal Solid Waste). Port Arthur tries to separate out green waste on the collection routes. Port Arthur's chipping products are mulched. The City of Port Arthur landfill will accept land-clearing materials, chipping what can be chipped and disposing of the rest. Their chipping program achieves approximately a 7-to-1 reduction in volume. The City of Pinehurst also operates a chipping program, and the City of West Orange chips brush with a dump truck following the chipper.

## COMBUSTION

The cities of Nederland, Port Neches, and Groves send green waste to an incinerator in Nederland recently built by Crochet Industries out of Louisiana (see Figure 2.3). Because the incinerator is located at the site of a permitted landfill (#574, closed), a registration rather than a permit is required by TCEQ. No other plans are known at this time for the combustion of household waste within the region. However, some of the region's household waste may go to the Chambers County incineration facility in the future.

**Figure 2.3 – Photos of the Nederland Incinerator**



## CONSTRUCTION AND DEMOLITION DEBRIS (C&D)

Currently, some concrete wastes go to the ALF plant in Beaumont for crushing and reuse as road base. SETRPC is not aware of any other examples of C&D recycling in the region.

## AUTOMOTIVE WASTES

According to the *2000 Update*, Beaumont and Bridge City offered curbside pickup of used automotive oil and oil filters. Currently, only the City of Beaumont offers this service. Tables 2.16 and 2.17 identify the used oil and used oil filter handlers for the SETRPC Region.

**Table 2.16 – Used Oil Handlers: TCEQ Region 10**

ACTIVITY	REGISTRATION NO.	HANDLER	ADDRESS	CITY	COUNTY	PHONE
Transporter	A85361	Baxter Oil	6029 Industrial Rd	Beaumont	Jefferson	(409) 840-9000
Transporter	A85285	Action Waste Oil	P O Box 2428	Beaumont	Jefferson	(409) 832-2663
Transporter	A85637	Enviro Solutions, Inc.	2300 Hwy 365	Nederland	Jefferson	(409) 722-6880
Transporter	A85163	Safety Kleen Systems, Inc.	3454 Womack Road	Orange	Orange	(409) 886-8365
Transporter	A85163	Safety Kleen Systems, Inc.	3454 Womack Road	Orange	Orange	(409) 886-8365
Transporter	A85163	Safety Kleen Systems, Inc.	3454 Womack Road	Orange	Orange	(409) 886-8365
Storage Facility	A85163	Safety Kleen Systems, Inc.	3454 Womack Road	Orange	Orange	(409) 886-8365

Source: TCEQ Registrations for Used Oil Handlers 2002.

**Table 2.17 – Used Oil Filter Handlers: TCEQ Region 10**

ACTIVITY	REGISTRATION NO.	HANDLER	ADDRESS	CITY	COUNTY	PHONE
Transporter	A85637	Enviro Solutions, Inc.	2300 Hwy 365	Nederland	Jefferson	(409) 722-6880
Transporter	A85163	Safety Kleen Systems, Inc.	3454 Womack Road	Orange	Orange	(409) 886-8365
Storage Facility	A85163	Safety Kleen Systems, Inc.	3454 Womack Road	Orange	Orange	(409) 886-8365

Source: TCEQ Registrations for Used Oil Filter Handlers Region 10, Beaumont, 2002.

## SCRAP TIRES

Currently, there are no TCEQ-registered scrap tire processors in the Southeast Texas region. However, there are several companies located in Houston such as the Able Tire Company which currently serve parts of the SETRPC three-county region..

## HOUSEHOLD HAZARDOUS WASTE (HHW)

Currently, there are no permanent HHW programs in the region. However, the storm water permitting program begins in March, 2003, and this will affect the way the region handles the issue of HHW. The general feeling of the SWAC at this time is to keep this type of waste in small quantities, and by not bringing it together, it can be disposed of in the region's municipal solid waste landfills in accordance with Subtitle D Amendment regulations. Generally, HHW programs or events are scheduled by the SWAC. Chemical Waste Management (now Onyx Company) historically offered HHW services at the area malls for free. An historic tabulation of HHW collection efforts is presented in Table 2.18.

**Table 2.18 – Household Hazardous Waste Collection Programs in the Southeast Texas Region**

ENTITY	COLLECTION DATE	POPULATION OF AREA	PARTICIPATION RATE	NUMBER OF PARTICIPANTS	NUMBER OF VOLUNTEERS	COST OF COLLECTION	COST OF PARTICIPATION	POUNDS OF HAZARDOUS WASTE	POUNDS OF HAZARDOUS PAINT	POUNDS PER PARTICIPANT	RECYCLED PAINT	AUTOMOBILE BATTERIES	ANTIFREEZE	TIRES	USED OIL FILTERS	USED MOTOR OIL	REISSUED POUNDS
<b>Jefferson County</b>																	
PORT ARTHUR/CWM	11/11/89	58,724	0.17%	98	0			18,840	0	189.00	0	4	4	0	0	330	
BEAUMONT/CWM	11/18/89	114,323	0.13%	151	0			20,405	0	135.00	0	0	34	0	0	275	
PORT ARTHUR/CWM	4/21/90	150,000	0.13%	200	0	\$47,077	\$235.39	27,518	0	137.59	0	0	0	0	0	0	
PORT ARTHUR/CWM	11/03/90	58,724	1.06%	620	0			14,630	0	23.60	0	13	25	0	0	550	
BEAUMONT	11/17/90	114,323	0.87%	989	0			32,186	0	15.00	0	54	14	0	0	385	
PORT ARTHUR/CWM	4/24/93	59,000	0.07%	40	40	\$25,000	\$625.00	53,324	16,850	1754.00	0	67	0	0	0	917	
BEAUMONT FLOOD	11/5/94	150,000	0.00%	40	25	\$2,100	\$ 52.50	3,600	2,500	152.50	0	6	0	0	0	40	
BEAUMONT FLOOD	11/12/94	150,000	0.10%	100	30	\$3,400	\$ 34.00	5,110	5,610	107.20	0	16	1	0	0	90	
BEAUMONT – CWM	4/22/95	100,000	0.14%	135	55	\$27,000	\$200.00	8,100	9,700	131.85	300	24	45	0	38	120	
CHEVRON – PT. ARTHUR	6/26-27/97	500	0.80%	4	3	\$3,500	\$875.00	1,100	303	350.75	0	12	0	8	0	0	
PORT ARTHUR	8/9/97	336,923	0.04%	143	2	\$39,529	\$276.43	12,558	2,000	101.80	275	56	20	0	0	220	
CHEVRON PT. ARTHUR	10/25-26/01	350	4.57%	16	12	\$5,575	\$348.44	1,255	1,091	146.63	0	15	0	10	0	110	
<b>Orange County</b>																	
ORANGE/CWM	12/2/89	19,381	0.42%	82	0	\$0		18,865	0	230.00	0	0	0	0	0	330	
ORANGE	11/17/90	19,381	1.09%	212	0	\$0		17,070	0	80.00	0	11	16	0	0	330	
ORANGE	11/13/99	83,000	0.30%	245	35	\$0		32,800	69,400	417.14	100	10	250	0	200	750	50

Source: TNRCC Household Hazardous Waste Historical Data through 2002.

## LITTER AND ILLEGAL DUMPING

The SWAC feels that the region is currently making a good effort to address the control of illegal dumping, and they want to focus even more in the future on illegal dumping programs. Both the City of Port Arthur and City of Beaumont received pass-through grants in 2002 that will address the clean up of private and public properties where illegal dumping has taken place. Currently, Hardin County has an established, effective program that specifically addresses illegal dumping problems.

In 1995, Hardin County Beautiful/Clean was organized as a response to critical issues identified by the Texas Agricultural Extension Service and the Natural Resource Conservation Service. One of the goals of Hardin County Beautiful/Clean was to replicate a successful community litter control program patterned after Angelina County and Keep Texas Beautiful. In 1996, Hardin County hired its first Litter Law Enforcement Officer. In that year, 341 littering sites were investigated, and 15,413 pounds of trash were removed as a result of increased enforcement. Inmate work crews removed an additional 42,191 pounds of litter in the county. Also in Hardin County, HEB, the Texas General Land Office, and Temple-Inland provided funding to Kountze Middle School for the design and publication of Litter Law educational brochures.

In Jefferson County, the Clean Community Department of Beaumont and Keep Beaumont Beautiful Commission sponsor citywide litter collection projects such as the “Fall Sweep” and the “Spring Sweep” programs that are conducted during those seasons by volunteer school, business, church and civic groups, etc. City streets and rights-of-way needing litter removal are identified and groups are assigned the areas to collect litter.

Other programs have included the annual Beaumont “Paint-a-Thon” and the Neches River “Trash Bash.” In the latter program, volunteer groups pick up litter along the Neches River and other waterways feeding into the Neches River. This is a seasonal project jointly coordinated by the Clean Community Department, Keep Beaumont Beautiful Commission, TCEQ, Beaumont Yacht Club, Port of Beaumont, Lower Neches Valley Authority, Coast Guard, Sheriff’s Departments, and other interested businesses and groups.

Individual cities in the region have additional ordinances addressing litter along with unsightly conditions, hazardous trees or shrubs, weedy lots, abandoned or junked vehicles, or dilapidated structures.

Table 2.19 identifies Texas County Cleanups that have occurred over the past few years. During the last Texas Cleanup campaign, Beaumont cleaned up about eight tons of waste.

**Table 2.19 – Texas Country Cleanups**

ENTITY	YEAR	CONTAINERS	TIRES	OIL (GALS.)	OIL FILTERS (EACH)	BATTERIES (EACH)	HAZARDOUS WASTE (LBS.)
<b>Jefferson County</b>							
Beaumont	1997	30	1011	480	700	145	0
Beaumont	1999	7	0	600	600	45	0
Beaumont	2001	100	0	900	600	40	16,000

Source: TCEQ Texas Country Cleanup Program.

## CLOSED LANDFILL INVENTORY

The information in this section summarizes the Closed Landfill Inventory (CLI) for the Southeast Texas region. Maps of each site as well as the complete data sheet for each landfill are included in the inventory in Volume II of this amended plan. A summary of the risk assessment of regional closed landfills is presented in Chapter Three.

In Table 2.20 it is shown that of the 41 closed landfills found in the region, about one-third of the sites applied for a permit from TCEQ or one of its predecessor agencies. This should not be interpreted to mean that they received a permit from the state. Some of the sites, while continuing to accept wastes at that time, never completed the full application, others withdrew or were denied a permit, still others were simply grandfathered to operate. The remaining two-thirds of the sites in the inventory opted to either function as an illegal site or were a promiscuous site where dumping on the property was done without the owner's permission. The one-third/two-third mix of PERMAPP/UNUM (PERMAPP = PERMit APPLIED for; UNUM = UNauthorized NUMBER) sites found in the Southeast Texas region is almost identical to statewide figures. For more information on the Closed Landfill Inventory, please refer to the inventory information included in Volume II, or to the risk assessment summarized in the Chapter Three.

**Table 2.20 – Southeast Texas Region – Summary of Closed Landfill Inventory Data**

COUNTY	TOTAL NUMBER OF SITES	APPLIED FOR PERMIT	UNAUTHORIZED	*REMOVED FROM ORIGINAL DATABASE	CONFIDENCE LEVEL 1 OR 2	CONFIDENCE LEVEL 3 OR 4	AFFIDAVIT TO PUBLIC	BOUNDARIES KNOWN	OWNER KNOWN	NEW SITES
Hardin	13	5	8	2	12	1	3	6	11	0
Jefferson	10	5	5	2	10	0	3	6	10	0
Orange	18	3	15	10	18	0	1	6	17	2
<b>Totals</b>	<b>41</b>	<b>13</b>	<b>28</b>	<b>14</b>	<b>40</b>	<b>1</b>	<b>7</b>	<b>18</b>	<b>38</b>	<b>2</b>
NOTE: These 'Removed' sites are not included in the 'Total Number of Sites', 'Permitted' sites and 'Unauthorized' sites.										

Source: South East Texas Closed Landfill Inventory.

In Table 2.20, it is shown that 14 sites were removed from the original inventory database. The rationale for removing these sites is clearly identified in the inventory (see Volume II). Typical reasons for removal of sites from the inventory included: small size of the site; site cleaned up; location data had a low confidence level and could not be confirmed; and a general lack of available, verifiable information.

Table 2.21 provides site-specific data for the 41 sites included in the CLI. This table summarizes the types of data, the availability of specific types of data in the inventory, and what attachments are available for each site. Also note that two additional closed landfills were added to the original database as a result of SETRPC investigations.



**Table 2.21 – Closed Landfill Inventory Parameters for Landfills Remaining in the Inventory**

COUNTY	PERMIT APPLICATION NUMBER	UNUM NUMBER	AFFIDAVIT	BOUNDARIES KNOWN?	COG CONFIDENCE LEVEL*	SIZE (ACRES)	CURRENT OWNERS KNOWN?	LOCATION DESCRIPTION	CURRENT LAND USE KNOWN?	ATTACHMENTS
Hardin	794		Y	Y	1	6.5	Y	Y	Y	Photos, Map, Metes and Bounds
Hardin	817		N	Y	1	15	Y	Y	Y	Photos, Map
Hardin		1095	N	N	2	Unknown	N	Y	Y	Map, Photos
Hardin		1096	N	N	2	12	N	Y	Y	Map, Photos
Hardin		1097	N	N	2	6	Y	Y	Y	Map, Photos
Hardin		1099	N	N	2	30	Y	Y	Y	Map, Photos
Hardin		1100	N	Y	1	23	Y	Y	Y	Map, Photos, Metes and Bounds
Hardin		1101	N	Y	1	25	Y	Y	Y	Map, Photos, Metes and Bounds
Hardin		1102	N	N	2	5	Y	Y	Y	Map, Photos
Hardin		1103	N	N	1	2	Y	Y	Y	Map, Photos
Hardin	1114		N	Y	1	20	Y	Y	Y	Map, Photos, Metes and Bounds
Hardin	1268		Y	Y	1	20	Y	Y	Y	Map, Photos, Metes and Bounds
Hardin	1510		Y	Y	1	20	Y	Y	Y	Map, Photos, Metes and Bounds
Jefferson	9		Y	Y	1	140	Y	Y	Y	Map, Photos, Metes and Bounds
Jefferson	213		Y	Y	1	140	Y	Y	Y	Map, Photos, Metes and Bounds
Jefferson		302	N	N	2	5	Y	Y	Y	Map, Photos
Jefferson		303	N	N	2	60	Y	Y	Y	Map, Photos
Jefferson		307	N	N	2	5	Y	Y	Y	Map, Photos
Jefferson		308	N	Y	1	40	Y	Y	Y	Map, Photos
Jefferson		309	N	Y	1	5	Y	Y	Y	Map, Photos, Metes and Bounds
Jefferson	574		Y	Y	1	53	Y	Y	Y	Map, Photos, Metes and Bounds
Jefferson	1702		N	Y	1	20	Y	Y	Y	Map, Photos, Metes and Bounds
Jefferson	2180		N	N	2	48	Y	Y	Y	Map, Photos
Jefferson		15T003	N	N	2	20	Y	Y	Y	Map, Photos
Orange	111		Y	Y	1	130	Y	Y	Y	Map, Photos, Metes and Bounds
Orange	202		N	Y	2	12	Y	Y	Y	Map, Photos, Metes and Bounds
Orange		522	N	N	2	50	N	Y	Y	Map, Photos
Orange		523	N	Y	1	34	Y	Y	Y	Map, Photos, Metes and Bounds
Orange		526	N	N	2	1	Y	Y	Y	Map, Photos
Orange		528	N	N	2	8	N	Y	Y	Map, Photos
Orange	584		N	N	2	12	Y	Y	Y	Map, Photos
Orange		1668	N	N	2	2.5	Y	Y	Y	Map, Photos
Orange		1866	N	Y	2	1	Y	Y	Y	Map, Photos, Metes and Bounds
Orange		1868	N	Y	2	4	Y	Y	Y	Map, Photos, Metes and Bounds
Orange		2306	N	N	2	1	Y	Y	Y	Map, Photos
Orange		2309	N	N	1	1	Y	Y	Y	Map, Photos
Orange		2310	N	N	2	1	Y	Y	Y	Map, Photos
Orange		2313	N	N	2	1	Y	Y	Y	Map, Photos
Orange		2317	N	N	2	1	Y	Y	Y	Map, Photos
Orange		2319	N	Y	2	3	Y	Y	Y	Map, Photos, Metes and Bounds
Orange		15T001	N	N	2	8	Y	Y	Y	Map, Photos
Orange		15T002	N	N	2	10	Y	Y	Y	Map, Photos

COG Confidence Codes established by SETRPC are as follows:

- 1- Assigned if SETRPC was able to determine the location was extremely accurate based upon appraisal district parcels and/or county records; or a metes and bounds description existed for the property and/or landfill.
- 2- Assigned if location description was accurate as a result of map provided by SWTSU or local knowledge, but there was no supporting documentation available.
- 3- Assigned if the site could not be verified or found not to qualify for the inventory.

Source: South East Texas Closed Landfill Inventory.

## *SIGNIFICANT FINDINGS*

The per capita solid waste disposal rate in the Southeast Texas region increased by 18% between 1992 and 2000, from 6.42 to 7.58 pounds per day. But this is in large part due to the considerable success of regional efforts to cleanup illegal dumping sites. The amount of solid waste generated in the region is even higher considering waste exports and recycling, but the exact number cannot be reliably determined due to the uncertainty of available recycling data.

While the amount of solid waste generated in the region has increased, the five existing landfills serving the region appear to be capable of handling these amounts well into the future. Due to the convenient locations of the landfills in the region, there is probably little or no need for transfer stations. The percentage of the region's population served by private waste collection companies has doubled since 1992, and of the four landfills located within the Southeast Texas region, the BFI Golden Triangle facility receives over 52% of the solid waste landfilled within the region.

All municipally sponsored curbside recycling programs in the region have been discontinued due to poor participation, relatively high costs, and the lack of reliable markets for recyclables. There are still opportunities to recycle other than curbside recycling, and the private sector does a good job of handling commercially generated recyclables. The region also does a good job of minimizing the impact of green waste on landfill disposal capacity. Much of the green waste is chipped, mulched, composted, or incinerated. The City of Beaumont is the only landfill in the state that gets a 20% rebate on tipping fees from TCEQ because not only does it chip green wastes on site, but it has also passed an ordinance banning that type of waste from being landfilled.

## CHAPTER THREE

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### SOUTH EAST TEXAS REGIONAL PLANNING COMMISSION Solid Waste Management Plan Amendment

## CHAPTER THREE

### CHALLENGES AND OPPORTUNITIES FOR MANAGING MUNICIPAL SOLID WASTE IN THE SOUTHEAST TEXAS REGION

#### ASSESSMENT OF MUNICIPAL SOLID WASTE MANAGEMENT CONDITIONS AND NEEDS

Collection services in the region's incorporated areas continue to be adequately provided by public and private entities. However, there has been an increase in the number of people living in unincorporated areas, where collection services may or may not be available or, if they are available, people may choose not to use them. This demographic trend may place growing demands on the existing collection services in unincorporated areas, and may contribute to the risk of improper on-site residential disposal or illegal dumping. It may be beneficial to collect detailed information on private haulers available to serve unincorporated areas, and provide more information to citizens on regulations pertaining to on-site residential disposal. In addition, it may be necessary to consider citizens collection stations or small transfer stations in some locations.

The percentage of the region's population served by privatized collection has increased significantly, from 10% in 1991 to 20% in 2002. The percentage of the region's population served by privatized collection is even higher when the increasing number of persons choosing to live in unincorporated areas is taken into account. Due to the growth in privatization, it will be important to establish and maintain open communication between public and private entities and to provide appropriate representation and input in decision-making processes.

Once waste is collected, its transport is not a great concern in the Southeast Texas region. Because the geographic size of the three-county region is relatively small, haul distances are not long. In addition, transportation infrastructure is adequate to meet the region's waste management needs.

The plan previously emphasized recycling as the primary focus of waste minimization efforts. In fact, three of the plan's nine goals addressed some aspect of recycling in the region. The recycling of certain commercial wastes, particularly corrugated cardboard, has been relatively successful, and the outlook continues to be optimistic in this regard. However, residential recycling programs such as curbside collection have largely been abandoned as too costly and ineffective. According to the SWAC, there is only one successful buy-back center currently operating in the region, and it is located in Beaumont. There is a drop-off center in the City of Port Arthur but the volumes are low. Although recycling is still encouraged, participation has waned and reliable markets have proven difficult to sustain. It may be beneficial to research the feasibility of various types of recycling and possible ways to stimulate recycling in the region.

The Southeast Texas region has found that one of the "biggest bangs for the buck" in waste minimization is through the management of green waste. There are three driving forces behind this effort: (1) green waste is one of the largest components of the region's waste stream; (2) green waste is very conducive to source separation as well as diversion at landfills; and (3) beneficial uses of green waste (e.g., chipping, mulching, and composting) are relatively easy to achieve. At this time, however, it is difficult to manage the large amounts of green waste generated in the region through beneficial use alone; the incineration of some green waste to achieve disposal volume reduction has been important in the overall management of green waste. The region has had considerable success in managing its green waste, and there is wide expectation for continued success.

Another big bang for the buck in the Southeast Texas region has been the control of illegal dumping. There are now several very successful enforcement programs in the region. Cleanups of illegally dumped waste now make up the second-largest component (24%) of the region's total landfill disposal. This has provided an unusually positive twist to an increase in the per capita disposal rate.

Subtitle D Amendments to RCRA did not impact the Southeast Texas region as much as they impacted other COGs. Only one landfill located within the region (the Orange County landfill) was closed. Three landfills located in adjacent counties outside the Southeast Texas region were also closed, but the slack has been taken up by the Newton County and BFI Golden Triangle facilities. Disposal capacity will improve even further based on expected expansions at the City of Beaumont and City of Port Arthur landfills. Disposal capacity is not a problem in the Southeast Texas region as it is in some other COGs, as the landfills serving the region have adequate remaining capacity.

There have been a number of special collection events in the region over the last several years. Citizen participation has been good, and the events help raise public awareness over proper HHW management. However, these events are generally quite expensive on a cost per volume disposal basis. There are currently no permanent HHW facilities or programs in the region. Comprehensive plans under municipal storm water permit requirements must not only include direct water quality control measures, but also public education and participation elements. Although not specifically addressed in the requirements, the inclusion of HHW management programs and facilities in their plans may help affected communities develop acceptable strategies.

Construction and demolition debris may represent a potential target for additional recycling/reuse efforts. C&D comprises about 8% of the region's total landfill disposal, but currently relatively little beneficial use is being made of this material in the region. Therefore, it may be beneficial to research C&D management in the region in more detail.

There are currently several registered used oil and used oil filter handlers in the Southeast Texas region. There are no registered scrap tire processors, but there is one registered scrap tire storage facility in the region. Statewide efforts to reduce scrap tire stockpiles and to promote more end uses for scrap tires, the amendment of regulations to allow tire pieces to be landfilled or used as ADC, and increasing efforts to control illegal dumping have all greatly facilitated tire management. No significant automotive waste management problems are evident, and it is assumed that available services are adequate to meet the needs of the region. However, it may be beneficial to research automotive waste management in the region in more detail.

There are currently no permitted or registered medical waste treatment or disposal facilities in the region, and all medical waste is being sent out of the region for treatment and disposal. No significant medical waste management problems are evident, and it is assumed that these arrangements are adequate to meet the needs of the region. However, the medical industry has shown significant growth in the region, and it may be beneficial to research medical waste management in the region in more detail.

There are currently one registered liquid waste processing facility and one registered liquid waste transfer station in the region. There are several registered public and private liquid waste transporters in the region. Much of the sludge in the region is managed through beneficial uses, such as land application and alternative daily landfill cover. No significant liquid waste management problems are evident, and it is assumed that available services are adequate to meet the needs of the region. However, it may be beneficial to research liquid waste management in the region in more detail.

TCEQ has for some time required the COGs to provide reviews of MSW permit and registration applications for conformance with the goals and objectives of their regional plans. SETRPC has preferred an informal, broad overview type of process. However, TCEQ recently instructed the COGs to establish more formalized procedures and guidelines, including the consideration of the impacts that MSW facilities may have on residents and the community. For the most part, the COGs have historically been reluctant to take on this responsibility, preferring to defer to local governments. Several cities and counties in the state have in fact addressed the issue of land use compatibility in facility siting. In addition, TCEQ rules contain provisions for it to consider land use and other local concerns in its deliberations. Nonetheless, TCEQ has emphasized its desire for the regional plans to assist it in making final permit and registration determinations. SETRPC procedures for review of permit and registration applications for conformance with goals and objectives of the regional plan and general land use compatibility are included in Chapter Four. Additional background information on the issue of facility siting and land use compatibility is provided in Appendix B.

## CLOSED LANDFILL RISK ASSESSMENT

Maps of those closed landfills that may require further investigation by the SETRPC staff are included in Appendix C. A set of datasheets and maps for the complete Closed Landfill Inventory can be found in Volume II of this amended plan. Supporting documentation for each site can be found in the CLI notebooks at the COG office in Beaumont.

The Closed Landfill Risk Assessment is a preliminary, first-cut approach to risk evaluation that was conducted for the Southeast Texas region by determining the relative proximity of certain “sensitive features” to a closed landfill in the region. Since this effort is designed to determine only the relative proximity of certain features to closed landfills included in the inventory, it should not be used as a definitive risk assessment. While close proximity to a closed landfill may pose possible risk to that feature, many other considerations should also be taken under study. As an example, a situation where a public water supply intake (PWSI) is located within one-quarter mile of a closed landfill merits further investigation based on that fact alone. However, if that PWSI is a deep well, protected by a well casing with sound integrity, the close proximity of that well to the closed landfill site probably poses little or no risk to that water supply facility.

Based solely on proximity and no additional site/feature specific information, this “first-alert” type risk evaluation was developed for the three counties in the Southeast Texas region. The focus of this type of evaluation was to provide more detailed information on potential regional risks from closed landfills. Again, the reader is cautioned that this is not a definitive type of study, but rather simply an initial attempt to identify some closed landfills that may warrant further investigation of their risk potential.

A Geographic Information System (GIS) was used to digitally locate each UNUM and PERMAPP closed landfill lying within the three counties of the Southeast Texas region. Polygonal shape files are used to represent the locations of some closed sites if the exact boundaries are known. Locations of those sites where exact boundaries are not known are represented only by points. Four concentric rings or buffers of ¼-mile each were then placed around each site’s shape or point. Using GIS, additional digital geographic datasets were then “layered” upon the electronic map of the closed landfill. The layers include area schools, hospitals, public water supply intakes (PWSIs), water

bodies (lakes, rivers, creeks, etc.) and aquifers. While the PWSIs include both surface and ground water sources, they were collectively labeled on the maps as public water supply intakes, regardless of type. The aquifers are labeled as an entire entity and have not been broken down into aquifer recharge, transition, or artesian zones.

By analyzing the “layered” maps of each closed landfill site, we could determine the number of sensitive features, such as schools, hospitals, and PWSIs, that are located within ¼-mile, ½-mile, ¾-mile, or one-mile of a closed municipal solid waste landfill.

A general overview analysis for each county in the region revealed the following (see Table 3.1). We found that within Hardin County, two of the 13 closed landfill sites have schools, one has a hospital, three have PWSIs, and nine have water bodies within the four ¼-mile buffers. Analysis of three sites in that county found none of the features included in the four ¼-mile buffer zones. An evaluation of the maps of the Jefferson County facilities in Table 2.22 showed that three of its ten closed landfill sites have schools within one mile. In addition, one hospital, three PWSIs and one reservoir were within one of the ¼-mile zones. Nine of the ten sites showed water bodies within the four buffer zones. For Orange County, 11 of the 21 closed landfill sites have schools, three have hospitals, and 15 have PWSIs within the four buffer zones. Sixteen out of the 21 sites included water bodies of some type near within one mile of a closed landfill site. Because of the Southeast Texas region’s coastal location, it is easy to understand why closed landfills are often found near water features. Also, historically, the U.S. Soil Conservation Service recommended such locations for landfills.

Table 3.1 lists all the closed landfills in the region together with the number of schools, hospitals, PWSIs or water bodies that lie within one mile of each waste facility site. In Appendix C, Figures C.1 through C.14 illustrate those 14 sites with the highest number of potential risks – three or more PWSIs including reservoirs, hospitals and/or schools within one mile of the closed landfill.

**Table 3.1 – Summary of Risk Assessment**

COUNTY NAME	PERMAPP, UNUM OR INSPECTION NUMBER	RISK HITS	RANKING OF POTENTIAL RISKS	COMMENTS- RISKS THAT LIE WITHIN ONE MILE OF THE CLOSED LANDFILLS
Hardin	794	Y	1	1 Public Water Supply Intake (PWSI), 2 Schools, 1 Hospital
Hardin	817	Y	2	1 PWSI, 1 School, 1 Creek
Hardin	1095	N		
Hardin	1096	Y	4	Beaver Creek
Hardin	1097	Y	2	1 PWSI, Lake Kimball, Village Creek, 3 Creeks
Hardin	1099	N		
Hardin	1100	Y	4	Sour Lake
Hardin	1101	Y	3	Dry Creek, Village Creek
Hardin	1102	N		
Hardin	1103	Y	2	1 PWSI, Village Slough
Hardin	1114	Y	3	3 Creeks
Hardin	1268	Y	4	1 Creek
Hardin	1510	Y	3	3 Creeks
Jefferson	9	Y	2	Big Hill Reservoir, 1 Reservoir, Taylor Bayou
Jefferson	213	Y	2	1 PWSI, Neches River
Jefferson	302	Y	2	1 Hospital
Jefferson	303	Y	4	Sabine Lake
Jefferson	307	Y	1	4 Schools, Neches River
Jefferson	308	Y	2	1 PWSI, 1 School, Port Arthur Canal, Lnva Canal
Jefferson	309	Y	4	Sabine Pass
Jefferson	574	Y	2	1 PWSI, 1 School, Port Arthur Canal, Lnva Canal
Jefferson	1702	Y	4	Sabine Lake
Jefferson	2180	Y	3	Hillebrandt Bayou, Port Arthur Canal
Jefferson	15T003	Y	3	Neches River, Sabine Lake
Orange	94	Y	2	1 PWSI, Cow Bayou
Orange	111	Y	1	3 PWSIs, Cow Bayou
Orange	202	Y	1	2 PWSIs, 2 Schools, Adams Bayou, Sabine River
Orange	522	Y	2	2 PWSIs, Cow bayou, Sandy Creek
Orange	523	Y	2	2 PWSIs, Pond, Ten-mile Creek
Orange	526	Y	1	2 PWSIs, 3 Schools
Orange	528	Y	2	2 PWSIs, Ten-mile Creek
Orange	531	Y	1	4 PWSIs, 1 Pond, Ten-mile Creek
Orange	584	Y	1	2 PWSIs, 3 Schools, Adams Bayou, Sabine River
Orange	1668	N	3	Sabine River, Tailings Pond
Orange	1866	Y	3	Sabine River, Tailings Pond
Orange	1868	Y	1	2 PWSIs, 3 Schools, Adams Bayou, Little Cypress Bayou
Orange	2306	Y	1	3 PWSIs, 4 Schools, 1 Hospital, Adams Bayou, Sabine River
Orange	2309	Y	1	2 PWSIs, 3 Schools, 1 Hospital, Adams bayou
Orange	2310	Y	2	2 Schools, Cole Creek
Orange	2313	Y	3	Bonner Slough, Tiger Creek
Orange	2317	Y	1	1 PWSI, 2 Schools, Cow Bayou
Orange	2319	Y	2	1 PWSI, Bonner Slough, Tiger Creek
Orange	15T001	Y	1	3 PWSIs, 4 Schools, 1 Hospital, Adams Bayou
Orange	15T002	Y	1	3 PWSIs, 4 Schools, Adams Bayou, Sabine River

\* The number 1 is associated with the highest potential for risk, while 4 is the least. Specifically, a rank of 1 = three or more schools, hospitals or public water supply intakes within a one-mile radius of the site; 2 = one or two schools, hospitals or public water supply intakes located within a one mile radius of the site; 3 = no schools or hospitals, two or more water features within a one-mile radius of the site; 4 = one water feature within a one-mile radius; None = no water features, schools, hospitals or public water supply intakes within a one-mile radius.

Source: Southeast Texas Closed Landfill Inventory.



## CHANGING PRIORITIES

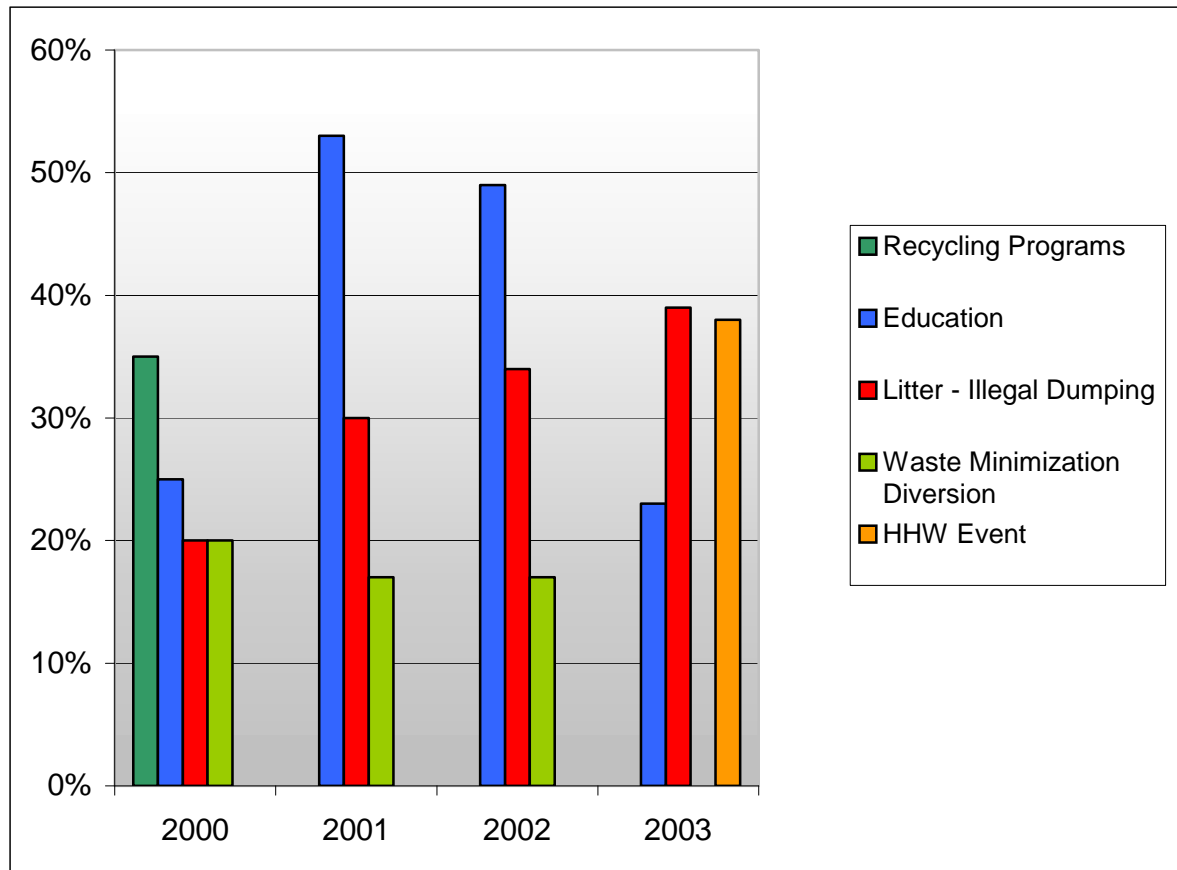
The grant information presented in Table 3.2 and Figure 3.1 serves as an indicator of how solid waste management priorities have changed over time in meeting the specific needs of the Southeast Texas region. Emphasis has shifted noticeably from recycling programs to green waste management, illegal dumping control, and public education and outreach programs.

**Table 3.2 – SETRPC Solid Waste Grants: 1998 to 2002**

FY	PROJECT #	PERFORMING AGENCY	PROJECT DESCRIPTION	FUNDING METHOD	TOTAL FUNDING AUTHORIZED	CUMULATIVE EXPENSES TO DATE	LAST REPORT DATE	CONTRACT NUMBER
'98	98-15-G01	Hardin County	Litter Abatement Officer	Pass-through	\$44,189	\$27,345.01	06/10/98	9870065320
'98	98-15-G02	City of Port Arthur	Litter Abatement Officer	Pass-through	\$55,298	\$54,707.51	08/09/99	9870065320
'98	98-15-G03	City of Beaumont	Front-end Loader	Pass-through	\$86,360	\$86,360.00	07/09/98	9870065320
'99	99-15-G01	City of Beaumont	Recycling Education	Pass-through	\$93,755	\$93,709.83	09/28/99	9870065320
'99	99-15-G02	Hardin County	Chipper	Pass-through	\$50,000	<b>Cancelled</b>		
'99	99-15-G03	City of Groves	Compost Bins	Pass-through	\$19,000	\$18,703.00	05/25/99	9870065320
'99	99-15-I01	SETRPC	Regional Composting Bins	COG-Managed	\$50,000	\$49,992.00	09/13/99	9870065320
'00	00-15-G01	Kountze Middle School	Recycling Program	Pass-through	\$2,500	\$2,483.36	5/31/01	582-0-83406
'00	00-15-G02	Jefferson County Extension	Compost Demonstration	Pass-through	\$6,007	\$5,553.28	1/12/01	582-0-83406
'00	00-15-G03	City of Nederland	Recycling Program	Pass-through	\$17,376	\$17,375.59	8/23/00	582-0-83406
'00	00-15-G04	City of Groves	Recycling Program	Pass-through	\$9,500	\$7,515.18	2/01/01	582-0-83406
'00	00-15-G05	City of Port Neches	Recycling Program	Pass-through	\$21,500	\$21,079.84	5/21/01	582-0-83406
'00	00-15-G06	City of Beaumont	River Clean-up	Pass-through	\$28,597	\$28,596.80	10/24/00	582-0-83406
'00	00-15-G07	City of Port Arthur	Compost Bins	Pass-through	\$23,440	\$23,440.00	6/28/00	582-0-83406
'00	00-15-G08	City of Beaumont	Recycling Education	Pass-through	\$35,603	\$26,024.21	10/01/01	582-0-83406
'01	01-15-G01	City of Beaumont	Recycling Education	Pass-through	\$85,000	\$70,384.94	10/01/01	582-0-83406
'01	01-15-G02	City of Nederland	Compost Bins	Pass-through	\$8,000	\$7,986.40	7/10/01	582-0-83406
'01	01-15-G03	City of Port Neches	Compost Bins	Pass-through	\$8,000	\$7,986.40	5/21/01	582-0-83406
'01	01-15-G04	City of Groves	Compost Bins/Education	Pass-through	\$11,820	\$8,226.83	7/17/01	582-0-83406
'01	01-15-G05	Hardin County	Litter Enforce. Officer	Pass-through	\$47,171	\$31,585.99	8/08/01	582-0-83406
'02	02-15-G01	City of Beaumont	Education	Pass-through	\$32,000	\$31,143.00	8/31/03	582-2-44684
'02	02-15-G02	Hardin County	Litter Abatement	Pass-through	\$29,734	\$11,497.18	8/12/02	582-2-44684
'02	02-15-G03	City of Port Arthur	Compost Bins	Pass-through	\$15,000	\$14,650.00	8/31/03	582-2-44684
'02	02-15-G04	City of Nederland	Education	Pass-through	\$3,500	\$2,659.26	8/31/03	582-2-44684
'02	02-15-G05	City of Port Neches	Education	Pass-through	\$3,500	\$3,035.00	8/31/03	582-2-44684
'02	02-15-G06	City of Groves	Education	Pass-through	\$3,500	\$2,568.70	8/31/03	582-2-44684

Source: SETRPC Staff

**Figure 3.1 – SETRPC Solid Waste Grants: 2000 to 2003**



Note: ‘Recycling Programs’ does not include recycling education programs; ‘Education’ is any education program, i.e. recycling, litter abatement, etc.

Source: SETRPC/SWT staff.

At the July 24, 2002, special meeting of the SWAC, committee members and SETRPC staff discussed the solid waste management needs and issues facing the region. Based on their comments, and on questionnaire responses, the current solid waste management priorities of the region may be summarized as follows:

- Although recycling should still be encouraged, the most effective way of accomplishing waste reduction has proven to be source separation and landfill diversion of green waste for beneficial use. Due to the large amounts of green waste generated in the region, volume reduction through incineration is an effective option.
- Due to the growth in privatization of solid waste management services in the region, it will be important to establish and maintain open communication between public and private entities and to provide appropriate representation and input in decision-making processes.
- Illegal dumping control efforts have been very successful in the region, and these efforts should be continued and expanded. Due to the region’s population shifting toward unincorporated areas, it may be necessary to consider citizens collection stations and small transfer stations in some locations to help in the overall effort to control illegal dumping.

- Although the region has supported local HHW collection events in the past, even more emphasis may need to be placed on HHW management, given the implementation of municipal storm water permit requirements. It may be beneficial for local governments to consider a regional approach to HHW management.
- Education and outreach activities should continue to be encouraged, particularly in the areas of source reduction/waste minimization and illegal dumping/litter control.
- The siting of permitted and registered facilities is not expected to be an important issue for the region. Therefore, in meeting TCEQ requirements to address facility application conformance with the region plan, it would be appropriate to take the most streamlined approach that would be acceptable.
- Although the region may benefit from special studies relating to various aspects of solid waste management, there does not appear to be a need for promoting subregional or local solid waste management plans through regional grant funding. The region consists of only three counties, and the regional planning process has been effective in bringing parties together and identifying and addressing various needs and issues around the region.
- Even though needs may be apparent, it is often difficult to adequately address them within the constraints of grant funding and eligibility restrictions. Emphasis needs to be placed on maximizing the use of available grant funding and encouraging a wider field of eligible uses.

## *SIGNIFICANT FINDINGS*

The Southeast Texas region faces a number of challenges as well as opportunities in the management of municipal solid waste. Recycling has declined in the region, but successful efforts to manage the region's large quantities of green waste have helped divert significant amounts of material from landfill disposal. Programs to control illegal dumping have also been successful, but the illegal dumping challenge may still be significant as more of the region's population trends toward unincorporated areas. A preliminary risk assessment of sites identified in the Closed Landfill Inventory revealed that 14 of the 41 sites in the inventory may warrant further evaluation.

Although the region enjoys a surplus of landfill disposal capacity, and is unlikely to see the siting of new permitted and registered MSW facilities, it must still provide a more formal, structured process for reviewing applications for conformance with the regional plan in order to meet TCEQ expectations.

As evidenced by the types of solid waste grant activities recently funded in the region, and by input from the SETRPC SWAC and various parties throughout the region, solid waste management priorities have changed over the last several years. Some of the main priorities in the region are now expanding green waste management and illegal dumping control efforts, as opposed to the previous emphasis placed on recycling activities.

## CHAPTER FOUR

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### SOUTH EAST TEXAS REGIONAL PLANNING COMMISSION SOLID WASTE MANAGEMENT PLAN AMENDMENT

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## CHAPTER FOUR

### IMPLEMENTATION OF THE AMENDED REGIONAL PLAN

#### REVISED GOALS, OBJECTIVES, AND ACTION PLAN

Reflecting a number of changing solid waste management needs and priorities, and based on considerable data and input from various parties, following are revised goals and objectives for the Southeast Texas Region. The goals are not presented in any particular order of priority. However, the objectives are arranged according to the three specific planning periods: short-term (present to five years); mid-term (six to ten years); and long-term (11 to 20 years). This ordering of the objectives will serve as the action plan for guiding implementation of the amended regional solid waste management plan. Appendix D provides a concise, side-by-side comparison of state plan recommendations and objectives of the amended regional plan.

**GOAL 1: Waste Diversion, Combustion, Reduction/Minimization, Composting, Reuse, and Recycling.** Reduce the region's volume of municipal solid waste disposed of at landfills through waste diversion, combustion, source reduction, waste minimization, composting, reuse, and recycling.

##### Short-Term Objectives

- Objective 1.1:** The successful program of incinerating significant portions of the region's large amount of green wastes should be encouraged.
- Objective 1.2:** Continue and promote source separation and diversion of yard wastes so they can be more effectively incinerated or used beneficially for chipping, mulching, and composting.
- Objective 1.3:** Promote recycling programs and procurement efforts by schools and local governments, and inventory the extent of these activities.
- Objective 1.4:** Encourage an integrated approach to solid waste management in the operation of facilities and programs.

##### Mid-Term Objectives

- Objective 1.5:** Existing waste minimization and source reduction programs should be continued and expanded as necessary and feasible, with emphasis on achieving the greatest possible benefits.
- Objective 1.6:** Local governments should cooperatively support regional educational efforts aimed at waste minimization and source reduction.
- Objective 1.7:** SETRPC should use education and outreach programs to promote positive and lasting changes in attitudes about source reduction, waste minimization, diversion, reuse, incineration, HHW management, composting, and recycling.

- Objective 1.8:** Maximize the reduction and beneficial reuse of the region's special wastes.
- Objective 1.9:** Promote land application, use as landfill daily cover, and the composting of municipal wastewater treatment plant sludge.
- Objective 1.10:** Landfills in the region should accept source-separated recyclables at little or no cost to residents.
- Objective 1.11:** Promote source reduction in the building industry by educating builders regarding waste minimization and source separation options at construction sites.

**Long-Term Objectives**

- Objective 1.12:** New waste minimization and source reduction programs should be developed and implemented to the extent they are technologically and economically feasible.
- Objective 1.13:** SETRPC should provide technical assistance to local governments, businesses, and institutions in identifying and implementing source reduction, composting, and recycling/reuse opportunities.
- Objective 1.14:** Promote cost-effective and innovative technologies designed to reduce waste and increase solid waste management efficiencies.
- Objective 1.15:** Promote the development of a regional electronics-recycling contract.
- Objective 1.16:** SETRPC should help identify sustainable markets for recyclables.

**GOAL 2: Illegal Dumping and Littering.** Control illegal dumping and littering in the region.

**Short-Term Objectives**

- Objective 2.1:** Focus on using existing law enforcement agencies to control illegal dumping and littering.
- Objective 2.2:** Provide training and educational opportunities regarding litter laws for law enforcement personnel, prosecutors and judges.
- Objective 2.3:** Sponsor community collection events.
- Objective 2.4:** Enforce existing state and local laws that address littering and illegal dumping.
- Objective 2.5:** As necessary, continue and expand the use of existing grant-funded programs to control illegal dumping and littering.

### Mid-Term Objectives

**Objective 2.6:** SETRPC should develop and implement programs to educate the public on how to reduce illegal dumping habits and occurrences.

### Long-Term Objectives

**Objective 2.7:** Expand opportunities for lawful waste disposal to help control illegal dumping.

**GOAL 3: Municipal Solid Waste Disposal.** Identify, promote, and develop cost-effective and efficient solid waste disposal options, and ensure sufficient disposal capacity in the region for at least 15 years.

### Mid-Term Objectives

**Objective 3.1:** Local governments should continue to pursue contracts for long-term disposal capacity in the region.

**Objective 3.2:** Provide sound, cost-effective, and efficient collection, storage, transfer, and transport systems to disposal facilities for municipal solid waste generated in the region.

**Objective 3.3:** Develop a disaster plan to address what to do with debris resulting from major catastrophes such as flooding or hurricanes.

**Objective 3.4:** Manage household and farm hazardous waste in a cost-effective, efficient and environmentally sound manner throughout the region.

**Objective 3.5:** Support efforts for effectively managing the region's special wastes.

### Long-Term Objectives

**Objective 3.6:** Continually evaluate and review new and proven technologies for the disposal of waste within the region.

**GOAL 4: Closed Landfill Inventory.** Ensure that the region's closed landfills, as listed in the Closed Landfill Inventory, do not pose risks to the region's citizens.

### Short-Term Objectives

**Objective 4.1:** Make the initial risk assessment included in this amended plan readily available to government entities and interested citizens.

### Mid-Term Objectives

**Objective 4.2:** Consider seeking funding for more in-depth research or conduct an in-house review into those closed landfill sites identified in the plan with a potential "Risk Rank" of 1.

**GOAL 5: Facility Siting.** Review and comment on all permit and registration applications for MSW management facilities in the region.

**Short-Term Objectives**

- Objective 5.1:** Implement and consistently apply a set of streamlined factors and procedures for review of MSW permit and registration applications for conformance with plan goals and objectives and general land use compatibility.
- Objective 5.2:** Encourage the expansion and further development of existing disposal facilities over the siting of new facilities.
- Objective 5.3:** Protect water and other environmental resources from the potential adverse impacts of siting MSW landfills and other disposal facilities.
- Objective 5.4:** Facility design and operating plans should consider the impact on the residents in close proximity to the facility and take appropriate measures to minimize the impact.

**GOAL 6: Coordination and Cooperation within the Southeast Texas Region.** SETRPC and all entities involved with solid waste management in the region must communicate and cooperate to implement the programs of this plan effectively and efficiently.

**Short-Term Objectives**

- Objective 6.1:** A cooperative relationship between public and private sectors must be continued and improved.
- Objective 6.2:** Pursue balanced and cooperative public/private programs for solid waste management in the region.
- Objective 6.3:** Encourage private waste management entities, and local governments with privatized waste management systems, to participate more in regional waste management issues and SWAC meetings.

**GOAL 7: Funding Sources and Grants for the Southeast Texas Region.** Funding sources and grant opportunities should be identified for implementation in the Southeast Texas region that are consistent with the solid waste management programs and efforts identified and recommended in this plan.

**Short-Term Objectives**

- Objective 7.1:** The application, review, and approval of pass-through grant funding will closely track the goals, objectives, and actions of this plan, with emphasis placed on addressing critical needs in the region.
- Objective 7.2:** Applicants for regional and pass-through grant funding will be directed to the goals and objectives identified in this plan.



**Objective 7.3:** Continue the current selection process for grant funding for regional and local programs and projects.

**Objective 7.4:** The SWAC and SETRPC staff will make every effort to effectively expend all grant resources available to it in a cost-effective, democratic, plan-reflective manner.

**GOAL 8: Support from State/Federal Officials.** State and federal support for the development, refinement, and implementation of existing and new, innovative municipal solid waste management projects and programs are to be encouraged.

#### **Mid-Term Objectives**

**Objective 8.1:** With the clear understanding that SETRPC cannot “lobby” legislators in Austin, it may nevertheless seek the support of state and federal officials with regards to the costs and the relative environmental impacts that the various waste reduction and disposal legislation will have on the communities of the region.

**GOAL 9: Plan Updates.** The region’s MSW plan should be maintained as appropriate to best serve the needs of the region and meet the requirements of state law.

#### **Short-Term Objectives**

**Objective 9.1:** SETRPC should make minor revisions to the plan on an annual basis.

**Objective 9.2:** SETRPC should develop regional plan implementation status reports at least on a biennial basis, and provide these reports to TCEQ.

**Objective 9.3:** SETRPC should maintain a current database of all public and private solid waste management facilities, program, and service providers serving the region.

#### **Mid-Term Objectives**

**Objective 9.4:** SETRPC should conduct a major review of the plan on a four-year basis, consistent with state strategic plan guidelines.

**GOAL 10: Miscellaneous Waste.** If possible, the region should provide disposal options for household hazardous waste, scrap tires, electronic waste, and other special waste stream items.

#### **Short-Term Objectives**

**Objective 10.1:** Depending upon availability, use grant funding to sponsor special waste collection events for the region.

**Objective 10.2:** SETRPC should promote the safe handling, storage, and/or disposal of these items through education and outreach programs.

### Mid-Term Objectives

**Objective 9.4:** SETRPC should continually evaluate the needs of the region where special wastes are concerned.

## **SETRPC SOLID WASTE GRANTS PROGRAM**

The SETRPC Solid Waste Grants Program should place priority on supporting accomplishment of the revised action plan outlined above, particularly those actions for the current and short-term planning period. Preferred grant project categories include:

- ✓ Source reduction/waste minimization (e.g., chipping, mulching, composting, diversion, source separation, recycling, etc.)
- ✓ Illegal dumping control/local enforcement
- ✓ Household hazardous waste management
- ✓ Citizens collection stations/small transfer stations
- ✓ Education/outreach
- ✓ Technical studies
- ✓ Other solid waste management projects, as appropriate

The SWAC recommends that SETRPC continue using its existing project selection process. SETRPC provides a detailed description of this process to TCEQ as part of its contract requirements, but in summary the regional project selection process includes:

- Preliminary screening (i.e., completeness of application materials, and satisfying stated project preferences)
- A scoring system based on extent of: meeting the goals, objectives, and priorities of the regional plan; serving a broad geographic area and population; providing matching funds; supporting public-private cooperation; and clear delineation of project goals, tasks, cost-effectiveness, and benefits.
- Notification and involvement of the private sector, and conformance with state law regarding grant-funded projects not creating an unfair competitive advantage over similar private services.

## **SETRPC REGIONAL COORDINATION RESPONSIBILITIES**

As a condition of its funding contract with TCEQ, SETRPC is required to provide ongoing coordination for regional solid waste management planning and activities. In meeting this responsibility, SETRPC will:

- ✓ Administer the regional solid waste management grants program.
- ✓ Maintain the Closed Landfill Inventory for the region.
- ✓ Maintain current information on all solid waste management facilities, services, and programs in the region, and serve as a regional resource center.
- ✓ Provide support for the regional Solid Waste Advisory Committee.
- ✓ Provide public education and outreach services.
- ✓ Provide technical assistance to solid waste management entities in the region.
- ✓ Coordinate review of MSW permit and registration applications for conformance with the goals and objectives of the regional plan and general land use compatibility.
- ✓ Provide other services related to regional solid waste management as appropriate.

## **REVIEW OF CONFORMANCE WITH REGIONAL PLAN GOALS AND OBJECTIVES AND GENERAL LAND USE COMPATIBILITY**

Subchapter E of TCEQ regulations states that it is the responsibility of the applicant to demonstrate conformance with the regional solid waste management plan. SETRPC, with the assistance of the SWAC, will review MSW permit and registration applications to assess conformance with the goals and objectives of the amended regional plan, and to assess general land use compatibility, as instructed by TCEQ. SETRPC will submit its findings to TCEQ for consideration in its ultimate decision on whether to grant the permit or registration.

Prior to initiation of formal conformance review procedures, applicants are encouraged to consult with SETRPC staff to informally discuss the proposed facility and provide a preliminary assessment of conformance with the regional plan and general land use compatibility. This “pre-application review” is voluntary, and is intended to facilitate formal conformance review.

### **CONFORMANCE REVIEW FACTORS**

The need for, or lack of need for, a particular facility will not be a factor in the plan conformance review. The importation and exportation of waste from one political unit to another will not be prohibited. If a local government has an ordinance in place related to facility siting, the conformance review will not contradict it. Consideration of the applicant’s history of regulatory compliance will not generally be considered, and deferred to TCEQ.

The SWAC will consider the following two factors when reviewing MSW facility permit and registration applications:

1. Conformance with the goals and objectives of the amended regional plan.
2. The general compatibility of the proposed facility with existing and proposed land uses in the vicinity.

The second of these factors is not intended to supercede or take the place of the land use compatibility determination ultimately made by TCEQ. TCEQ requires SETRPC to make some judgment, outside

that which may be made by its Commissioners, as to the appropriateness of the proposed facility in relation to surrounding land uses.

The types of information that will be considered related to general land use compatibility will include but may not be limited to:

- Compliance with applicable local zoning or siting ordinances in effect
- Character of and proximity to surrounding land uses
- Character of and proximity to surrounding cultural and environmental features
- Control measures for odors, noise, litter, and other nuisances
- Impact on local traffic patterns
- Visual impacts of the facility

Unless the property adjacent to the proposed facility site has been purchased, zoned, or platted for future development at the time the permit or registration application is submitted for review, the SWAC will not generally consider future growth patterns.

Although none are currently in place in the region, should any local or subregional solid waste management plans be officially adopted, conformance with those plans will need to be considered.

#### **CONFORMANCE REVIEW PROCEDURES**

MSW facility permit or registration applicants may request a regional plan conformance review by submitting the following packet of information to SETRPC:

1. Cover letter from an official representative of the applicant to the Executive Director of SETRPC requesting the regional plan conformance review. The cover letter should include contact information.
2. A completed SETRPC regional plan conformance checklist.
3. A copy of Parts 1 and 2 of the application materials submitted to TCEQ.
4. Any additional information the applicant wishes to provide.

Once the information packet from the applicant has been received, and it has been determined to be complete, the conformance review will be placed on the agenda of the next regular SWAC meeting, or a special SWAC meeting may be called. SETRPC will notify the applicant in writing at least seven days prior to the meeting. The applicant is highly encouraged to attend the SWAC meeting. The applicant and interested parties will be provided an opportunity to make comments (the SWAC may limit the length and number of comments). In addition, the SWAC reserves the right to solicit other input as it deems necessary or appropriate.

The SWAC will make a determination on the conformance of the application to the goals and objectives of the regional plan and general land use compatibility, and recommend a course of action to TCEQ. Again, the SWAC does not approve or deny applications; rather, it provides a means for TCEQ to obtain qualified opinions from local governments in the affected area. The SWAC will make one of the following determinations:

1. The application is in conformance and approval is recommended to TCEQ (in some cases, the SWAC may recommend conditional approval).
2. The application is not in conformance and denial is recommended to TCEQ.
3. The SWAC withholds final determination pending additional information or correction of deficiencies.

Within ten days of the SWAC's determination, SETRPC will notify TCEQ in writing regarding the determination, or that the applicant has requested an appeal. A copy of this correspondence will be provided to the applicant.

#### **APPEAL PROCESS**

As the SETRPC Executive Committee has delegated responsibility for consideration of solid waste management issues to the SWAC, the recommendations of the SWAC will generally be final. The only basis for an appeal is if the conformance review was not conducted in accordance with the above factors and procedures. The applicant must submit an appeal request, along with a detailed explanation, in writing to the SETRPC Executive Director within seven days of the SWAC's determination. The Executive Director will then investigate the matter, and within ten days of receipt of the request determine whether the appeal is valid.

If it is determined that the appeal is not valid, the Executive Director will notify the applicant accordingly in writing, and send a copy to the SWAC Chairman. The decision of the Executive Director is final. If it is determined that the appeal is valid, the Executive Director will place consideration of the matter on the agenda of the next meeting of the SETRPC Executive Committee, and notify the applicant and SWAC Chairman at least seven days prior to the meeting. The applicant, SWAC Chairman (or his designee), and interested parties will be provided an opportunity to make comments (the Executive Committee may limit the length and number of comments). The Executive Committee will then render a decision, which will be final.

Within seven days of the final outcome of the appeal process, SETRPC will notify TCEQ in writing regarding the outcome. A copy of this correspondence will be provided to the applicant.

### ***SIGNIFICANT FINDINGS***

Based on the changing priorities and current needs of the region, a revised set of goals and objectives needed be developed to guide solid waste management efforts in the region. The objectives, ordered in short-term, mid-term, and long-term planning periods, serve as the revised action plan for implementation. Several objectives should be addressed within the next five years. Accomplishment of these short-term actions should be the emphasis of the regional solid waste grants program at this time.

In addition to maintaining the regional solid waste management plan and administering the regional solid waste grants program, SETRPC is charged with providing ongoing coordination for general solid waste management planning and activities in the region.

The siting of new facilities is not expected to be an important issue in the South East Texas region. However, in accordance with recent instruction from TCEQ, SETRPC has established a set of factors and procedures for review of MSW facility permits and registrations for conformance with the goals and objectives of the amended regional plan and general land use compatibility.

## APPENDIX A

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### SOUTH EAST TEXAS REGIONAL PLANNING COMMISSION SOLID WASTE MANAGEMENT PLAN AMENDMENT

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## APPENDIX A

### REVIEW OF EXISTING GOALS AND RECOMMENDED ACTIONS

In July, 2002, a summary of the plan and list of questions to be answered was prepared for a SWAC meeting by SWT. The goal of this meeting was to interpret the plan in light of current solid waste management practices in the region and determine what could be eliminated, retained, and/or modified for the amended plan.

In general, the plan:

- Characterized the existing solid waste management systems in the region as of the early 1990s
- Outlined waste management methods and technologies available as of the early 1990s
- Assessed the region's perceived solid waste management needs at that time, and evaluated alternative solid waste management options and priorities to meet these needs
- Made specific recommendations, goals, and actions to be taken over the twenty-year period beginning in late 1992

The plan (page ES-3) found that:

“Potential problems and/or opportunities exist in the areas of landfill space, recycling and composting efforts, solid waste transportation activities, illegal dumping, lack of communication, and lack of funds.”

It was felt that:

“The application of solid waste management methods such as source reduction and minimization, and recycling must be encouraged and practiced by the citizens of the region in order to lessen the quantity of waste being deposited at the region's landfills...”

## GOALS

The plan had nine goals established and listed in priority by the SWAC. They were:

**GOAL 1: Establishment of Recycling/Waste Minimization Programs Which Meet the Requirements Outlined in Senate Bill 1340** – “Specific recycling minimization goals are established through 1997, at which point each of the three counties should have attained a 40% reduction.” This goal had one objective and eleven recommended actions.

- The SWAC agreed that recycling and waste minimization should still be a goal, but should be viewed as waste *diversion* and not be the top priority in the amended plan. The 40% reduction was too ambitious and did not include green waste that could be chipped and/or composted. Currently, because of the long growing season and abundant rainfall in the region, approximately 25% of residential MSW is green waste. SETRPC estimates the region recycles about 11% of its waste excluding green waste. Specific recycling/minimization goals were not deemed practicable by the SWAC.
- In addition, curbside recycling is no longer available in SETRPC communities to the degree it was a few years ago. The consensus was it didn't work, there were no markets, and participation rates were very poor. Pinehurst still offers curbside recycling for \$1.80

per month, and BFI continues to provide the service for a price billed independent of the City. There is only one drop-off center and one buy-back facility (Beaumont) in the region. Basically the private sector, through “mom and pop” businesses, is doing most of the recycling in the region today.

**GOAL 2: Elimination of Illegal Dumping** – “Improve enforcement and expand opportunities for disposal to help eliminate illegal dumping.” This goal had one objective and four recommended actions.

- The SWAC agrees that, overall, the Southeast Texas region is doing a “good job” of dealing with littering and illegal dumping. Expansions of existing landfills will help “expand opportunities for disposal...” thus decreasing the motivation for illegal dumping. However, illegal dumping can be a problem in any part of the region. Hardin and Orange counties have grant-funded programs in place, but elimination of illegal dumping is unrealistic. A goal addressing illegal dumping needs to be retained in the amended plan, but the wording will be changed to read: *Control of Illegal Dumping*.

**GOAL 3: Coordination within the Southeast Texas Region** – “SETRPC must communicate and cooperate to implement the programs of this plan effectively and efficiently.” The plan under this goal had one objective and three recommended actions.

- The SWAC feels that SETRPC does a good job of coordination, but cities that have privatized their waste services are reluctant to participate in waste management planning at the regional level. In fact, privatization may be one of the most serious concerns regarding regional coordination and cooperation. This could become an even greater concern as more communities privatize. Currently, waste collection and disposal in Beaumont, the City of Port Arthur, Vidor, Pinehurst, Nederland, Groves (the mid-county cities), and Port Neches are still public. All the cities in Hardin and Orange counties have privatized.
- The SWAC wants to add an objective to the amended plan to encourage the private sector and privatized cities to participate to a greater extent in waste management issues and SWAC meetings.

**GOAL 4: Identify and Develop Markets for Recyclable Materials** – “The region must help identify markets for recyclable materials.” This goal had one objective and three recommended actions.

- The SWAC feels the wording of this goal should be changed to reflect the current reality in the region, of recycling market development that relies on the private sector. In the amended plan this goal will be changed to: *Help Identify Markets for Recyclable Materials*.

**GOAL 5: Identify Funding Sources and Grants for the Southeast Texas Region** – “Funding sources and grants should be identified for SETRPC for implementation of the solid waste management programs identified in this plan.” This goal had one objective and one recommended action.

- The SWAC feels that this goal should be reworded for the amended plan. Annual plan review works best for small COGs like SETRPC rather than a four-year review process. It is more cost-effective, and waste management is a dynamic, ever-changing process.



This goal will be rewritten to state that *while the vision should be for four to five years, the SWAC must look at projects for grant funding each and every year.*

**GOAL 6: Identify, Develop, and Review Cost Effective Waste Disposal Options** – “The region should continually evaluate and review new and proven technologies for the disposal of waste within the region.” This goal had one objective and three recommended actions.

- This goal will be retained in the amended plan as written.

**GOAL 7: Continue Private/Public Relationship** – “A cooperative relationship between public and private sectors must be continued.” This goal had one objective and one recommended action.

- The SWAC feels this goal should be retained in the amended plan but strengthened to reflect the concern with privatization of collection and disposal in the region. The new goal is: *A cooperative relationship between public and private sectors must be continued and improved.*

**GOAL 8: Seek Support from State/Federal Officials** – “State and federal officials should be contacted and their support sought with regards to the costs and the relative environmental impacts that the various waste reduction and disposal legislation will have on the communities.” This goal had one objective and one recommended action for the establishment of a “lobbying group.”

- The current SWAC feels this goal should be retained in the amended plan but with the understanding that SETRPC cannot lobby for legislation.

**GOAL 9: Revise Recycling Reporting Requirements** – “A program should be established to work with TCEQ to revise the reporting requirements for the recycling rates.” This goal had one objective and one recommended action.

- The SWAC feels this goal is no longer relevant and should be removed from the amended plan.

## RECOMMENDED ACTIONS

The plan summarized all the recommended actions and categorized them into current, short-term (one to five years), mid-term (six to ten years) and long-term (11-20 years) timeframes. The SWAC discussed these recommended actions and decided on either saving, deleting, or modifying them on an individual recommendation basis. Following is a summary of the SWAC’s findings.

### SUMMARY OF FIRST-YEAR RECOMMENDED ACTIONS

**Recommended First-Year Actions in 1992 Plan:** “Landfill upgrading, recycling, education, yard waste diversion, composting, market development and community cooperation are the immediate issues to be addressed in the region.”

- The SWAC feels that some changes to these actions are necessary to better reflect the region’s solid waste management practices and issues in 2002. “Landfill upgrading” remains the most relevant recommendation for the region. The recently requested expansions for the City of Beaumont landfill and the City of Port Arthur landfill are examples of landfill upgrading actions required to fulfill the region’s solid waste disposal needs. Also, the failure to attain the old plan’s recycling goals, including market

development, and the current emphasis on waste diversion requires that the above action statement needs to be rewritten for the amended plan.

**Recommended First-Year Actions in Amended 2002 Plan:** *Landfill upgrading, waste reduction and diversion including composting, incineration, and education are immediate issues to be addressed by the communities in the region.*

#### **SUMMARY OF SHORT-TERM RECOMMENDED ACTIONS**

**Recommended Short-term Actions in 1992 Plan (1992 to 1996):** “Detailed disposal plans, solid waste management plan updates, securing grants, recycling plans, facility siting and costing, and composting are short-term issues to be addressed during years one through five.”

- The SWAC agreed that currently “detailed disposal plans” are ongoing and using annual action plans are better than employing a singular review for multiple years during the one-to-five-year timeframe. Since facility siting is not an issue in the Southeast Texas region, remove “facility siting” and change to “facility improvements.” Siting is only relevant for transfer stations, incineration facilities, etc. The short-term action plan is rewritten to reflect these changes.

**Recommended Short-term Actions in Amended 2002 Plan (2002 to 2006):** Detailed disposal plans, annual solid waste management plan updates, securing grants, waste reduction and diversion procedures including composting, incineration, control of illegal dumping, and existing landfill improvements are all issues to be addressed in the short term.

#### **SUMMARY OF MID-TERM RECOMMENDED ACTIONS**

**Recommended Mid-term Actions in 1992 Plan (1997 to 2001):** “New landfill siting and solid waste management plan evaluation are issues to be addressed during years six through ten.”

- With the expansions of the Beaumont and Port Arthur landfills, new landfill siting will not be an issue as the region will have adequate disposal capacity for the mid-term and perhaps long-term planning periods. Therefore this action statement will be rewritten to focus on capacity and moved to the long-term planning time frame in the amended plan. *Adequate remaining landfill capacity is the most important issue to be addressed in the long term. The region must consistently look ahead to insure that capacity does not drop below 15 years.*

**Recommended Mid-term Actions in Amended 2002 Plan (2007 –2011):** New mid-term actions will be discussed in the amended plan.

#### **SUMMARY OF LONG-TERM RECOMMENDED ACTIONS**

**Recommended Long-term Actions in 1992 Plan (2002 – 2011):** “The Solid Waste Management Plan should be reevaluated and updated, and new disposal options should be evaluated.”

- The original mid-term action will be rewritten as a long-term action for the amended plan

**Recommended Long-Term Actions in Amended 2002 Plan (2012 – 2021):** *Adequate remaining landfill capacity is the most important issue to be addressed in the long term. The region must consistently look ahead to insure that capacity does not drop below 15 years.*



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## APPENDIX B

### SOUTH EAST TEXAS REGIONAL PLANNING COMMISSION SOLID WASTE MANAGEMENT PLAN AMENDMENT

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## APPENDIX B

### BACKGROUND ON THE ISSUE OF FACILITY SITING AND LAND USE COMPATIBILITY

The TCEQ Commissioners and Executive Director provided direction in January, 2003 that the COGs need to address the issue of, and develop a structured procedure for, identifying those factors relevant to determining whether an application for a proposed MSW facility permit or registration conforms to the amended regional plan, particularly its goals and objectives. TCEQ previously released a “discussion paper” entitled *Defining the Role of Regional and Local Solid Waste Plans in Municipal Solid Waste Permitting Decisions*. The paper summarized TCEQ internal input and legal opinions on this issue, and discussed issues specific to local solid waste management plans. The discussion paper also summarized “external” input from different COGs and from the Texas Association of Regional Councils (TARC) Solid Waste Planners Association Conformance Subcommittee.

Much of the following is extracted from this discussion paper to provide the reader a sound background on a sensitive issue. In addition, some counties in Texas have developed, or are developing, position statements and policies on land use and/or performance criteria considerations in evaluating the siting and permitting of new MSW facilities.

Based on statutory and regulatory provisions in Chapters 330 and 363 of the Texas Annotated Code [330.51(b)(10), 330.53(b)(8), 330.563(a)(3), 330.566, 330.566(e), 363.022(b)(3) and 363.066], TCEQ has authority to establish a process for how a permit application’s conformance with the amended plan will be determined at the COG level. For the most part, the COGs have historically exhibited a reluctance to respond to the concept of their reviewing permit applications for conformance with the regional plans, especially in relationship to land use compatibility issues. Some COGs do not feel they have the technical expertise, staff, or funds to implement and conduct a proper review. In addition, there is a concern that COG review of a permit application might arouse resentment by municipalities or counties as well as cause conflicts with private sector providers. Some COGs have pointed out that TCEQ already reviews these factors and has a public participation phase in the permitting process.

Nevertheless, TCEQ expects the amended regional plans to include information on the appropriate factors for the COGs to use to consider MSW permit application conformance to their amended plans. Factors should include compatibility of land use, zoning in the vicinity, community growth patterns and other factors associated with the public’s interest. It is expected that the COGs develop a checklist on land use compatibility considerations, performance-based factors, or both, for their review of permit applications. Other checklist considerations could include mitigation issues, consideration of surrounding land uses, height and screening, noise, odor, traffic, and “vested rights.” Also to be considered would be any information needed for the COG review and when the review should take place – typically suggested to be early in the permitting process.

#### TARC SUBCOMMITTEE REVIEW

In April, 2002, the Solid Waste Planner’s Association Subcommittee, meeting at the North Central Texas COG (NCTCOG), discussed three options to deal with permit application conformance:

1. *Use Region-Based Land Use Factors.* The COG should establish a system of land use considerations and/or other criteria such as operator history. The application would be reviewed by a region’s SWAC after Parts 1 and 2 of the permit application had been

completed. If the SWAC was not satisfied with the application after this review, it could recommend that TCEQ conduct a “land use only” hearing on the application.

2. *Use Region-Based Performance Factors.* The COG should construct a checklist of its regional goals and objectives. Applicants would then have to measure their application against the goals and objectives of the regional plan and indicate how their proposal is in conformance with the plan. The review would come after Parts 1 and 1 of the permit application had been completed and SWAC comments would then be forwarded to the COG’s governing board for their concurrence, and then on to TCEQ.
3. *Use a “Limit Switch” Approach.* The COG should develop a list of “limit” factors such as the type of facility, the size of the facility, its location, etc. If one or more of these factors were activated, it would trigger the need for a pre-application review. Presently the pre-application process is voluntary and rarely used.

Of the three options discussed by the subcommittee, Option #2 was the most favored because it was consistent with TCEQ permit application rules. Also, the applicant is responsible for measuring the proposed facility against the goals and objectives of the regional plan, which is an intended use of the plan. The subcommittee felt that Option #1 would be treading into a political minefield, particularly with respect to the private sector. Option #3 was the least defined but merited further review.

## **OPINIONS OF SELECTED COGS**

Following were the opinions of selected COGs at the time of the TARC subcommittee’s conclusion:

The Rio Grande Valley COG agreed with the TARC subcommittee’s conclusion that regional performance factors related directly to the goals and objectives of the regional plan were the most straightforward measure of a permit application’s conformance. To this end, they planned on developing a checklist of the plan’s goals and objectives, and the prospective permit applicant would need to demonstrate how the proposed facility either facilitates, does not facilitate, or has no effect on implementing each goal and objective. The SWAC would respond that the permit application either conforms, conforms with comments, or does not conform. Their comments would then be forwarded to the COG Board of Directors and finally, on to TCEQ.

The Texoma Council of Governments (TCOG) SWAC also agreed that the conformance factors should be addressed in the goals and objectives of the amended plans as performance-based objectives rather than specific criteria for each proposed facility.

The Ark-Tex Council of Governments SWAC felt that its judging the “technical” aspects of compatibility of land use would likely be a political “hot potato.” They preferred a process of conformance evaluations against the goals and objectives of the regional plan.

The SETRPC SWAC did not desire to develop performance-based conformance standards. The SWAC members felt that a review of permit applications enabled the region to be cognizant of the project and its possible impact on the goals and objectives of the regional plan.

The Panhandle Regional Planning Commission (PRPC) developed the following procedures to address the conformance issue:

- Timing – The conformance review would take place after Parts 1 and 2 of the filing forms have been completed.
- Additional Information Required – The applicant would be required to submit a completed Panhandle Regional Solid Waste Plan Conformance Checklist.
- PRPC’s Conformance Considerations
  - The information provided in the checklist.
  - The general compatibility of the proposed facility to existing surrounding land uses. The types of information that would be considered with regard to general land use compatibility would include but not be limited to:
    - The proposed fill height and how it would eventually impact the existing appearance of the surrounding area.
    - If the proposed facility were within an area covered by a set of local zoning requirements, the applicant would need to demonstrate that the proposed facility would be in conformance with those zoning standards.
    - How the proposed facility would impact existing traffic patterns in and adjacent to the proposed facility, unless the property adjacent to the proposed facility site had been purchased, zoned and/or platted for future development at the time the permit application was submitted for review; PRPC would generally not consider future growth patterns as a factor of the conformance review.
- Review Findings – The COG could consider four possible outcomes when determining the conformance of a proposed facility to the regional solid waste plan:
  - Additional information is required before a final recommendation can be rendered.
  - The application conforms to the plan prompting a recommendation to TCEQ that the application be approved as presented.
  - The application does not conform to the plan. The SWAC must cite the areas where the non-conformance occurs, prompting a recommendation to TCEQ that the permit registration not be granted until the noted deficiencies are corrected.
  - The proposed site is incompatible with existing surrounding land use, prompting a recommendation to TCEQ that a land use compatibility hearing be held before the granting of the permit is considered.

PRPC stated that the review would not be an application approval or disapproval process, but that it would merely be a means by which the SWAC could voice its qualified opinion of how the proposed facility conformed to the regional solid waste management plan to the body that would eventually approve or disapprove the application.

## **EXISTING AND PROPOSED ORDINANCES OF SELECTED COUNTIES**

The siting of solid waste facilities and land use compatibility are definitely concerns in all regions of the state, and several counties in Texas have addressed this issue with the force of law by drafting ordinances prohibiting facility siting in certain areas and under certain conditions.

### ***Chambers County***

In 1998, Chambers County held a public hearing to discuss an ordinance prohibiting solid waste disposal in areas of the county that might contaminate a public water supply or be otherwise potentially harmful to the health, safety, and welfare of the county’s citizens. Chambers County had two permitted active municipal landfills and one permitted active industrial landfill, and at that time

had obtained permits for the construction and operation of an incinerator waste disposal facility that is now operational. The County Commissioners felt that further development or establishment of landfills would constitute unacceptable risks to public health, safety, and welfare, and negatively influence property values. They felt that present technology could not ensure that sites would not contaminate, spoil, and pollute areas surrounding and distant to said disposal sites. The Commissioners Court also found that the soils of Chambers County were subject to expansion and contraction and active soft-sediment faulting, and that certain valuable water bodies were very vulnerable to pollution. Existing and new sites posed unacceptable risks of contamination of the public's drinking water due to the county's soil conditions and ground nature. The draft ordinance designated six areas in the county as possible landfill sites. Some of Commissioners' concerns are technical in nature, and probably such considerations should be left to TCEQ for review.

### ***Fort Bend County***

In January, 2002, Fort Bend County issued an order prohibiting solid waste disposal in the county except in seven designated areas. The Commissioners Court felt that further development or establishment of landfills in other areas of the county would constitute an unacceptable risk and threat to public health, safety, and welfare, negatively influence property values, and hamper economic development. Brazoria County drafted a similar ordinance designating seven areas as solid waste disposal sites.

### ***Travis County***

Travis County is currently crafting an ordinance that states solid waste facilities may subject nearby residents to exposure to pollutants through direct contact with contaminated soil or water, airborne transport or disease vectors. The ordinance goes on to state that traffic, trash, odors, vermin, unsightliness and other undesirable byproducts of solid waste facilities adversely impact adjacent land and environmental resources, and make such facilities an incompatible use of land in close proximity to lakes and streams, suburban and rural residences and neighborhoods, parks and recreational areas, nature or wildlife preserves, historically significant places, airports, and other land features and uses. In addition solid waste facilities impair the character and quality of life in the county's rural and suburban neighborhoods.

Travis County's growing population is creating siting conflicts by simultaneously creating a demand in unincorporated areas for solid waste facilities, suburban and rural residences, neighborhoods and/or other competing land uses. The draft ordinance points out that TCEQ approves solid waste facilities almost solely based on design and other engineering-related criteria and gives very limited consideration to land use impacts. It notes that the Texas Health and Safety Code authorizes local governments to adopt rules for regulating solid waste management, including authorizing counties to designate areas where certain solid waste facilities may and may not be located. Section 62.003 of the proposed Travis County Ordinance lists siting criteria. For example, all solid waste management or disposal facilities shall be located in an area greater than 1,500 feet away from:

- Public or private drinking water supply well
- Public or private primary or secondary school
- Church, synagogue, or other place of worship
- Hospital, convalescent facility, nursing home, or health care facility
- Public or private park, scientific area, or wildlife or nature preserve
- Officially designated historic site or archaeological landmark
- Any residence (including a single-family dwelling unit, duplex, or fourplex, manufactured home, or mobile home), unless the owner gives prior written consent



All MSW facilities shall be located in an area greater than 500 feet outside the boundary of any 100-year floodplain. If the facility will manage or dispose of putrescible waste it must be located greater than 10,000 feet from the runway ends of any airport at which jet aircraft take off or land. MSW facilities must be located in areas with access via roads that can accommodate trucks having single axle loads of 20,000 pounds, trucks with tandem axle loads of 34,000 pounds and trucks with gross weights of 80,000 pounds. MSW facilities, other than recycling facilities for paper, plastic and metal, and transfer stations, must be located:

- Greater than 500 feet from the recharge zone of the Colorado River Alluvial Aquifer
- Outside the recharge and contributing zones of the Barton Springs and Northern segments of the Edwards and Trinity aquifers
- Greater than 3,000 feet from Lake Travis, Lake Austin, or any other surface drinking water reservoir
- Greater than one mile from any manufactured or mobile home development, apartment or condominium complex, subdivision, or neighborhood having nine or more residences and an overall average density of one residence per acre or more.

The reader should be cautioned that wherein some of these concerns are technical in nature, it is debatable that such considerations should probably remain a part of TCEQ's review process.

## APPENDIX C

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### SOUTH EAST TEXAS REGIONAL PLANNING COMMISSION SOLID WASTE MANAGEMENT PLAN AMENDMENT

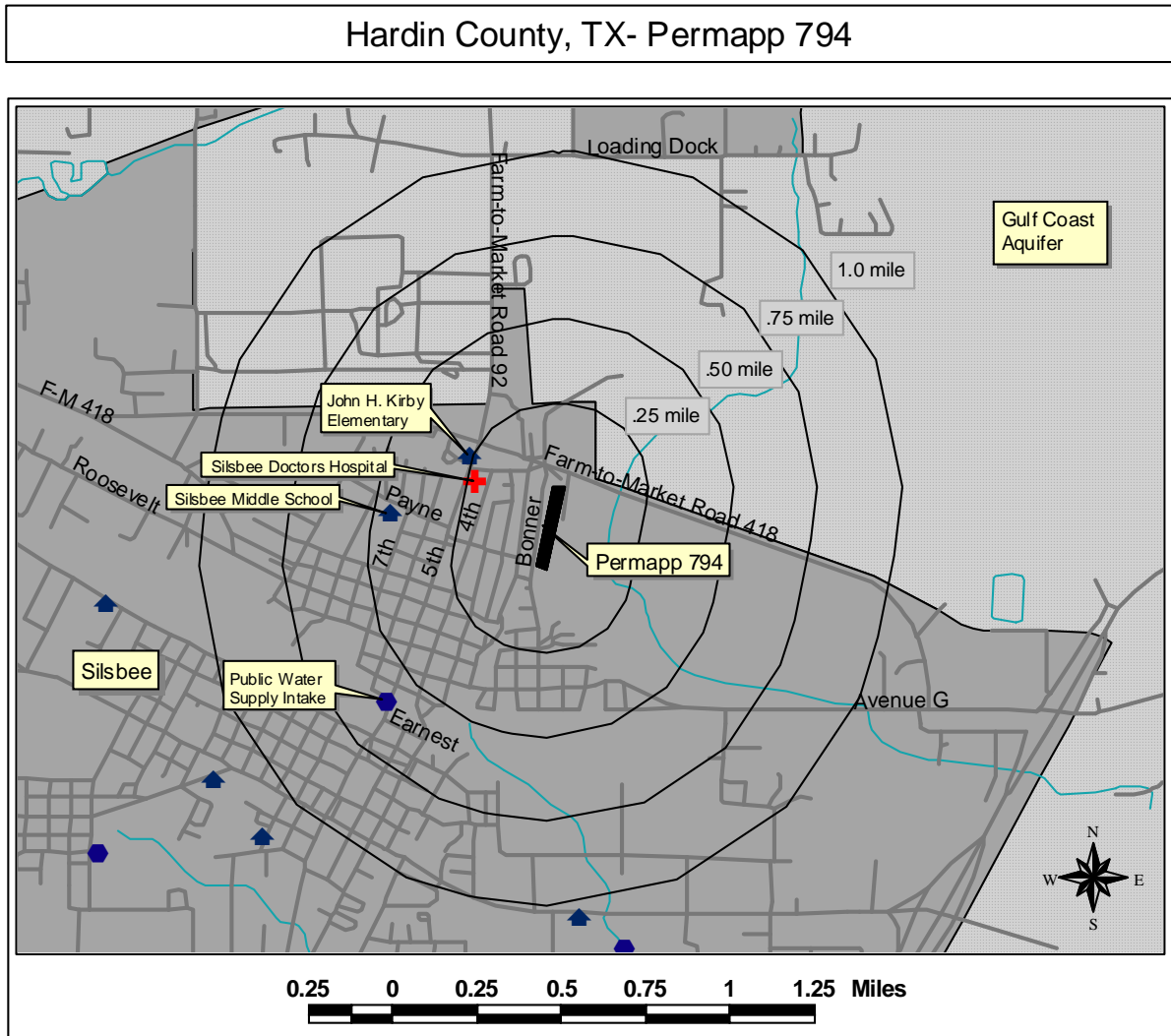
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## **APPENDIX C**

### **CLOSED LANDFILL RISK ASSESSMENT MAPS**

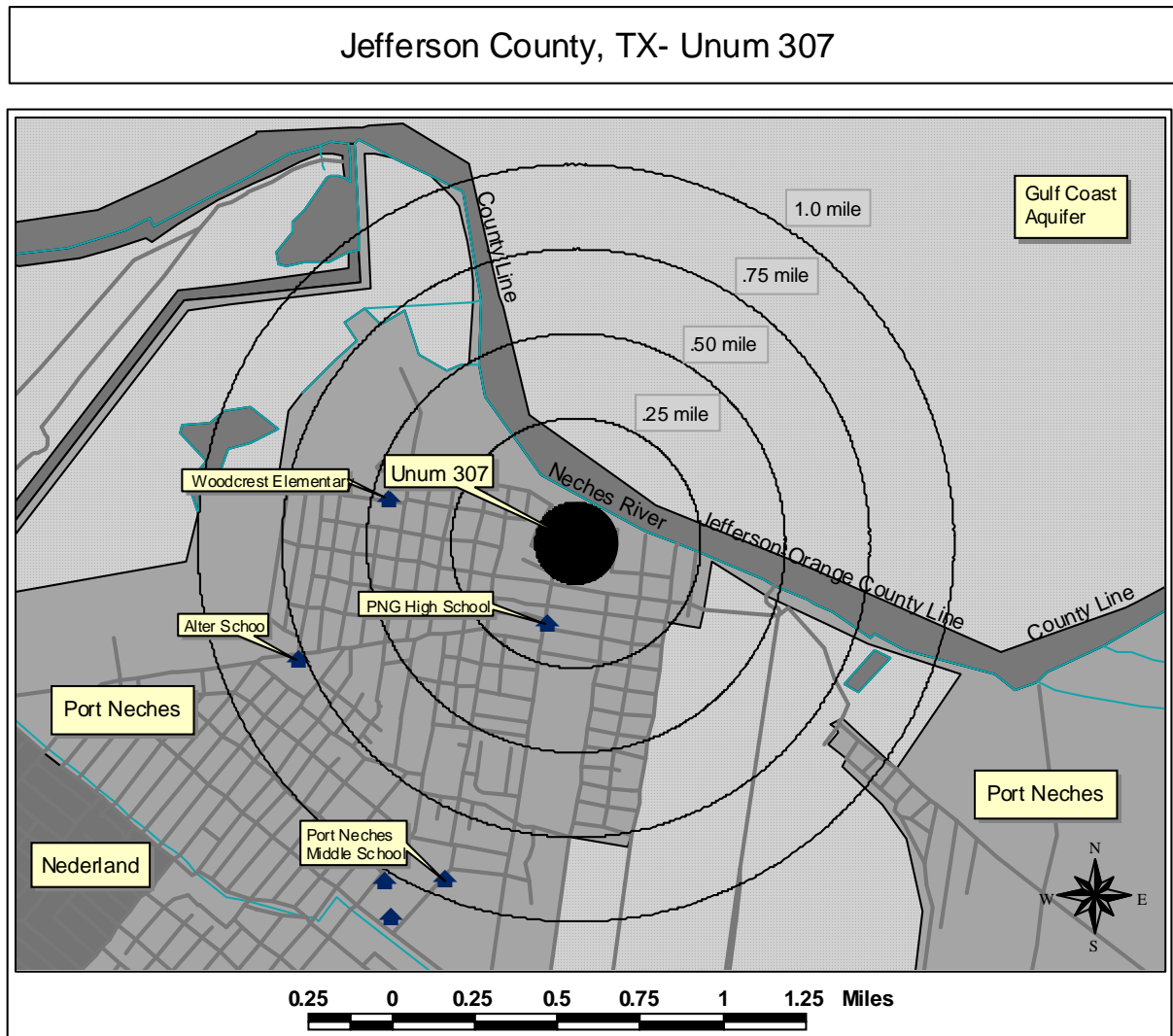
A description of the Closed Landfill Risk Assessment is included in Chapter Four. Following are maps of 14 closed landfill sites that, based on assessment of risk, may warrant further investigation. (A set of datasheets and maps for the completed Closed Landfill Inventory can be found in Volume II of this amended plan. Supporting documentation for each site can be found in the CLI notebooks at the COG office in Beaumont.)

**Figure C.1 – PERMAPP 794 - Hardin County**



**Disclaimer:**  
 This map was prepared by the Southwest Texas State University Solid Waste Planning and Management Team for the South East Texas Regional Planning Commission in response to the provisions of Section 363.064, Texas Health and Safety Code, as part of the development of the SETRPC Amended Regional Solid Waste Management Plan. Closed landfill unit locations and boundaries are based on the Closed Landfill Inventory for Hardin, Jefferson, and Orange Counties, July 2001, produced by the South East Texas Regional Planning Commission. No claims are made as to the positional accuracy or completeness of the data or to its suitability for a particular purpose. This map is not intended to influence the sale or purchase of real property. Additional information pertaining to this closed landfill site may be obtained at the office of the South East Texas Regional Planning Commission, Beaumont, Texas.

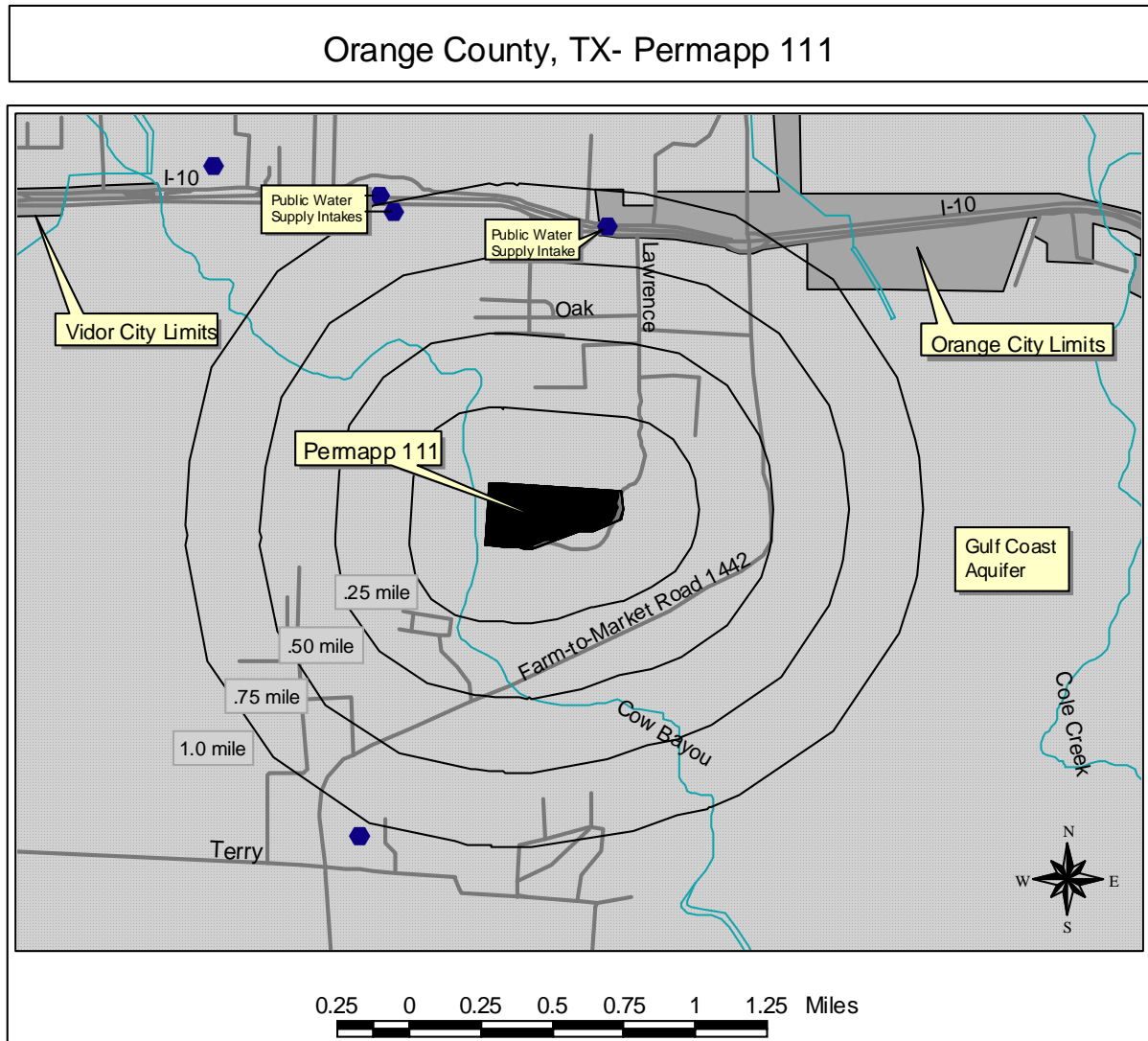
**Figure C.2 – UNUM 307 - Jefferson County**



**Disclaimer:**

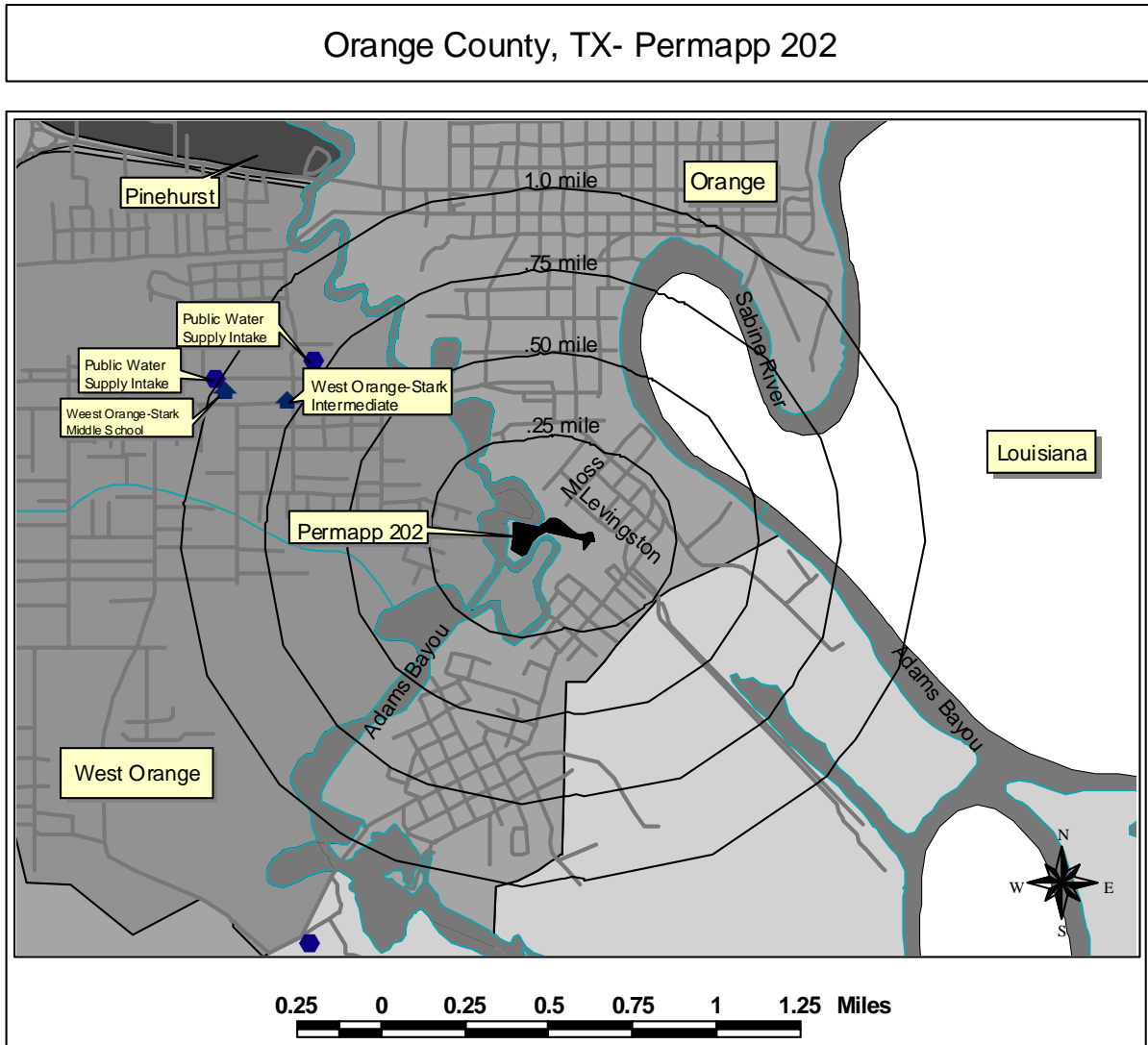
This map was prepared by the Southwest Texas State University Solid Waste Planning and Management Team for the South East Texas Regional Planning Commission in response to the provisions of Section 363.064, Texas Health and Safety Code, as part of the development of the SETRPC Amended Regional Solid Waste Management Plan. Closed landfill unit locations and boundaries are based on the Closed Landfill Inventory for Hardin, Jefferson, and Orange Counties, July 2001, produced by the South East Texas Regional Planning Commission. No claims are made as to the positional accuracy or completeness of the data or to its suitability for a particular purpose. This map is not intended to influence the sale or purchase of real property. Additional information pertaining to this closed landfill site may be obtained at the office of the South East Texas Regional Planning Commission, Beaumont, Texas.

**Figure C.3 – PERMAPP 111 - Orange County**



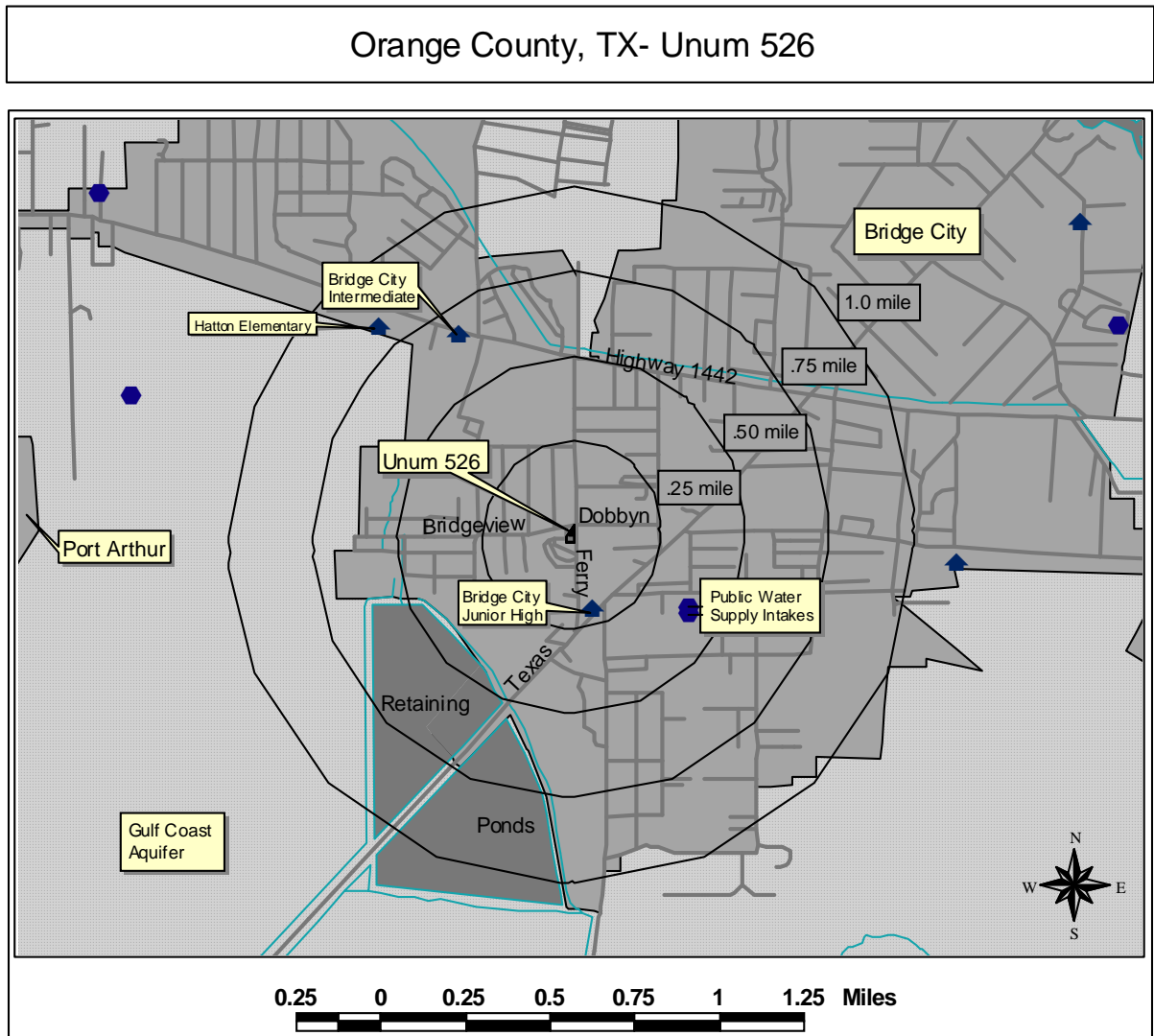
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**Figure C.4 – PERMAPP 202 - Orange County**



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**Figure C.5 – UNUM 526 – Orange County**

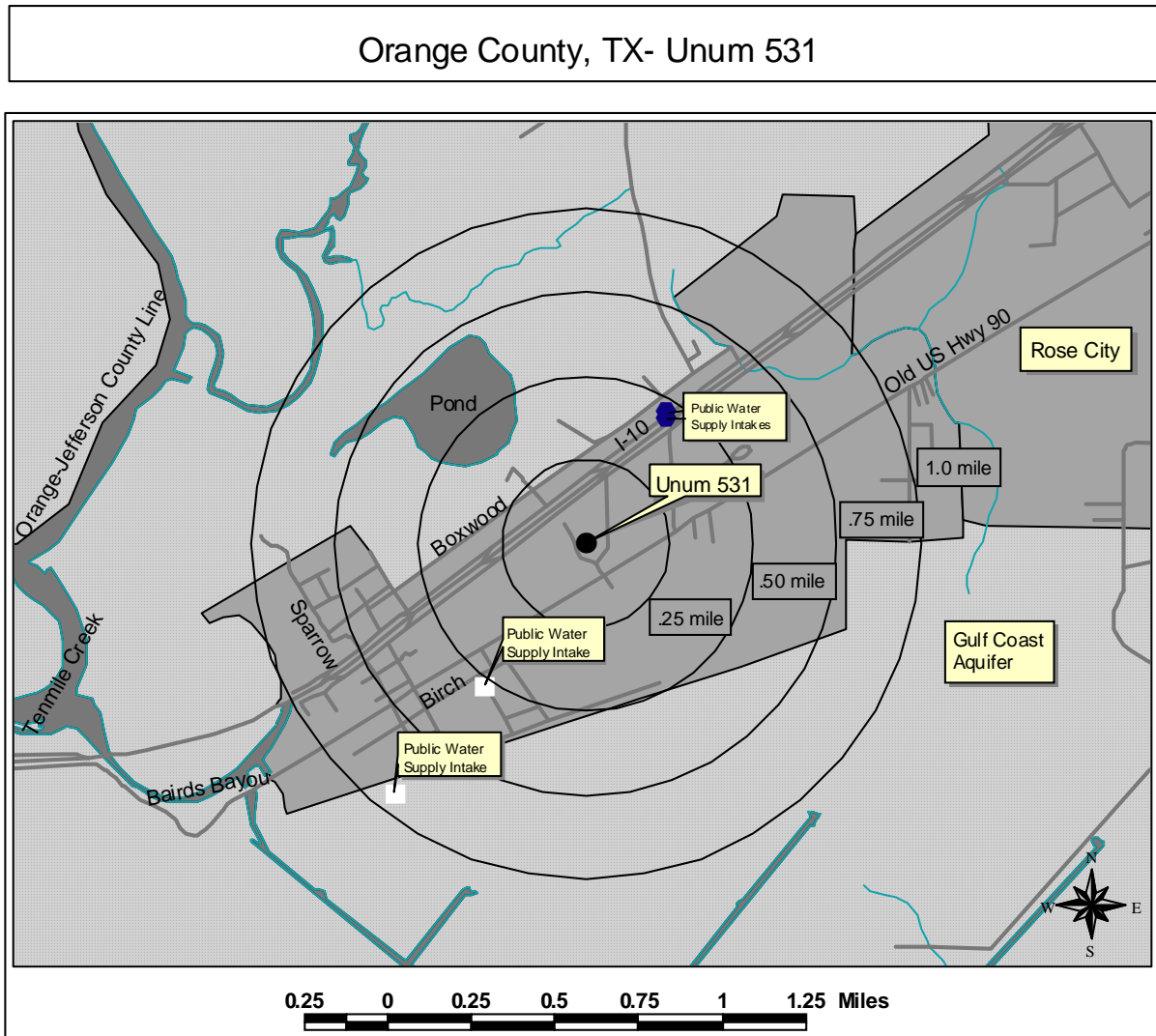


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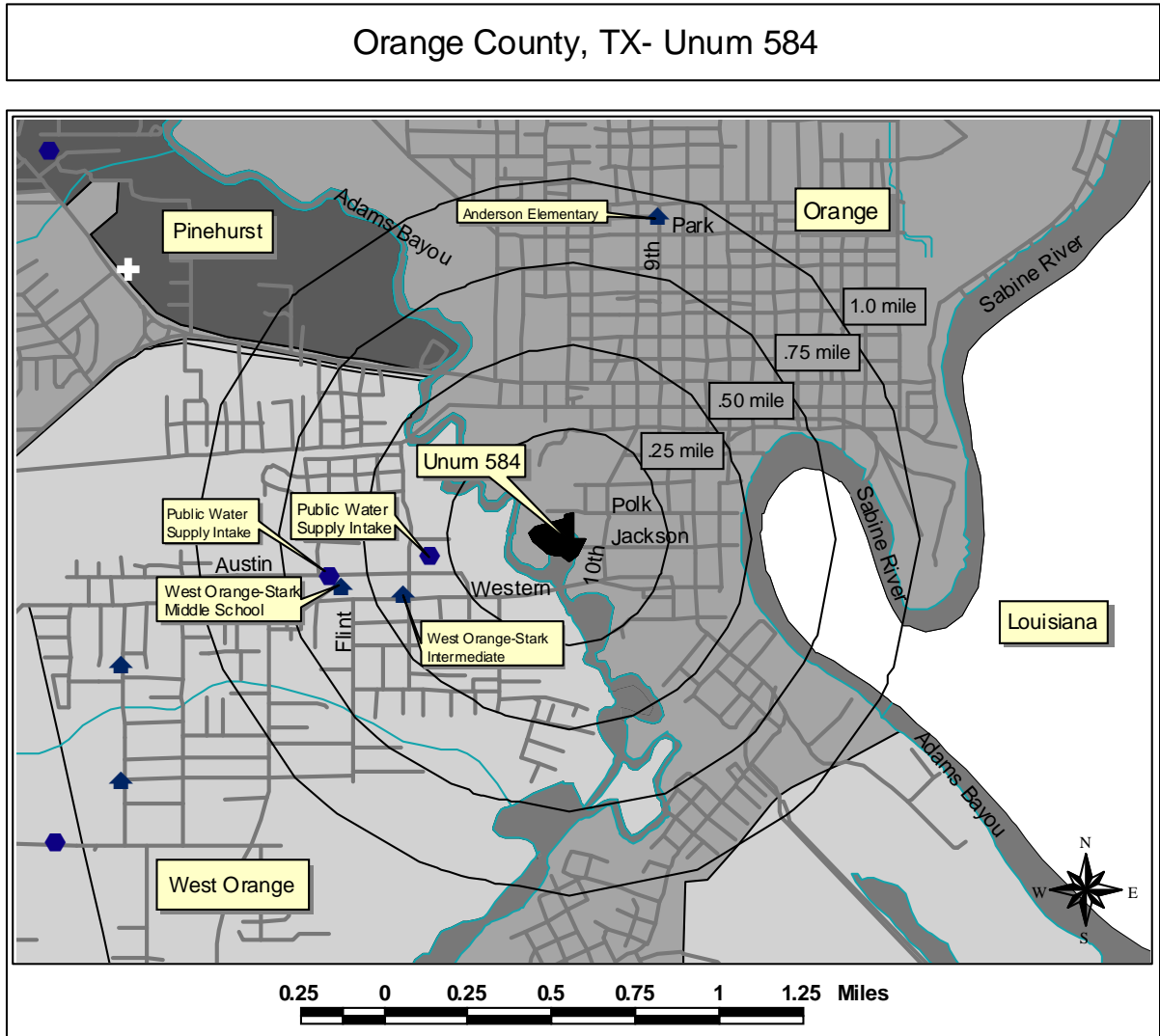
**Figure C.6 – UNUM 531 – Orange County**



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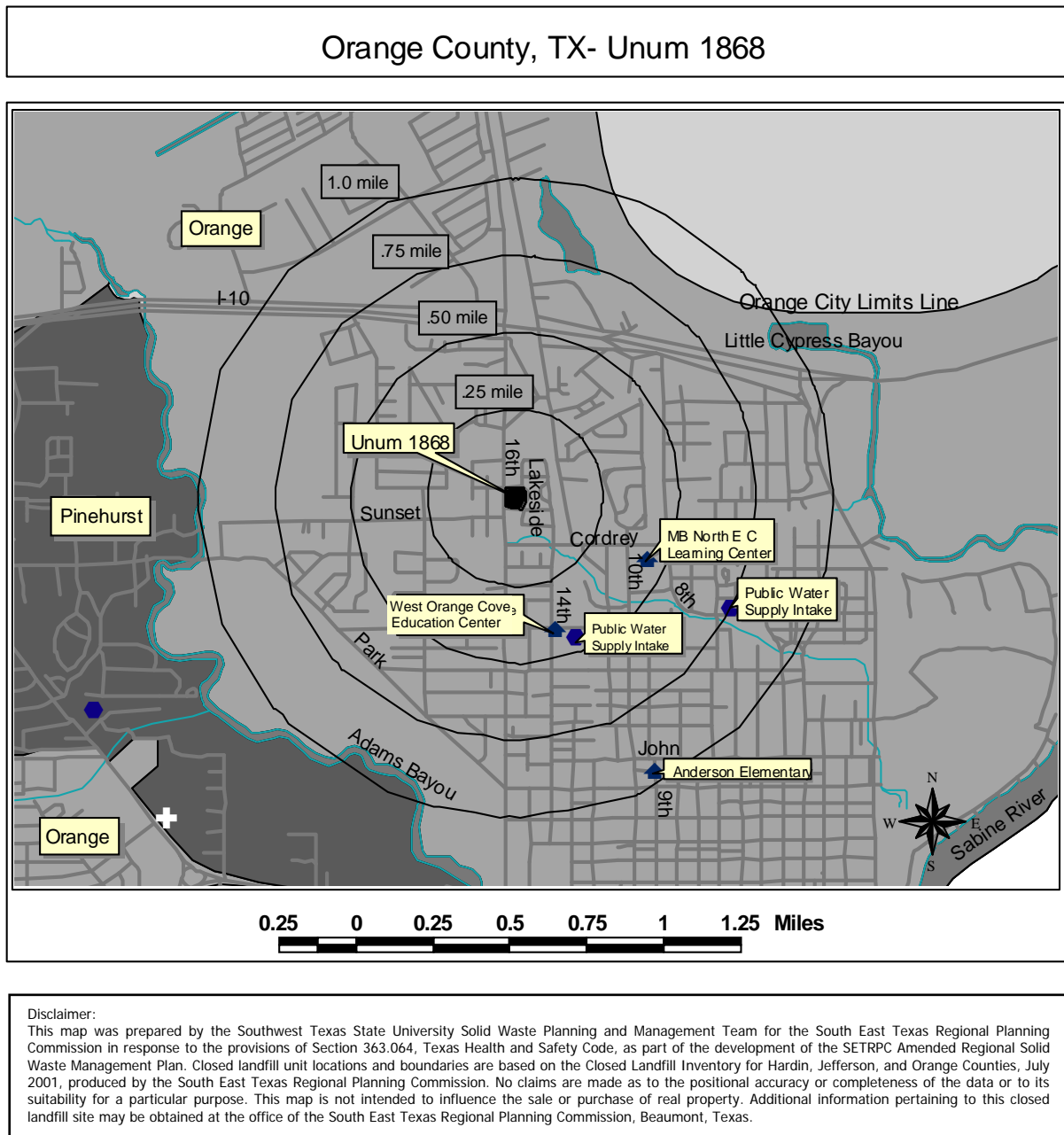
Figure C.7 – UNUM 584 – Orange County



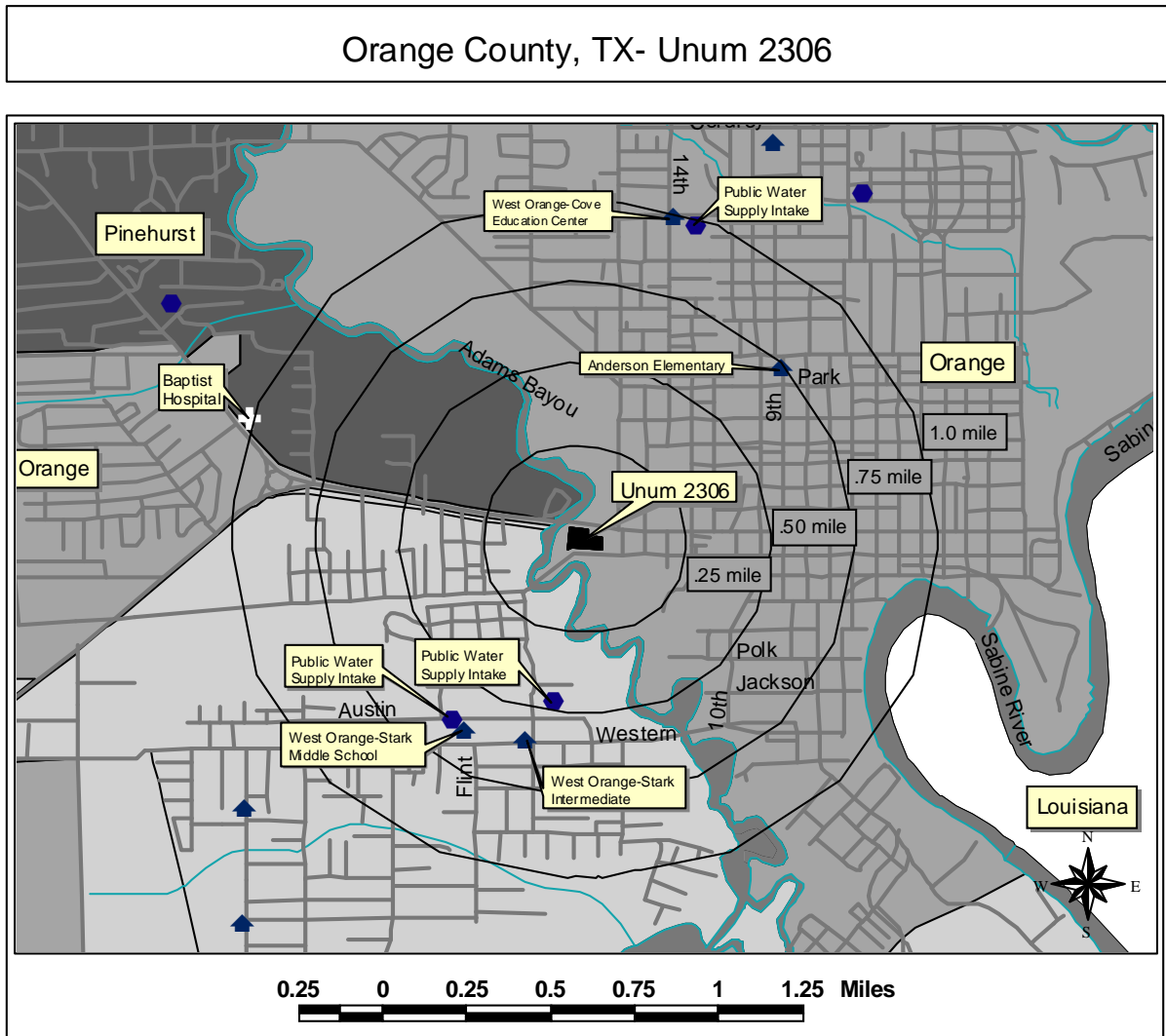
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**Figure C.8 – UNUM 1868 – Orange County**

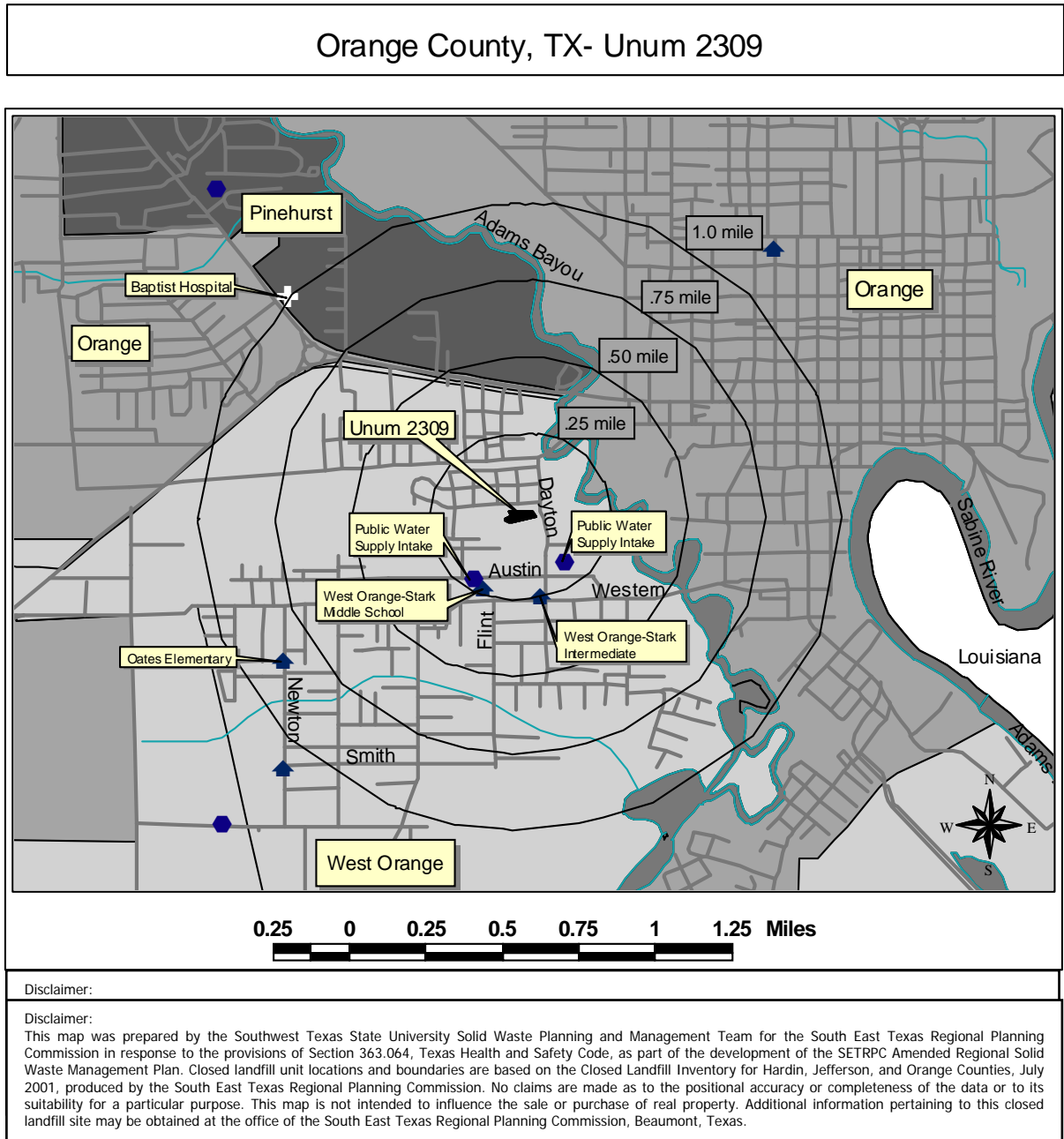


**Figure C.9 UNUM 2306 – Orange County**

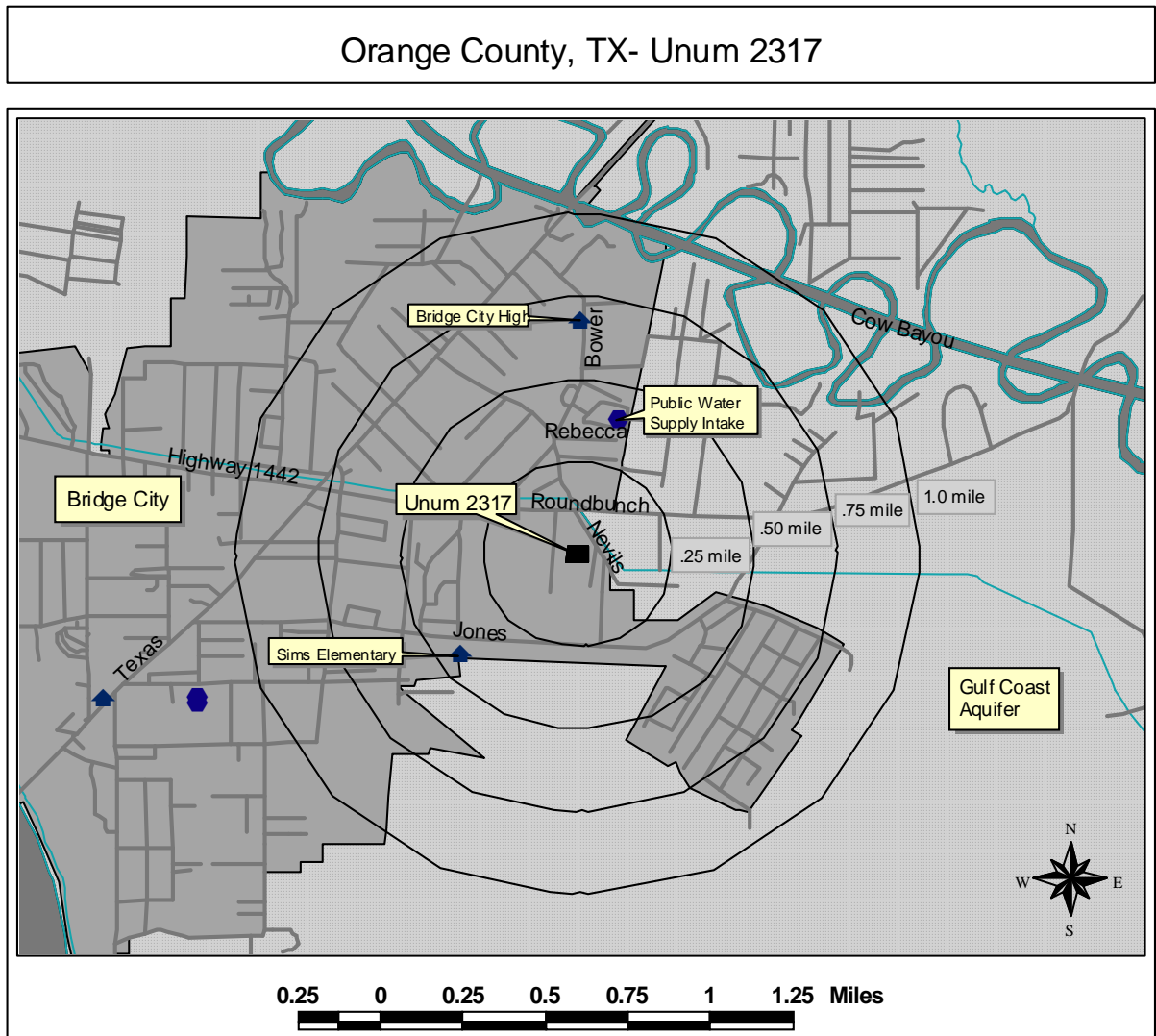


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Figure C.11 UNUM 2309 – Orange County

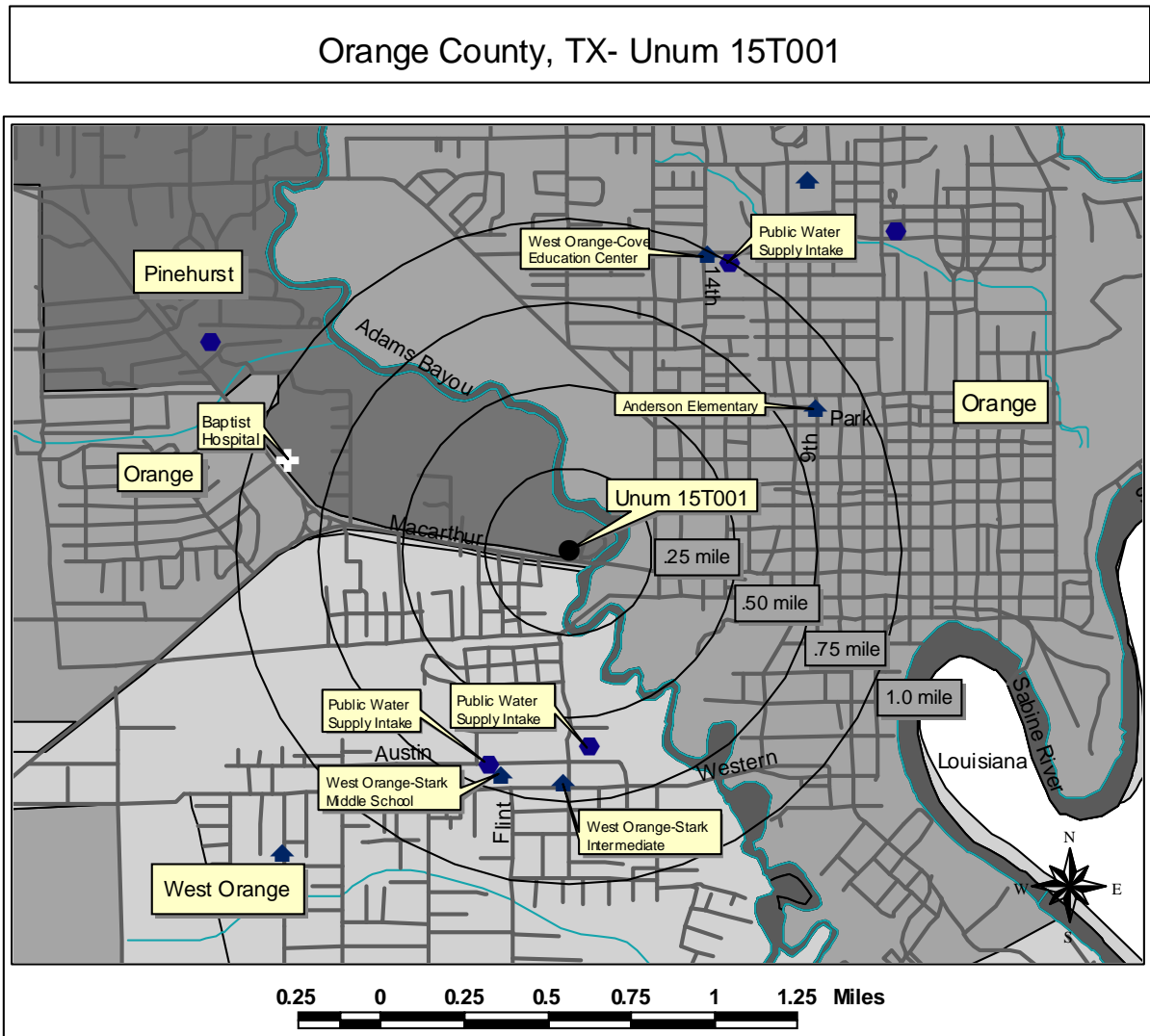


**Figure C.12 UNUM 2317 – Orange County**



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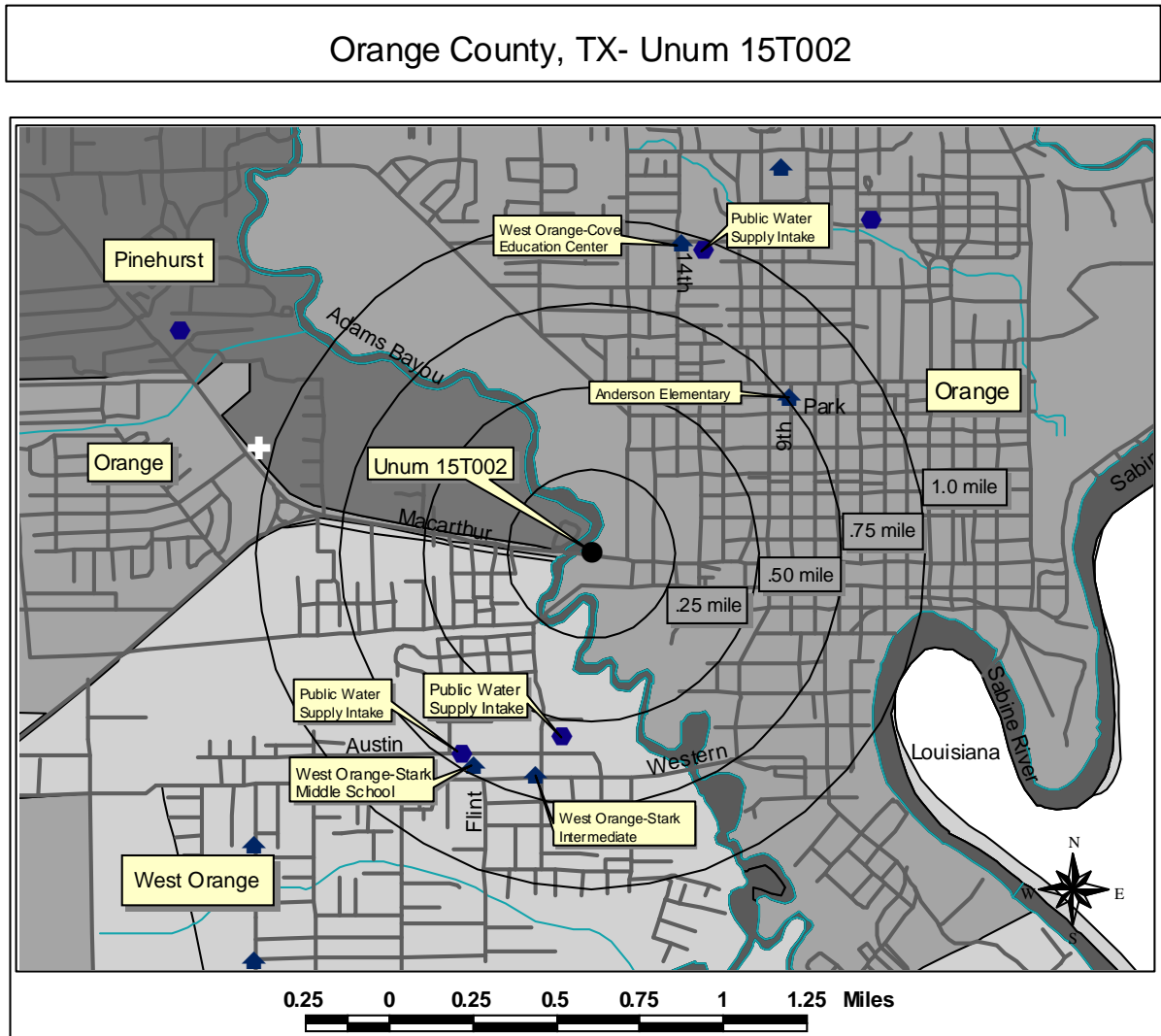
Figure C.13 – UNUM 15T001 – Orange County



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Figure C.14 UNUM 15T002 – Orange County



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## APPENDIX D

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### SOUTH EAST TEXAS REGIONAL PLANNING COMMISSION SOLID WASTE MANAGEMENT PLAN AMENDMENT

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## APPENDIX D

### STATE PLAN RECOMMENDATIONS AND CORRESPONDING AMENDED REGIONAL PLAN OBJECTIVES

Table A.1 provides a side-by-side comparison of applicable recommendations in *Solid Waste Management in Texas -- Strategic Plan 2001-2005 (SFR-42/01)* and objectives in the amended regional solid waste plan for the Southeast Texas region. As described in the Introduction, the amended regional plan must conform with the state plan, and this side-by-side comparison provides a high-level tool for demonstrating that conformance.

**Table A.1 – State Plan Recommendations and Corresponding Amended Regional Plan Objectives**

State Plan Recommendations		Corresponding Amended Regional Plan Objectives
1.1.5	The COGs should take on a greater role in helping to resolve local issues and concerns before a permit application is submitted to the TCEQ. As part of this role, the COGs should establish voluntary pre-application review and public participation procedures through their existing solid waste advisory committees, and should actively encourage potential applicants to participate in those processes early in planning for a facility.	5.1
1.2.3	The COGs in their regional solid waste management plans should assess disposal capacity needs, and should target local areas with less than 10 years of capacity for development of local plans or technical studies to identify the best approach to meet those local capacity needs.	3.1, 3.6
1.2.5	The COGs, local governments, and landfill operators should continue to consider integrated waste management options, as well as the use of Type IV and Arid Exempt (AE) landfill designations where appropriate, to ensure the availability of Type I disposal capacity.	1.1, 1.2, 1.3, 1.4, 1.5, 1.6, 1.7, 1.8, 1.9, 1.10, 1.11, 1.12, 1.13, 1.14, 1.15, 1.16
1.3.3	The COGs in their regional solid waste management plans should identify those subregional areas which lack adequate collection services and/or access to available disposal facilities, and identify actions to ensure that those needs are met.	2.6, 3.2
1.3.4	The COGs in their regional solid waste management plans should include regional and multi-regional solutions for providing services, and should encourage use of citizens' collection stations and transfer stations where appropriate.	1.15, 2.6, 3.2, 6.2
1.3.5	The COGs in their regional solid waste management plans should assess liquid waste processing and disposal needs, and should include strategies for addressing those needs through public or private entities.	1.8, 3.5
1.4.5	The COGs in their regional solid waste management plans should identify those areas with litter and illegal dumping problems, and identify entities that should establish a local enforcement program, with an emphasis on regional cooperation.	2.1, 2.2, 2.3, 2.4, 2.5, 2.6
1.4.6	Based on the priorities established in their regional plans, the COGs should use the solid waste grant funding programs to support development of local enforcement programs, and those programs should be standardized to ensure that the grant funding is effectively utilized.	2.1, 2.2, 2.3, 2.4, 2.5
2.1.1	As part of the solid waste grants program, require that the COG regional solid waste management plans be amended on a four-year cycle, to correspond to the cycle for amending the state solid waste management plan.	9.4
2.1.2	Require the COGs to report on the status of implementing their regional plans, through biennial reports to the TCEQ.	9.2
2.2.2	The COGs in their regional solid waste management plans should identify the factors that should be used to evaluate a permit application for conformance with the regional plan.	5.1, 5.2, 5.3, 5.4
2.2.3	The COGs should establish clearly defined processes within the COG for how conformance recommendations will be made to the TCEQ.	5.1

State Plan Recommendations		Corresponding Amended Regional Plan Objectives
2.3.2	The COGs in their regional solid waste management plans should include priorities for use of solid waste grant funds which, once approved, will form the basis for regional solid waste grant funding decisions.	7.1, 7.2, 7.3, 7.4
2.4.2	The COGs should target areas with critical needs for development of a local solid waste management plan or a specific technical study to identify how those needs can be addressed.	7.1
2.5.4	The COGs in their regional solid waste management plans should address whether further assessments are needed of the risks posed by closed landfill sites in their regions.	4.2
2.5.5	The COGs, local governments, and landowners should work together to determine whether any of the closed landfill sites should be studied further to assess the risks posed by that site to human health or the environment.	4.1, 4.2
3.1.9	The COGs in their regional solid waste management plans should identify the status of local governmental entities' compliance with requirements to establish programs for the separation and collection of recyclables from governmental facilities.	1.13
3.2.6	The COGs and other regional and local entities should consider establishing cooperative purchasing and market development programs to support markets for recyclable materials and for products made from those materials.	1.16
3.3.4	Each COG should establish a regional outreach and education program under the regional coordination activities conducted with solid waste grant funds.	1.7
3.4.4	The COGs in their regional solid waste management plans should identify programs to target source reduction and diversion of paper, yard trimmings, and construction and demolition debris.	1.1, 1.2, 1.3, 1.4, 1.5, 1.6, 1.7, 1.8, 1.9, 1.10, 1.11, 1.12, 1.13, 1.14, 1.15, 1.16
3.5.5	The COGs and local governments should emphasize source reduction of HHW in education and outreach programs, in conjunction with programs to collect these materials.	1.6, 1.7
3.5.6	The COGs in their regional solid waste management plans should identify where deficiencies exist in the collection and/or marketing of used oil and tires, and outline regional and local alternatives for dealing with these materials.	1.8, 3.5
3.5.7	The COGs should consider facilitating cooperative contracting agreements between local governments to help collect and recycle these materials.	1.8, 3.5
3.6.3	The COGs should identify in their regional solid waste management plans where the greatest benefits can be achieved through waste reduction, and local implementation efforts should focus on those activities that will achieve the greatest results.	1.1, 1.2, 1.3, 1.5, 1.7, 1.9, 1.14
3.6.4	The COGs' solid waste grant funding decisions should be directly tied to implementation of the regional solid waste management plans.	7.1, 7.2, 7.3

