

TEXAS COMMISSION ON ENVIRONMENTAL QUALITY

VOLUME I: REGIONAL SOLID WASTE MANAGEMENT PLAN
adopted under provisions of Texas
Health & Safety Code Ann.
Chapter 363 (Vernon)

Name of Council of Governments:

Houston-Galveston Area Council
P. O. Box 22777
Houston, TX 77227-2777

Regional Solid Waste Management Plans provide the structure for implementing regional and local solid waste management programs. The requirements and contents of Regional Solid Waste Management Plans are specified in Texas Health & Safety Code, Section 363.064.

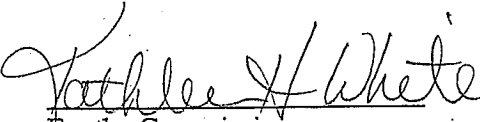
This plan is adopted subject to the rules and orders of the Commission and laws of the State of Texas and it replaces any previously approved plan. Nothing in this plan exempts the Council of Governments from compliance with other applicable rules and regulations of the Texas Commission on Environmental Quality. This plan is valid until canceled, amended, or revoked by the Commission.

This plan is adopted by reference into Title 30, Texas Administrative Code, Chapter 330, Subchapter O as specified in Title 30, Texas Administrative Code, Section 330.647(a).

ADOPTED in accordance with Title 30 Texas Administrative Code Chapter 330.

ADOPTION DATE:

MAY 31 2007


For the Commission

VOLUME I: REGIONAL SOLID WASTE MANAGEMENT PLAN

SECTION I – NAME AND DESCRIPTION OF COUNCIL OF GOVERNMENTS

- A. This Regional Plan pertains to Houston-Galveston Area Council (hereafter called H-GAC). The counties covered under this plan include Austin, Brazoria, Chambers, Colorado, Fort Bend, Galveston, Harris, Liberty, Matagorda, Montgomery, Walker, Waller, and Wharton.
- B. This Regional Plan is based on the materials dated April 16, 2006, as revised on September 25, 2006. These materials are incorporated into this Regional Plan as if fully set out herein.

SECTION II – REGIONAL PLAN

A. Regional Goals

Goal #1: Promote services and technical assistance support of local and regional solid waste management planning.

Objective 1A: Develop regional cooperative service contracts such as a regional household hazardous waste collection contract.

Objective 1B: Coordinate region-wide membership in environmental professional organizations and trade associations with a solid waste emphasis.

Objective 1C: Assess disposal capacity needs to identify the best approach to meet local capacity needs.

Objective 1D: Support regional and local efforts to identify areas with litter and illegal dumping problems.

Objective 1E: Continue to develop and maintain an inventory of solid waste management facilities located in the H-GAC region.

Objective 1F: Maintain a regional clearinghouse on solid waste management practices of H-GAC local governments.

Objective 1G: Serve as central point of contact for solid waste management outreach, education, and training programs.

Objective 1H: Continue development of a regional geographic information system (GIS) for the H-GAC region.

Goal #2: Promote the planning for adequate municipal solid waste disposal, handling, and management facilities.

Objective 2A: Continue to review permit applications for municipal solid waste management facilities.

i. Review compliance history and operational record of permit applicant consistent with state and local practices.

ii. Encourage landscaping and visual screening of sites.

iii. Advocate aerial buildup with consideration of surrounding topography and screening.

iv. Encourage applicant use of the "land use" hearing option to provide opportunities for community participation early in the permitting process.

- v. Encourage consideration of surrounding land use when establishing buffers and setbacks; encourage long-range land use planning at the county level.
- vi. Encourage long-range planning at the county level including adoption of landfill siting ordinances.
- vii. Encourage consistency with local comprehensive plans and zoning ordinances.
- viii. Encourage consideration of community growth patterns and trends.
- ix. Encourage consideration of possible impacts of a proposed facility on residents and the local community.

Objective 2B: Encourage the development of facilities that reduce, reuse, or recycle waste materials.

Objective 2C: Encourage appropriate distribution of facilities to minimize transportation costs.

Objective 2D: Encourage the development of larger regional facilities to the extent practical and where such facilities would be the best alternative.

Objective 2E: Encourage expansion and redevelopment of existing municipal solid waste facilities, where feasible, over siting of new facilities.

Objective 2F: Encourage development of transfer stations and citizen collection stations, where appropriate.

Objective 2G: Continue to endorse the consideration of integrated waste management.

Goal #3: Promote the options for reduction and recycling of waste disposal in municipal solid waste management facilities.

Objective 3A: Develop and implement on-going public awareness programs to encourage waste minimization, reduction, and recycling.

Objective 3B: Target waste reduction activities to the major components of waste disposal.

Objective 3C: Target waste reduction activities to certain components of the waste stream that may pose a special risk or problem.

B. Waste Minimization, Waste Reuse, Recycling & Education

- (1) Both public and private recycling programs are found in the H-GAC region. Municipal recycling programs typically collect newspaper, aluminum and steel cans, and plastic containers. Glass containers are also collected but not as frequently. Both private and public facilities collect some automotive waste. Used oil and oil filters are accepted at many local retailers as well as at many municipal barns. There are over 400 used oil collection sites in the region. There are liquid waste and sludge transporters in the region. The liquid waste and sludge is managed in several different ways including landfill disposal, land application, and composting. All management methods are in accordance with TCEQ requirements. Many local governments offer organic materials chipping or composting services. There is also strong competition among private composting operations in the region. On a regional basis, the methods to manage and minimize municipal solid waste including liquid waste and sludge are adequate; however, there is a distribution problem as not all counties have facilities located within a close proximity.

In 1992, thirty-four (34) local communities, including cities, counties, and census designated places had some types of recycling and/or waste reduction in place. In 2001, forty-nine (49) communities offered curbside recycling and seventy-four (74) municipal recycling drop-off centers were located in the region. In 2000, 25% of the population of Texas had curbside recycling available. Curbside recycling was available to 23% of the general population or 37% of the homeowners in the H-GAC region. In the H-GAC region, 39% of the population lives in multi-family dwellings and rely on drop-off sites for recycling.

Recycling activities within the H-GAC region are primarily influenced by the availability of markets. Houston and nearby communities have relatively easy access to end-markets. Many large end-markets are drawn to the Houston-Galveston region because of Houston's large population base, which can supply a sufficient amount of recyclable materials to serve as material input. Within the region, the increased collection of recyclables has spurred an expansion of several sorting/processing centers. There are five private material recovery facilities in operation. Additionally, there are two processing centers focusing on workplace recycling. The cities that are in more populated counties within the H-GAC region have moderately adequate recycling options (either curbside or drop-off). However, in unincorporated areas of all the thirteen (13) counties and smaller cities, there is a need to increase recycling and waste reduction opportunities in these unserved areas of the region. The reuse and recycling programs in the region can be located by zip code using the website www.cleanup.org or the phone number 1-800-CLEANUP.

- (2) Recommendations for encouraging and achieving a greater degree of waste minimization and waste reuse or recycling in the geographic area covered by the plan stem directly from the goals and objectives (listed above) of the H-GAC Regional Solid Waste Management Plan. More specific recommendations include:
- fully identify the populations served by curbside recycling; including municipal utility districts (MUD's) and community associations;
 - provide curbside recycling to a larger percentage of the region's population;
 - identify areas where drop-off sites are needed;
 - create pilot programs for curbside recycling programs in multi-family dwellings;
 - develop regional educational programs to include publicly available database of locations, public service announcements (PSAs), and sample brochures;
 - establish joint agreements to study and initiate the development of transfer stations for recyclables;
 - increase capacity of organic materials composting and mulching operations; and
 - conduct market development strategies for organic material composting.
- (3) Availability of HHW and electronics collection services varies greatly in the region. There are both one-day collection events and permanent collection centers. H-GAC also offers regional contracts for collection and management of these types of materials.

A. Household Hazardous Waste (HHW) Services

There are five permanent collection centers located within the H-GAC region. The City of Houston operates two centers. The other centers are operated by Fort Bend County, Montgomery County, and the City of Pearland. In addition to the permanent centers, the City of Houston operates a limited HHW collection center (BOPA) for batteries, oil, oil

filters, latex paint, and antifreeze. The City's BOPA serves as a regional facility where any resident from the H-GAC region may drop-off materials. The permanent collection centers also offer vouchers to other local government entities that don't offer collection services or only offer them on a limited basis. Local governments may purchase vouchers for their citizens' usage. Citizens may take their HHW to one of the permanent centers as long as they have a voucher. Currently, four other entities are considering permanent collection centers. Montgomery County and Harris County offer HHW collection through mobile HHW collection service. Additionally, yearly collection events are held by other entities in the region. However, periodic additional collection events are needed in the unserved areas of the region. Also, there is a need to increase public education on proper disposal of HHW and more "earth friendly" substitutions for HHW products.

H-GAC has contracted with a private company for the collection, transportation and disposal of HHW within the H-GAC region. The contract covers both one-day collection events and permanent HHW facilities. Pricing includes labor, equipment, supplies, transportation, and disposal. The pricing is based on all-inclusive per container prices. The mobilization costs for one-day collection is based on the number of participants and for the permanent facility it is based on the county in which the facility is located.

B. Electronic Waste (e-waste) Services

Electronic waste, commonly referred to as e-scrap or e-waste, consists of electronics such as computers, televisions, and cell phones. E-waste typically contains metals, such as mercury and lead, which should not be landfilled. There are six permanent collection centers located within the H-GAC region. The City of Houston operates three centers. The other centers are operated by Fort Bend County, Montgomery County, and the City of Pearland. The permanent collection centers also offer vouchers to other local government entities that don't offer collection services or only offer them on a limited basis. Local governments may purchase vouchers for their citizens' usage. Citizens may take their e-waste to one of the permanent centers as long as they have a voucher. Additionally, yearly collection events are held by other entities in the region. Additionally, there are private companies that recycle e-waste within the region. However, periodic additional collection events are needed in the unserved areas of the region. Also, there is a need to increase public education on proper management of e-waste.

H-GAC has contracted with a private company for the collection, transportation and recycling of e-waste within the H-GAC region. The contract covers both one-day collection events and permanent facilities. The contract is similar to the regional HHW contract.

- (4) H-GAC will establish a recycling rate goal appropriate to the region.
- (5) H-GAC recommends composting programs for yard waste and related organic wastes that may include:
 - (A) Creation and use of community composting centers;
 - (B) Adoption of the "Don't Bag It" program for lawn clippings developed by the Texas Agricultural Extension Service; and
 - (C) Development and promotion of education programs on home composting, community composting, and the separation of yard waste for use as mulch.

(6) H-GAC's solid waste program includes a public education/outreach component.

C. Municipal Solid Waste Facilities – H-GAC will:

- (1) encourage cooperative efforts between local governments in the siting of landfills for the disposal of solid waste;
- (2) assess the need for new waste disposal capacity;
- (3) consider the need to transport waste between municipalities, from a municipality to an area in the jurisdiction of a county, or between counties, particularly if a technically suitable site for a landfill does not exist in a particular area;
- (4) allow a local government to justify the need for a landfill in its jurisdiction to dispose of the solid waste generated in the jurisdiction of another local government that does not have a technically suitable site for a landfill in its jurisdiction;
- (5) complete and maintain an inventory of closed municipal solid waste landfill units and update it as needed; provide one copy to the TCEQ and to the chief planning official of each municipality and county in which a unit is located; and
- (6) develop a guidance document to review municipal solid waste registration and permit applications to determine conformance as outlined in *Volume II: Regional Solid Waste Management Plan Implementation Guideline*.

TEXAS COMMISSION ON ENVIRONMENTAL QUALITY



VOLUME II: REGIONAL SOLID WASTE MANAGEMENT IMPLEMENTATION GUIDELINE

Approved under provisions of Texas Health & Safety Code Ann.
Chapter 363 (Vernon)

Name of Council of Governments:

Houston-Galveston Area Council
3555 Timmons, 5th Floor
Houston, Texas 77027

Regional Solid Waste Management Implementation Guidelines provide the details for implementing the Regional Solid Waste Management Plan (Volume I). The TCEQ Commissioners adopted Volume I on May 31, 2007. The requirement and contents of Regional Solid Waste Management Implementation Guidelines are specified in Texas Health & Safety Code, Section 363.064.

This Guideline is approved subject to the rules and orders of the Commission and laws of the State of Texas and it replaces any previously approved Guideline. Nothing in this Guideline exempts the Council of Governments from complying with Texas Commission on Environmental Quality rules and regulations. This Guideline is valid until canceled, amended, or revoked by the Executive Director.

This guideline is approved by reference into Title 30, Texas Administrative Code, Chapter 330, Subchapter O as specified in Texas Administrative Code, Section 330.647(a).

This action is taken under authority delegated by the Executive Director of the Texas Commission on Environmental Quality.

APPROVAL DATE: **SEP 06 2007**

A handwritten signature in black ink, appearing to be "D. Shuck", written over a horizontal line.

For the Commission

Houston-Galveston Area Council

**Volume II: Regional Solid Waste Management Plan
Implementation Guidelines 2002-2020**

**Adopted by the Houston-Galveston Area Council (H-GAC) Board of Directors,
April 16, 2002, Revisions Adopted by H-GAC Board of Directors on August 19,
2003 and submitted to the Texas Commission on Environmental Quality**

This plan was funded through a solid waste management grant provided by the Texas Commission on Environmental Quality through the Houston-Galveston Area Council. This funding does not necessarily indicate endorsement or support of the plan findings and recommendations.

Houston-Galveston Area Council's (H-GAC) Regional Solid Waste Management Plan 2002-2020

i. Role of Regional Plan

A. Introduction

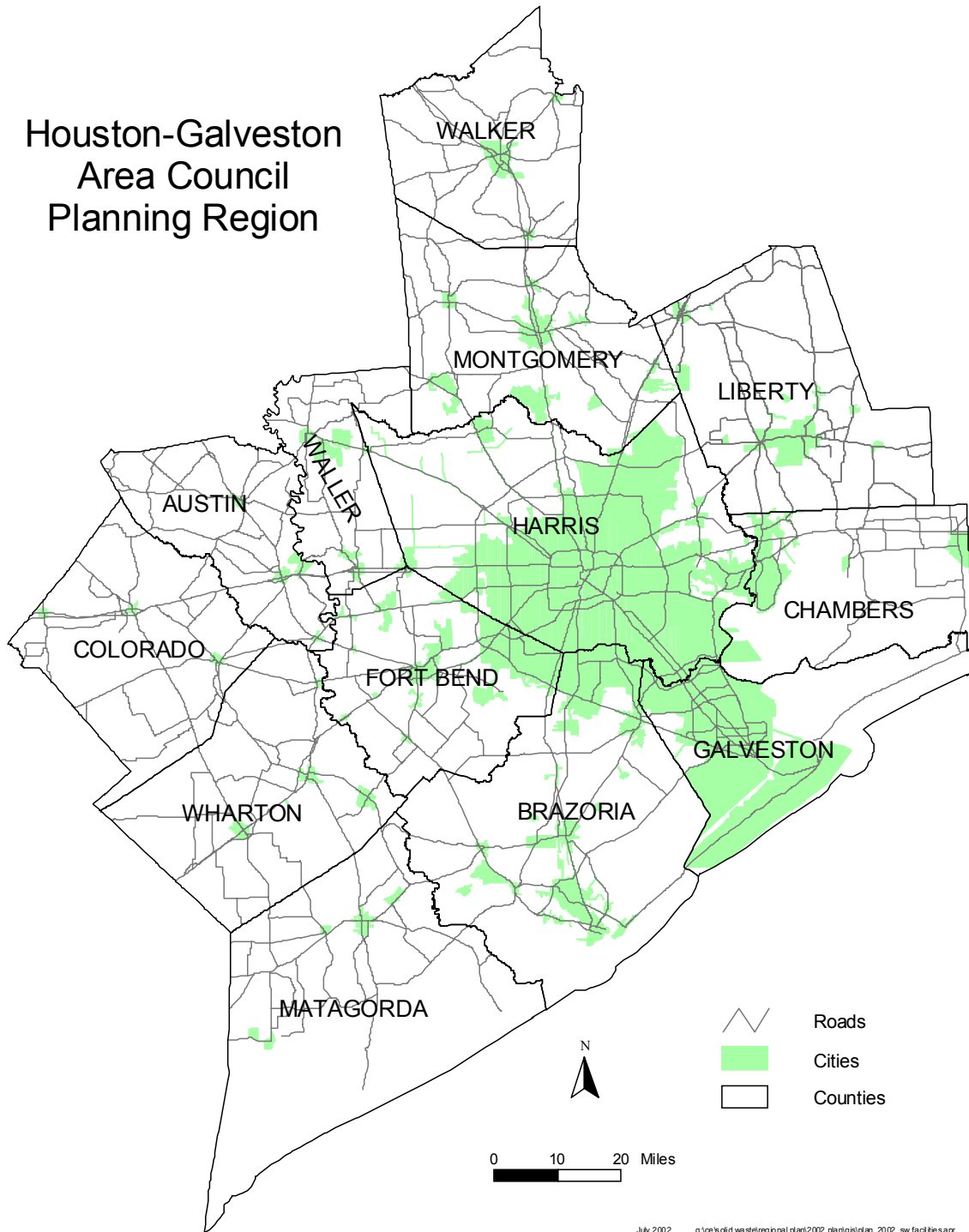
Legal Authority. The 71st Texas Legislature in 1989 enacted Senate Bill (S.B.) 1519. This bill, codified into Section 363.061 of the Health and Safety Code, stipulated that solid waste management plans be developed by the State of Texas as well as by regional planning agencies and local governments. The scope of the required regional plans included many of the emerging issues, such as waste reduction, recycling, response to Subtitle D, and the handling of special wastes.

Adoption Date. The H-GAC Board of Directors adopted *Resource Responsibility: Solid Waste Management Plan for the H-GAC Region 2002-2020*, in February 1992. *Resource Responsibility* updated H-GAC's 1985 *Action Guide for Solid Waste Management 1985-2000--Texas'* first state-approved regional solid waste plan. On February 16, 1994, the TCEQ adopted the plan.

Purpose and Application. The purpose of the plan is to provide a comprehensive guide for long-range solid waste management in the 13-county Gulf Coast State Planning (H-GAC) region. A map of the H-GAC region is shown on Map 1. The regional solid waste management plans were used as the "building blocks" to develop a statewide solid waste management plan. The plan has four primary applications as guidelines for:

- a) Role of the Plan in Permitting Decisions. The plan explains the factors and priorities that are used by H-GAC to determine whether a proposed permit application conforms to the regional plan.
- b) Role of the Plan in Establishing Grant Funding Priorities. The plan establishes the priorities for use of grant funds by H-GAC. Funding provided under the Regional Solid Waste Grants Program must be consistent with the approved regional solid waste management plans. The plan includes an action plan that includes a detailed funding plan, key projects and priorities for use of the grant funds and a summary of regional needs and problems.
- c) Role of the Plan in Local and Subregional Planning. The plan outlines boundaries of planning subregions and makes recommendations for additional funding for subregional plans. The plan identifies local or subregional areas where a local plan is needed. Subregional and local government plans must conform to the regional plan to receive State approval.
- d) Role of the Plan in Directing Regional Activities. The plan sets a regional agenda for solid waste management planning and implementation activities. This work became part of a statewide solid waste management system. The plan guides the ongoing solid waste management programs conducted by H-GAC, including public education, technical assistance, and intergovernmental coordination.

Houston-Galveston Area Council Planning Region



B. Mission, Goals, and Objectives

The overall mission of Houston-Galveston Area Council's (H-GAC) Regional Solid Waste Management Plan 2002-2020 (herein referred to as "the 2002 Plan") is to promote the proper and safe management of municipal solid waste and the availability of management alternatives through the development and implementation of regional and local plans, programs and activities.

The 2002 plan establishes a series of goals and objectives to achieve these ends. These form the basis for the plan's recommendations and will also guide H-GAC's solid waste management policy and programs. The plan's goals and objectives are listed in Section III.

C. Plan Amendment and Adoption Process

As directed by the Texas Commission on Environmental Quality (TCEQ, formerly known as the Texas Natural Resource Conservation Commission (TNRCC)), the regional solid waste management plans may be amended every four years and their basic data and information is to be updated every two years. Plan amendments include revisions to the plan goals, objectives, recommendations and funding priorities. Plan amendments must be made through a formal TCEQ rule adoption process that includes a public hearing and notification in the *Texas Register*.

The H-GAC Solid Waste Management Committee (SWMC) reviewed and adopted the *2002 Plan* on February 28, 2002. The H-GAC Board of Directors adopted the *2002 Plan* on April 16, 2002. The membership and function of the SWMC may be found in Appendix A.

ii. Regional Analysis

A. Population and Growth Patterns

The U.S. Census data indicates that the population for the H-GAC region grew 21% between 1990 and 2000. By the year 2020, the Texas State Data Center projects the region's population to exceed 6.5 million. The population projections are based on a 0.5 growth scenario for 1990-2000 migration rate. Calculations for this scenario are based on an average of the zero migration scenario and the 1990-2000 migration rate scenario. The 0.5 scenario is appropriate because many counties in the region are unlikely to continue to experience the overall levels of relative extensive growth of the 1990's.

Table 1 shows historical and projected population figures presented by county and then arranged by H-GAC designated planning sub-region. Approximately 70% of the region's population resides in Subregion 8 (Harris County). Our solid waste facilities are allocated to serve the needs of both the rural and urban areas. A solid waste facility map is located in Appendix B.

Table 1. Population by County and Population Projections

<i>Population by County 1970 - 2000</i>									Texas State Data Center 2001 Population Projection			
<u>County</u>	<u>Sub-Region</u>	<u>Census 1970</u>	<u>Growth Rate 1970-80</u>	<u>Census 1980</u>	<u>Growth Rate 1980-90</u>	<u>Census 1990</u>	<u>Growth Rate 1990-2000</u>	<u>Census 2000</u>	<u>One-Half 1990-2000 Migration Scenario</u>			
									<u>2005</u>	<u>2010</u>	<u>2015</u>	<u>2020</u>
Montgomery	1	49,479	160%	128,487	42%	182,201	61%	293,768	335,176	379,363	426,858	478,187
Walker	1	27,680	51%	41,789	22%	50,917	21%	61,758	64,791	67,664	70,427	72,512
Chambers	2	12,187	52%	18,538	8%	20,088	30%	26,031	28,637	31,375	34,261	37,328
Liberty	2	33,014	43%	47,088	12%	52,726	33%	70,154	75,876	81,930	88,354	94,898
Galveston	3	169,812	15%	195,940	11%	217,399	15%	250,158	259,872	268,714	277,238	284,731
Brazoria	4	108,312	57%	169,587	13%	191,707	26%	241,767	263,631	285,850	308,656	331,731
Colorado	5	17,638	7%	18,823	-2%	18,383	11%	20,390	20,664	21,101	21,577	22,032
Wharton	5	36,729	10%	40,242	-1%	39,955	3%	41,188	42,310	43,560	44,886	46,045
Matagorda	5	27,913	36%	37,828	-2%	36,928	3%	37,957	39,160	40,506	41,998	43,295
Austin	6	13,831	28%	17,726	12%	19,832	19%	23,590	24,542	25,582	26,698	27,777
Waller	6	14,285	39%	19,798	18%	23,397	40%	32,663	36,644	41,137	46,142	51,175
Fort Bend	7	52,314	150%	130,846	72%	225,421	57%	354,452	401,710	449,811	501,218	557,407
Harris	8	1,741,912	38%	2,409,547	17%	2,818,199	21%	3,400,578	3,674,011	3,951,682	4,240,026	4,541,661
Total		2,305,106	42%	3,276,239	19%	3,897,146	25%	4,854,454	5,267,024	5,688,275	6,128,339	6,588,779

B. Economic Activity

The region hosts one of the largest concentrations of chemical and refined petroleum product manufacturers in the world. The region also has a large service sector with a significant health service employment base supported by our hospitals, medical schools and medical centers. Agriculture is a significant factor in the region's economy as well. Over the last two years, the H-GAC region has had excellent job growth. Housing starts for single family units are still growing, however starts for multi-family units have dropped considerably resulting in an overall 1% decrease. The average annual unemployment in the region has stabilized at a low 4.3%. Damage from Tropical Storm Allison resulted in significant job growth in the construction industry. In 2001 large cuts were made in the computer, energy, and aerospace industries. In the long term, these industries will likely rebound. However, the economy in the short term is unpredictable due to the events of September 11, 2001.

Impact of Increased Activity. We believe that our regional disposal figure has increased partially due to the increase of construction and demolition debris disposal which includes wastes from land clearing, new construction, renovation, demolition, excavation, road and bridge projects and disaster debris. However, at this time, we do not have any specific data to confirm this analysis. Further study needs to be done to quantify and characterize the construction and demolition debris for the region.

C. Waste Generation and Characterization

1. Waste Generation

The amount of waste generated in the region is determined by the following formula:

Waste Generation = Waste Disposal + Net Waste Imports/Exports + Recycled Material

Table 2 shows that the region will produce over 16 million tons of waste in 2020.

a) Waste Disposal

The TCEQ has provided landfill capacity and disposal data for all permitted active and inactive solid waste facilities¹ in our planning region. This data is found in the 2000 Data Summary and Analysis from TCEQ's Annual Reporting Program for Permitted MSW Facilities. The TCEQ data is based on permitted facilities and does not account for pending permits. The region disposed of 7,917,759 tons of waste in MSW landfills in the year 2000. In 2020 the region

¹ TCEQ classifies all solid waste sites and facility according to function and/or population equivalency served. The designations used by TCEQ are:

- Type I landfills are the standard landfill for disposal of municipal solid waste.
- Type IV landfills are allowed to accept brush, construction and demolition waste, and rubbish that are free of putrescible and household waste.

More explanation of the different types of facilities is provided for in Section 2 Waste Disposal and Capacity.

will dispose of an estimated 10,749,922 tons of waste in MSW landfill. In 1992, the per capita waste disposal rate was 6.20 pounds/person/day. The original goal of the plan was to reduce the per capita rate by 80%. Today, the per capita waste disposal rate is 8.94 pounds/person/day, a 44% increase over 1992 levels.

b) Net Waste Imports/Exports

The region has negligible waste import/export activity.

c) Recycled Material

In 1998 the Recycling Coalition of Texas conducted a statewide recycling survey to determine the state and regional recycling rates. The survey, based on 1997 data, found that 35% of the waste generated in the region was recycled.

Table 2. Projected Regional Waste Generation Rates

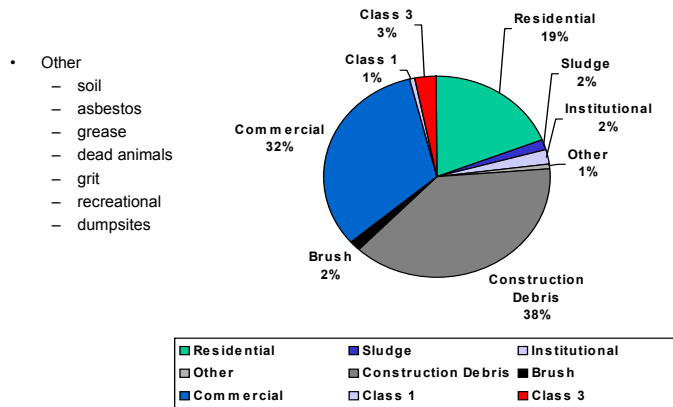
Year	Population Projection	Landfill Disposal (Tons)	Disposal Rate (Pounds/Person/Day)	Recycling (Tons)	Recycling Rate (Pounds/Person/Day)	Generation (Tons)
2000	4,854,454	7,917,759	8.94	4,275,590	4.83	12,193,349
2005	5,267,024	8,593,413	8.94	4,640,443	4.83	13,233,856
2010	5,688,275	9,280,704	8.94	5,011,580	4.83	14,292,284
2015	6,128,339	9,998,691	8.94	5,399,293	4.83	15,397,984
2020	6,588,779	10,749,922	8.94	5,804,958	4.83	16,554,880

Source: Annual Reporting Program for Permitted MSW Facilities 2000 Data Summary, TCEQ

2. Waste Characterization

In order to develop future solid waste management programs in the H-GAC region, an understanding of the amounts and characterization of solid waste in the region is necessary. The purpose of this section is to provide a general overview and estimate of both waste generation and composition and to highlight disposal operations that affect the waste stream. The region's waste characterization, based on TCEQ's annual waste data, is shown in Figure 1.

Figure 1: H-GAC Regional Disposal By Waste Type (2000)



Definitions:

- Class 1 Waste –non-hazardous waste generated by industry as defined by 335.505 of the Texas Administrative Code. Examples: asbestos, soils with high TPH, and ignitable material
- Class 2 Waste – any waste that is not considered a Class 1 or Class 3
- Class 3 Waste - solid waste generated by industry that is inert and essentially insoluble, and poses no threat to human health and/or the environment. Examples: rock, brick, glass, and dirt.

a) Residential Waste

In 2000, 19% of the waste disposed in MSW landfills was residential waste. Table 3 shows the composition of the residential waste in the region. This table compares a 1994 City of Houston study to a 1999 study conducted by the Environmental Protection Agency (EPA).

It can be seen that yard and food waste comprise a larger portion of the waste stream in the region than in the national study. The climate in the H-GAC region creates a longer growing season, likely producing more yard waste than the national average. In 2001, H-GAC sponsored a media campaign to promote the recycling of yard waste. Five billboards were used in various parts of the region and numerous radio public service announcements (PSAs) were played. The media campaign increased awareness of the benefits of GrassCycling. The campaign resulted in more bagging of yard waste and less mixing of yard waste in trash. The campaign also found that overall awareness of curbside yard waste programs is relatively low (37%). H-GAC should continue the GrassCycling PSA's, maintain yard waste programs on the www.1800cleanup.org web-site and expand regional educational programs.

The EPA study accounts for rubber in the waste generation whereas the City of

Houston study does not. In 2000, Texans disposed of slightly more than one tire for every person residing in the state.² The topic of tires will be addressed in further detail later in this report under automotive wastes.

Table 3: Comparison of Waste Generation Studies – EPA vs. City of Houston³

* Values are in percent	1999 EPA	1994 City of Houston	Difference between EPA & City of Houston
Paper	38.1	31.42	6.68
Yard Waste	12.1	31.92	-19.82
Food Waste	10.9	14.96	-4.06
Plastics	10.5	6.35	4.15
Metals	7.8	3.18	4.62
Al Cans	N/A	0.58	N/A
Rubber, Leather & Textiles	6.6	1.8 (excludes rubber)	4.80
Glass	5.5	5.84	-0.34
Wood	5.3	N/A	N/A
HHW	N/A	0.73	N/A
Other	3.2	3.16	0.04
TOTAL	100	99.94	0.06

b) Construction and Demolition (C&D) Waste

In 2000, 38% of the waste disposed in MSW landfills was C&D waste. The H-GAC region currently has 11 active Type IV landfills for C&D debris. Construction and demolition waste includes wastes from land clearing, new construction, renovation, demolition, excavation, road and bridge projects and disaster debris. Typical components of C&D debris include wood, drywall, metals, plastics, roofing, rubble (asphalt, concrete, cinder blocks, rock, earth), brick, glass, and other miscellaneous materials. Wood is typically the largest component of waste material generated at construction and demolition sites. Concrete is typically the largest component at demolition sites.⁴

2 TCEQ “Taking Stock of Used Tires”, 2001

3 EPA Web-site and City of Houston

4 Franklin Associates

Table 4: Summary of Estimated Building-Related Construction and Demolition Debris Generation, 1996 (Roadway, Bridge and Land Clearing Debris not included) (Thousand Tons)

Source	Residential		Nonresidential		Totals	
	1,000 Tons	%	1,000 Tons	%	1,000 Tons	%
Construction	6,560	11	4,270	6	10,830	8
Renovation	31,900	55	28,000	36	59,900	44
Demolition	19,700	34	45,100	58	64,800	48
Totals	58,160	100	77,370	100	135,530	100
Percent	43 %		57 %		100 %	

Source: Franklin Associates

Disaster Debris

According to the Federal Emergency Management Agency (FEMA), the region has experienced 5 significant natural disasters in the past 10 years.

Texas Flood	March	1992
Texas Flood	October	1994
Tropical Storm Frances	September	1998
Texas Flood	October	1998
Tropical Storm Allison	June	2001

While flooding and storms are a regular event in the region, the severity of any single event can vary widely. Tropical Storm Allison affected over 150,000 households and caused approximately \$1 Billion in damages. The region has not seen such an event since Hurricane Alicia in 1983. Disaster debris can cause large fluctuations in the total amount of waste disposed in MSW landfills. Household hazardous waste amounts will vary as well.

c) Industrial Waste

Industrial waste is handled through the Hazardous and Industrial Waste Division of the Texas Natural Resource Conservation Commission. There are numerous on-site and commercial permits in the H-GAC region. Only 4% of the region's MSW landfill capacity is consumed by industrial waste (Class 1 and Class 3). Industrial waste is disposed in one of four landfills. There are two permitted non-hazardous industrial solid waste landfills in the region. One is the Western Waste Industries Inc./Waste Management landfill (ISW #39001) in Montgomery County and the other is the BFI Gulf West landfill (ISW #39039) in Chambers County. There are two Type I MSW landfill in the region that are permitted to accept industrial waste. Both landfills, Coastal Plains landfill (MSW #1721A) in Galveston County and Atascocita landfill (MSW #1307B) in Harris County, are owned by Waste Management.

d) Commercial Waste

In 2000, 32% of the waste disposed in MSW landfills was commercial waste. Commercial waste includes waste from multi-family dwellings, office buildings and other non-industrial locations. Office paper recycling is commonplace in the business centers throughout the region. Very few opportunities exist for recycling in multi-family dwellings.

e) Sludge

Only 2% of the region's MSW consists of sludge from either water treatment or wastewater treatment plants.

f) Institutional Waste

Only 2% of the region's MSW is derived from area institutions such as prisons and universities. Most local governmental entities with a population over 5000 recycle office paper and either aluminum cans or corrugated cardboard from their governmental facilities. No entities recycle aseptic packaging or poly-coated paperboard cartons. Very few entities recycle steel cans.

g) Other Waste

Includes soil, grit and grease, dead animals and dumpsite cleanups. Grit, collected from vehicle washing stations, and grease from restaurants is of particular concern in the region. Processing capacity for grit and grease is adequate, however, some transporters in the region have a history of noncompliance with state regulations.

h) Domestic Waste Burning

In the state of Texas, outdoor burning of waste is permitted only if no disposal services are provided or authorized in an unincorporated area of a county. Harris County Pollution Control averages about 25 outdoor burning complaints and about 17 violation notices per month. Approximately 95% of people in unincorporated Harris County have trash pickup. There are approximately 1.5 million people in unincorporated Harris County. Therefore, approximately 75,000 people do not have trash pickup in unincorporated Harris County and must dispose of their domestic waste by themselves via transfer stations, citizen collection stations, landfills, illegal dumping or burning.

i) Agricultural

Based on the 1997 U.S. Department of Agriculture Census, approximately 60% of the region's land is used for agriculture. The largest crops in the region by acreage are hay, rice, sorghum, cotton, soybeans, corn and wheat. Waste from concentrated animal feeding operations (CAFOs) is permitted under the TCEQ CAFO regulations and is not considered MSW.

Fertilizer and pesticide waste is a concern from this industry. The Texas Natural Resource Conservation Commission regularly sponsors “Texas Country Cleanup Days” to collect empty agricultural containers. USAg Recycling, Inc. is based in Waller, Texas and operates mobile granulation rigs that recycle the empty containers. Residents of rural areas may bring household hazardous waste to the “Texas Country Cleanup Days” for free disposal as well.

Agricultural waste in the region has not been fully characterized or estimated in the past. Efforts should be made to identify any other potential agricultural waste issues and alternatives to disposal such as composting.

C. Waste Management System

1. Roles, Responsibilities, and Institutional Arrangements

A host of public agencies at the federal, state and local levels share responsibility for solid waste management in the H-GAC region. Numerous private entities also play important roles. The duties of the governmental agencies vary as to whether or not they have a policy, regulatory or fiscal orientation, but they all have an impact on the region's overall waste management system.

Federal and State Legislation

The primary federal enabling legislation for solid waste management is the Resource Conservation and Recovery Act (RCRA), first enacted in 1976. The objectives of RCRA are to protect the public health and the environment while preserving material and energy resources.

Other federal enabling legislation which affects solid waste management includes the Comprehensive Environmental Response, Compensation and Liability Act (CERCLA/Superfund), the Water Pollution Control Act (Clean Water Act), the Safe Drinking Water Act, the Energy Policy and Conservation Act and the Clean Air Act.

The Texas Solid Waste Disposal Act of 1969 is the state legislation for solid waste management. This Act established the regulatory programs for solid waste collection, handling, storage and disposal, giving responsibility for implementation and enforcement to the Texas Natural Resource Conservation Commission. The Act also enabled counties to exercise licensing, planning and management authority for solid waste.

The Comprehensive Municipal Solid Waste Management, Resource Conservation and Recovery Act of 1983 required local governments to assure provision of solid waste services to all persons within their jurisdictions by 1989. Designated regional planning agencies, such as H-GAC, and local governments were authorized by this Act to develop solid waste management plans. Senate Bill (S. B.) 1519 of 1989 modified the 1983 Act and section 363.061 of the Health and Safety Code, *requiring* council of governments (COGs) and local governments to develop solid waste management plans and establishing a funding source for planning, enforcement and research. This funding mechanism is a fee on solid waste

disposal.

A detailed listing of the federal and state legislation passed since the 2000 Regional Plan Update is offered in Appendix C.

a) Federal Agencies

i. Environmental Protection Agency

The U.S. Environmental Protection Agency (EPA) is responsible for developing the regulations to implement RCRA and most other solid waste-related legislation.

For the most part, EPA does not directly permit or regulate individual facilities. It delegates its permitting and enforcement authority to the appropriate state agencies. To receive this delegated authority, a state's requirements must be at least as stringent as EPA's national standards.

Another role of EPA in waste management is that of policy and research. EPA was the lead agency in developing *Solid Waste Dilemma: Agenda for Action*. This document established the hierarchy for integrated solid waste management, which has been adopted by TCEQ and H-GAC. The report contained many recommendations for local government action as well. EPA also conducts extensive research on the nation's waste stream and on special waste and other management issues.

EPA has developed procurement policies for recycled goods. Guidelines are in place for the purchase of paper, oil, tires, concrete and insulation material by entities which receive federal funds. EPA also has been working to educate school-age children about recycling through a teachers roundtable program and other educational materials, including an Internet site devoted to youth education.

ii. Other Federal Agencies

Most of the solid waste management issues with which other federal agencies are involved pertain to facility siting. A landfill, incinerator or recycling operation will fall under the same siting requirements as other types of facilities with respect to wetlands and habitat protection. As a result, the U.S. Army Corps of Engineers and the U.S. Fish and Wildlife Service may be involved in the permitting process of such facilities. The Federal Aviation Administration also has requirements that limit airport siting and operations in the vicinity of active landfills because of the danger of bird strikes. While the Farmer's Home Administration does not play a policy role in solid waste, the FmHA does provide grant programs for projects related to solid waste and the elimination of water pollution.

b) State Agencies

i. Texas Commission on Environmental Quality

The TCEQ is the state agency responsible for solid waste management. The TCEQ is responsible for data assessment and planning for the management of the state's hazardous and nonhazardous solid wastes. The TCEQ compiles and assesses data on the generation and disposal of hazardous, industrial nonhazardous and municipal solid waste. In addition, the agency prepares a state solid waste management strategic plan every four years.

The Office of Permitting, Remediation and Registration is responsible for implementing the federal and state laws and regulations governing all aspects of permitting for waste programs. It is responsible for permitting and enforcement for landfills, transfer stations, incinerators and disposal facilities for grease, sludge and special wastes. The division also develops regulations that must meet or exceed EPA standards to maintain the state's delegated regulatory authority.

The Office of Environmental Policy, Analysis, and Assessment has four major functions: strategic assessment; the coordination of all agency policy development and rulemaking; the coordination of border affairs; and the technical analysis of data to support these functions. Within the Office, the Strategic Assessment Division serves as the lead for the development of solid waste planning. As part of its waste planning efforts, the TCEQ also administers the Regional Solid Waste Grants Programs. The grants program supports regional solid waste management planning by the state's 24 Regional Councils of Governments (COGs), as well as a pass-through grant program administered by the COGs to fund regional and local solid waste management projects. The COGs also use these funds to develop Inventories of Closed Municipal Solid Waste Landfills. The division also maintains a database on landfills from which waste generation and disposal capacity information can be obtained. Besides funding regional and local planning, TCEQ has a variety of technical assistance programs.

The TCEQ Renew Program maintains a cross-reference of industrial by-products to encourage inter-industry recycling, and it also conducts industrial waste minimization audits. TCEQ has also been involved in promoting the proper disposal of household hazardous waste (HHW).

ii. Other State Agencies

Several other state agencies are involved in waste management to a certain extent. In 1995 the Recycling Market Development Board (RMDB) was formed. The Board is comprised of five state agencies, including: the General Land Office, the Texas Natural Resource Conservation Commission, Texas Building and Procurement Commission (formerly the General Services Commission), the Texas Department of Economic Development, and the Department of Transportation. The Texas Department of Agriculture regulates animal and agricultural waste disposal

and has been involved in efforts to promote recycling and composting. The Texas Water Development Board also has a grant program for communities aiming to develop solid waste management facilities.

State criminal justice and correctional agencies may also play a greater role in waste management. These agencies generally have their own waste management facilities and an existing supply of inmate labor, but they may be interested in forging partnerships with local governments in areas such as recycling and composting. Each of these state agencies has a role in solid waste management.

a) Texas General Land Office (GLO)

The GLO is the lead state agency for buy recycled programs. The GLO "Buy Recycled" program is a statewide program to enhance the economics of recycling by creating markets for recycled materials, both in the public and private sectors.

b) Texas Department of Transportation (TxDOT)

TxDOT promotes the use of non-hazardous recycled materials in construction and maintenance projects through workshops, demonstrations and specifications. In Fiscal Year 2000, the Houston District of TxDOT purchased \$5.4 million of recycled material and ranked 9th out of 25 districts.

c) Railroad Commission of Texas (RRC)

The RRC regulates intrastate trucking and rail operations, both of which impact the recycling industry. The RRC also regulates the disposal of oil field sludge.

c) Regional

i. Houston-Galveston Area Council

H-GAC in 1985 became the first Council of Government (COG) in Texas to receive state approval for a regional solid waste management plan. Since that time, permitted facilities in the region have been required to conform to the plan's goals, objectives and recommendations. The plan also remains a policy guide for H-GAC and its local governments with respect to solid waste management.

i. Gulf Coast Waste Disposal Authority (GCA)

GCA was established by the State Legislature to provide regional industrial and municipal wastewater treatment, solid waste management and drinking water services statewide. GCA does operate an industrial solid waste disposal facility but it is not heavily involved in municipal solid waste

management. GCA's Vince Bayou Receiving Station accepts trucked-in liquid septic wastes and some trucked-in industrial wastewater.

ii. Lower Colorado River Authority (LCRA)

The LCRA is a conservation and reclamation district serving central Texas. LCRA has a 58-county service area and includes 124 incorporated cities. Central Texas Recycling Association (CTRA) is a non-profit recycling marketing cooperative created by LCRA in 1995. LCRA is also active in providing HHW collections in their service area.

d) Local Governments:

State enabling legislation requires local governments to provide waste collection and disposal for all residents within their jurisdictions. A city may require its residents to obtain solid waste collection services through the city or one or more contracted private haulers. Or a city may allow its residents to subscribe individually with a private hauler. This includes the option of not subscribing to any garbage service.

Other state legislation gives cities and counties various authorities pertaining to licensing and planning for waste collection and disposal. Home-rule cities may also exert control over facility siting through zoning and nuisance ordinances.

Counties may exert control by designating areas acceptable for solid waste disposal (§363.112 of the Texas Health and Safety Code). Additionally, newly enacted Texas Legislation (2001) provides counties the authority to offer and charge a fee for solid waste disposal services to residents. Additionally, a county may contract with a private or public entity, including a public utility, to collect solid waste fees.

e) Other Local Government and Private Entities

i. Municipal Utility Districts

Municipal utility districts (MUDs) are sometimes involved in contracting with private waste haulers on behalf of the subdivisions they serve. However, this is sometimes the responsibility of the individual homeowner. MUDs also impact the waste management system through sludge disposal. There are numerous MUDs in the H-GAC area, most of which contract individually with sludge collection and disposal site operators.

ii. Independent School Districts

While not directly responsible for waste collection or disposal, school districts have the potential to play a major role in regional solid waste management. As a group, school districts represent a major segment of

waste production in the H-GAC region. Implementation of region-wide recycling and waste reduction programs would have a significant impact on the overall waste stream. Also, with their combined purchasing power, school districts' procurement policies can help to stimulate markets for recycled products. Finally, school districts have an excellent opportunity to reach children and parents with information about issues such as waste reduction, recycling, and proper management of household hazardous waste. Abitibi Consolidated has a network of over 2,000 recycling bins in local schools and churches to supply its newsprint de-inking facility.

iii. Non-Profit Organizations

Non-profit organizations play a major coordination and educational role in the H-GAC region's solid waste management system. There are numerous certified Keep America Beautiful affiliates in the H-GAC region, all of whom are active in promoting recycling and litter abatement.

Civic clubs, homeowners associations and churches also play an active role, particularly in organizing volunteer recycling efforts. One of the largest of these programs is "Woodlands Recycles" -- a joint effort of the Woodlands Homeowners Association and the Woodlands Corporation. In some cases, homeowners associations collect and market recyclable materials using their own volunteer labor. In others, the association contracts with a private firm to provide collection of recyclables.

f) Private Sector

Solid waste management is a highly privatized operation in the H-GAC region. In addition to most of the region's landfill capacity and waste collection being privately contracted, there is also a trend toward privatization of recycling efforts. Browning-Ferris Industries (BFI) and Waste Management of North America (WMNA) both operate curbside collection programs in the Houston area.

2. Waste Disposal and Capacity

The regional per capita disposal rate for the year 2000 is 8.94 pounds/person/day, a 25% increase over the past 2 years. At current generation rates, the region has less than 14 years of MSW landfill capacity remaining.

There are 20 Type I landfills and 20 Type IV landfills in the H-GAC region. An inventory of the region's landfills is included in Appendix D. A Type I facility is considered the standard landfill of the disposal of municipal solid waste. All solid waste deposited in a Type I facility is compacted and covered daily. Type IV facilities are authorized for disposal of brush, construction-demolition waste, and/or rubbish that is free of putrescible and household waste. A Type V facilities encompass processing plants that transfer, incinerate, shred, grind, bale, compost, salvage, separate, dewater, reclaim, and/or provide other processing of solid waste. A Type VI facility or operation involves new or unproven methods of managing or

utilizing municipal solid waste, including resource and energy recovery projects. A Type VII facility is authorized for the land management of sludges and/or similar wastes. A Type VIII manages used and/or scrap tires. A Type IX facility is a closed disposal facility, an inactive portion of disposal facility, or an active disposal facility, used for extracting materials for energy and material recovery or for gas recovery for beneficial use.

Chambers County has an incineration facility that is permitted to burn municipal solid waste and medical waste. This facility will have little impact on the disposal rate for the entire region because it will only serve Chambers County. There are three other permitted MSW incineration facilities in the region, however they are all inactive.

Colorado County has one Type I landfill. It is expected to close next year, leaving the county with no active landfills. Additional infrastructure will be needed in order for Colorado County to properly dispose of its MSW.

Currently two landfills in the region have landfill gas to energy (LFGTE) methane recovery systems. BFI's McCarty Road landfill was the first landfill in the state to have LFGTE (MSW #1777) in 1986. The Fort Bend County landfill also recovers methane (MSW #48003). Projected disposal rates and landfill capacity are shown in Table 5.

Table 5: Projected Regional Waste Disposal Rates

Year	Population Projection	Landfill Disposal (Tons)	Disposal Rate (pounds/person/day)	Remaining Landfill Capacity	Remaining Landfill Years
2000	4,854,454	7,917,759	8.94	109,075,767	13.79
2005	5,267,024	8,593,413	8.94	68,811,318	8.01
2010	5,688,275	9,280,704	8.94	25,156,962	2.71
2015	6,128,339	9,998,691	8.94	-21,964,545	-2.19
2020	6,588,779	10,749,922	8.94	-72,709,231	-6.76

Source: Annual Reporting Program for Permitted MSW Facilities 2000 Data Summary, TCEQ

Expanded and Planned Facilities

Current known facility planning efforts include the following:

- New Type IV facility (MSW #2282): The proposed 258 acre Juliff Gardens landfill is located in Brazoria County.

- New Type IV facility (MSW #2276): The proposed Applerock Group landfill is located in Harris County. The property consists of 101 acres of land with a 60-acre waste footprint. The maximum height of the top of the slope of the proposed landfill is 50 feet. The “Land Use Only” application is complete and was reviewed by the H-GAC Board of Directors in June 1999. The land use only application has a limited purpose of determining compatibility with surrounding land uses. The applicant has submitted a partial application that includes administrative information about the site’s location and neighboring land uses. The detailed site development plan and engineering design for the site will be reviewed at a future time only if the TCEQ determines that the application meets the rules that apply to the partial application.
- New Type V facility (MSW #40182): Ameritech Environmental Inc. plans to operate a medical waste transfer station in Harris County. The proposed facility would be authorized to accept 22,000 pounds of medical waste per day and 30 tons per month of U.S. Department of Agriculture Animal Plant Health Inspection Service waste.
- New Type V facility (MSW #42020): Aqua-Zyme Services, Inc. plans to operate a compost facility in Wharton County.
- New Type V facility (MSW #43006): Downstream Environmental, LLC plans to operate a grit and grease processing facility in Harris County. The proposed facility would treat 30,000 gallons per day.
- New Type IX facilities: There are six proposed landfill gas-to-electricity projects planned by Reliant Energy Renewables, Inc. in cooperation with Waste Management, Inc. The LFGTE projects are scheduled to open in 2002 and are planned for the following Waste Management landfills:

MSW # 48006 Atascocita Landfill	#1307B
Baytown Landfill	#1535B
Blue Bonnet Landfill	#1279
Coastal Plains Landfill	#1721A
Conroe Landfill	# 81
MSW # 48008 Security Landfill	#1752A

3. Waste Transfer, Storage, Treatment, and Processing

a) Other Permitted Solid Waste Facilities

There are currently 19 permitted or registered transfer stations (Type 5TS) in the H-GAC region handling approximately 1 million tons of waste. Also, there are four permitted recycling facilities in the H-GAC region.

b) Medical Waste

There were two active medical waste facilities in 2000, one autoclave and one incinerator. Together, these facilities processed 15 tons of medical waste.

There is one inactive medical waste incinerator in the region. Chambers County's new incinerator is also permitted to handle 20 tons of medical waste per day.

c) Liquid Waste

There were five grease trap processing facilities in 2000, three of which are active with two inactive. Two additional processing facilities were permitted in 2001. There are adequate facilities to process septic waste, grit trap waste and grease trap waste. The primary liquid waste issue in the region is unscrupulous haulers. Additional manifesting tools and / or requirements would enhance the region's local enforcement officers' ability to oversee the liquid waste haulers.

4. Waste Collection and Transportation Services

Registered MSW Facilities and Citizen Collection Stations

There are now 18 citizen collection stations (CCS) in the H-GAC region. These facilities are listed in Appendix D.

There are numerous waste haulers in the H-GAC region including:

- BFI
- City of Houston
- Country Waste
- Republic Waste Services
- Waste Management of Texas

While there are facilities and haulers available to service the entire region, there are still those individuals that choose not to subscribe to collection services. Outdoor burning persists in rural areas and illegal dumping continues to plague developed areas as well. It is estimated that 75,000 people in Harris County do not subscribe to a garbage collection service. The region should work together to develop a system of mandatory collection where possible.

5. Recycling Services

a) Source Reduction and Recycling Program

In 1992, thirty-four (34) local communities, including cities, counties, and census designated places had some type of recycling and/or waste reduction in place. In 2001, 49 communities offered curbside recycling and 74 municipal recycling drop-off centers were located in the region.

In 2000, 25% of the population of Texas had curbside recycling available. Curbside recycling was available to 23% of the general population or 37% of the homeowners in the H-GAC region. In the region, 39% of the population lives in multi-family dwellings and rely on drop-off sites for recycling.

Municipal recycling programs typically collect newspaper, aluminum and steel

cans and plastic containers. Glass containers are also collected but not as frequently. Used oil and oil filters are accepted at many local retailers as well as at many municipal barns. There are over 400 used oil collection sites in the region.

The recycling programs in the region can be located by zip code using the website www.cleanup.org or the phone number 1-800-CLEANUP.

H-GAC should:

- Fully identify the populations served by curbside recycling, including MUD's and community associations.
- Provide curbside recycling to a larger percentage of the region's population.
- Identify areas where drop-off sites are needed.
- Create a pilot program for curbside recycling programs in multi-family dwellings.

b) Recycling Markets

Recycling activities within the H-GAC region are primarily influenced by the availability of markets. Houston and nearby communities have relatively easy access to end-markets. Many large end-markets are drawn to the Houston-Galveston region because of Houston's large population base, which can supply a sufficient amount of recyclable materials to serve as material input.

c) Material Recovery Facility (MRF)

Within the region, the increased collection of recyclables has spurred an expansion of several sorting/processing centers. There are five private MRFs in operation. Additionally, there are two processing centers focusing on workplace recycling. They are listed as follows:

- BFI's Recyclery at McCarty Road
- Waste Management, Inc.'s Atascocita Recycle America Facility in Humble (includes electronics recycling)
- Waste Management, Inc.'s Coastal Plains Recycling and Disposal Center in Alvin
- Abitibi Consolidated's Paper Retriever (2000 "Retriever" collection bins) and Recycling Center
- Brazoria County Recycling Center (operated by Brazosport Environmental and Recycling Services) MSW Permit #2235
- Harris County Workplace Recycling Program
- Galveston County Workplace Recycling Program

d) Marketing Cooperative

The Central Texas Recycling Association (CTRA), a non-profit recycling market cooperative, has been serving the region since 1995. CTRA operates in the 58-county service area of the LCRA and includes 124 incorporated cities.

CTRA has three contracts for the sale of recyclable materials that include all paper grades, aluminum cans, steel cans, plastics and glass. The following H-GAC member governments participate with CTRA:

- Brazoria County
- Colorado County (partial)
- Columbus, City of
- Fort Bend County
- Fulshear, City of
- Wharton County
- Weimar, City of

e) Compost / Mulch

There are several composters in the region as listed in Appendix D. Wood Resources Inc. is located in Harris County but has ceased operation due to a severe fire at the facility in 2001. Also Synagro composts domestic water and wastewater treatment plant sludge.

f) Concrete

Concrete is perhaps the largest and most easily recycled product in the region. The public can dispose of concrete for free at local recyclers. Southern Crushed Concrete, the primary concrete recycler in the area, operates eight processing yards in the region. Additionally, Cherry Crushed Concrete operates two processing yards and a mobile processing unit.

g) Glass

Strategic Materials, Inc., the largest glass recycler and powdered glass processor in North America, is headquartered in Houston. The company has scaled back processing operations in the region following the shutdown of the Anchor glass plant four years ago.

h) Metal

Aluminum: The region has several outlets for aluminum and scrap metal in general. Arsham Metal Industries produces aluminum alloys from secondary aluminum. However, Rexam beverage closed their Houston plant in 2001.

Scrap Metal: The region has a mature scrap metal collection and processing infrastructure. Numerous companies such as Commercial Metals and CFF Recycling collect and process scrap metal here for shipment to manufacturing sites worldwide.

Zinc: U.S. Zinc Corporation, the leading zinc recycler, operates a plant in Houston.

i) Paper

Abitibi Consolidated collects paper from other adjacent states as well as all of Texas to supply its de-inking facility in Sheldon. The Sheldon plant produces 100% recycled newsprint. The vast volume of paper needed to support the facility is beyond the quantity collected from the region. Tascon Industries is another large paper recycler in the region. Tascon processes 13,000 tons of paper into insulation, mulch and absorbents annually. International Cellulose also recycles paper and produces a spray on acoustical finish. Acco Waste Paper, a broker, is the primary purchaser for corrugated cartons in the region.

j) Plastic

USA Polymer's Houston plant recycles polyethylene (#1 PET) and polypropylene (#5). The company is associated with Superbag Corporation, also located in Houston, who produces HDPE (#2) grocery bags and has the ability to use recycled feedstock. RC Plastics, Inc. produces polycarbonate (#7) and nylon 6 (carpet) from recycled material.

k) Rubber

TieTek produces railroad ties from recycled tires. The Houston plant opened in July 2000.

l) New Recycling Markets

Reactive Energy, a plastic recycler, is considering Houston as a future manufacturing location.

m) Tires

H-GAC previously contracted with Waste Recovery, Inc. (WRI) for the collection, transportation and disposal of tires within the H-GAC region. The contract with WRI expired at the end of August 2001. A Request for Bids was issued in May 2001. H-GAC received only one bid from Recovery Technologies Group (formerly WRI). The Texas Building and Procurement Commission (formerly the General Services Commission) has a valid contract with Recovery Technologies Group (RTG) with similar prices to the bid response. H-GAC rejected the bid since prices were comparable to those available through the state. H-GAC solicited comments from other tire vendors as to why they did not bid, but no comments were received. If needed, H-GAC may re-issue a Request for Bids again in the future.

The H-GAC region does not currently have a tire recycler. Eleven tire processors in the region are registered with TCEQ. Tires are either chipped or shredded and then sent to a municipal solid waste landfill. Green Tree Resorts, LLP, is a participant in the Land Reclamation Project Using Tires (LRPUT). The facility receives and shreds tires, and then mixes the tires with soil or inert fillers. The resulting mixture is then used as fill for sand or gravel pits. This is

the least preferred method of dealing with tires, as it depletes valuable landfill space. Abitibi Consolidated, Sheldon Division, is the only energy recovery facility in the H-GAC region that is registered to use tires for fuel. Tires can also be used as fuel for cement kilns, however this process is not used within the region. Supporters of tire-derived fuel say that tires burn cleaner than coal and that the whole tire, including the metal, is used in the burning process. A copy of the inventory of tire processors is located in Appendix D.

6. Household Hazardous Waste (HHW) Services

a) Local Government Household Hazardous Waste Facilities

The City of Houston operates one permanent HHW center. The Environmental Service Center provides Houston residents with a drive-through, drop-off location to deposit HHW. In addition to the permanent center, the City of Houston operates a limited HHW collection center for batteries, oil, oil filters, paint, and antifreeze. The collection center is called the BOPA. The City's BOPA serves as a regional facility as any resident from the H-GAC region may drop-off materials. The City of Houston operates a mobile BOPA unit as well. Fort Bend County also operates a permanent HHW / BOPA center for Fort Bend County residents.

b) Regional Household Hazardous Waste Contract

In the fall of 1999, H-GAC contracted with MSE Environmental, Inc., for the collection, transportation and disposal of HHW within the H-GAC region. In August 2001, the contract was extended for another two-year period. The contract covers both one-day collection events and permanent HHW facilities. MSE Environmental's pricing includes labor, equipment, supplies, transportation and disposal. The pricing is based on all-inclusive per container prices. The mobilization cost for one-day collection is based on the number of participants and for the permanent facility it is based on the county in which the facility is located.

c) Electronics Waste (E-Waste, E-Scrap)

Electronic waste, commonly referred to as e-scrap or e-waste, consists of electronics such as computers, televisions and cell phones. E-waste typically contains metals, such as mercury and lead, which should not be landfilled. Texas Correctional Industries recycles computers through the Wynne Computer Recovery Operation in Huntsville. The program uses inmates to refurbish state-owned computers for use in public schools. The City of Houston started collecting electronic and computer waste in October 2001 at the Environmental Service Center and the Westpark Recycling Center. The City of Houston contracts with Waste Management to recycle the computers at Waste Management's Atascocita Recycle America Facility in Humble.

7. Litter and Illegal Dumping

Within the H-GAC Region, there are 14 different environmental enforcement programs ranging in levels of sophistication and maturity. Each program is tailored to the area that it serves. The majority of the programs serve an entire county; however, some of the programs target one city only. A listing of the environmental enforcement programs within the region are listed in Appendix E.

The type of material illegally dumped varies by county. Fort Bend, for example, has a problem with sham recyclers (companies that are not recycling the materials they collect). Harris County also has a problem with sham recyclers. In November 2001, a large composting operation caught fire and cost Harris County over a million dollars to extinguish. Walker County has a problem with illegal dumping of household garbage perhaps because there is no mandatory garbage collection. Montgomery County has a problem with illegal dumping of construction/demolition material due to the increase in residential building construction. One area in particular in Montgomery County, Tamina Village, once had a large illegal landfill operation. The site was finally cleaned up after legal action was executed in early 2002.

Within the H-GAC region, there are several training and educational opportunities for personnel responsible for the local enforcement of illegal dumping laws. H-GAC has developed several manuals to assist local governments with problems associated with local enforcement and illegal dumping. The manuals are listed below:

- *Guide to Developing Community Solid Waste Facilities, 1999*: This workbook provides an opportunity to evaluate the addition of a service to the community that is likely to decrease illegal dumping and its associated costs.
- *Establish and Operate a Successful Environment Enforcement Program, 1999*: The purpose of the manual is to provide local governments with a tool that can be used in establishing and managing effective environmental enforcement programs.
- *Review of Illegal Dumping in Montgomery and Wharton Counties, 1997*: The report presents a series of recommendations for eliminating the problems of illegal dumping. The pilot study also determined the severity of illegal dumping, current control measures, location of the primary illegal disposal sites, waste stream characterization and the cost of on going clean up for Montgomery and Wharton Counties.

a) Local Enforcement Roundtable

H-GAC sponsors a local enforcement roundtable to provide a forum for discussing illegal dumping issues within the H-GAC region. The group includes peace officers, county prosecutors, city officials and personnel from TCEQ's Region 12 office. The Roundtable has proposed the development of a regional database of illegal dumpers using GIS. The database would track illegal dumping within the region, provide geographic analysis of illegal dumping and assist with grant evaluation.

b) Trash Bash

Trash Bash is an annual spring clean-up event of Houston-area rivers, lakes, bays and bayous. The mission of this non-profit organization is to promote environmental stewardship of watersheds through public education by utilizing hands-on educational tools and by developing partnerships between environmental, governmental, and private organizations. In 2001, 4,830 volunteers participated in collecting 228 tons of trash and 677 tires from Houston-area waterways. The annual event began in 1993 and encourages citizens, scouts, industry employees and other groups in the area to participate. The organization seeks donations from private industry, water recreation organizations, environmental groups and government agencies.

To maximize resources, H-GAC should consider the formation of a regional local enforcement task force or similar organization. The purpose would be to pool resources and coordinate individual efforts of the parties. Thereby increasing their efficiency and effectiveness in combating illegal disposal of solid waste.

8. Facility Siting

Evaluating Proposed Sites for Facilities. In many cases, the siting of new solid waste facilities continues to be troublesome. In the 77th Texas Legislative session (2001), several bills were introduced regarding the siting of solid waste facilities. However, none of the proposed bills were acted upon. Real or perceived impacts of landfills focus on environmental and land use compatibility issues. The TCEQ has adequate statutory authority to address environmental concerns. However, many of the non-environmental impacts, such as traffic, noise, or impact of property values are beyond the TCEQ's jurisdiction. In 1998, the TCEQ undertook a re-evaluation of municipal landfill land-use policies, paying particular attention to land-use compatibility for new landfills proposed at undeveloped sites. However, the TCEQ commissioners did not take any specific action or issue any new guidance.

Under the authority of the Texas Health and Safety Code §361.162, §363.112 and §364.012, Texas counties may adopt ordinances limiting solid waste disposal to designated locations. Within the H-GAC region, three counties, Chambers, Brazoria, and Fort Bend, have adopted such ordinances. The Chambers County ordinance was enacted in February 1998. The Brazoria County ordinance was adopted in March 2001 and the Fort Bend County ordinance was adopted in January 2002. In addition, House Bill 2912 amended §361.122 to deny certain Type IV landfills. Currently this section is applicable in Brazoria and Galveston counties.

9. Closed MSW Landfill Inventory

An inventory of closed municipal solid waste landfill units is required to be compiled by each Council of Governments (COG) under Section 363.064(a)(10) of the Texas Health and Safety Code, as amended by Senate Bill 1447, 76th Texas Legislature. As per the statutory provisions, the inventory is to include:

- Where exact boundaries are known, a description of the exact boundaries of former landfill units
- If exact boundaries are not known, a description of the approximate boundaries of the former landfill units
- Where the exact boundaries are not known, include a map of the approximate boundaries of the former landfill units
- If known, the current owners of the land on which the former landfill unit is located
- If known, the current use of the land

In September 1999, H-GAC selected the consultant team of Wilbur Smith Associates and Corrigan Consulting, Inc. to assist with the development of the inventory. The first phase of the inventory involved the gathering of information. The second phase involved public review, adoption of the inventory, and incorporation into the regional solid waste management plan.

After the adoption of the inventory, H-GAC is charged with several other actions. The next phase will involve contacting the property owners on which the exact boundaries of a closed landfill unit have been identified. H-GAC is also responsible for providing county clerks and chief planning officials in the H-GAC region with a copy of the inventory. The county clerks will deed record a description of the exact boundaries of the former landfill unit, or the best approximation if the boundaries are not known, a legal description of the parcel of land in which the former landfill unit is located, notice of its former use, and notice of the restrictions on the development or lease of the land. The inventory will also be available to the public via the Internet.

Five hundred and four sites have been identified within the H-GAC region. A summary of the inventory by counties is provided in Table 6.

Table 6. Summary Table of Closed Landfill Inventory

County	TOTAL NUMBER OF SITES	PERMITTED	UNAUTHORIZED	EXACT BOUNDARIES	GOOD APPROXIMATION	ESTIMATED	UNKNOWN	AFFIDAVIT TO PUBLIC	SITE RESEARCH SUSPENDED	RECOMMENDED FOR REMOVAL	FLAGGED FOR POTENTIAL CONCERNS
Austin	11	8	3	4	2	2	3	6	0	2	0
Brazoria	49	14	35	2	9	1	37	9	4	15	6
Chambers	13	1	12	0	1	0	12	1	4	0	0
Colorado	20	4	16	0	1	1	18	1	3	3	0
Fort Bend	27	11	16	2	3	4	18	3	3	3	2
Galveston	39	6	33	0	6	4	29	4	5	5	13
Harris	223	53	170	17	18	24	164	29	6	18	29

Liberty	20	10	10	5	5	1	9	10	5	4	2
Matagorda	21	9	12	1	5	3	12	6	1	1	3
Montgomery	47	12	35	2	32	1	41	4	6	8	19
Walker	8	7	1	0	4	1	3	2	0	1	3
Waller	14	10	4	1	7	1	5	6	0	2	0
Wharton	11	7	4	1	4	1	5	6	0	1	3
Total	504	153	351	35	68	44	357	88	36	64	80

10. Local Solid Waste Management Plans

a) City of Huntsville, Texas Local Solid Waste Management Plan (2001-2020):

The City of Huntsville adopted a local plan in July 2001, which was subsequently adopted by the H-GAC Board of Directors on August 21, 2001. The TCEQ has concluded their initial review and has found the plan to be in conformance with the applicable regulations. As of January 2002, the plan has tentative TCEQ approval, pending official adoption by the TCEQ Commissioners. The Huntsville Local Plan is intended to serve as a long-range guide for the City of Huntsville and other entities in Walker County that are involved in the management of solid waste. The four goals of the plan are as follows

- a) Identify and evaluate opportunities for the City of Huntsville to coordinate and link operations with other private or public entities such as Walker County, the Texas Department of Criminal Justice (TDCJ), and Sam Houston State University (SHSU).
- b) Identify and evaluate long-term options for transfer and disposal of solid waste.
- c) To the extent that it is economically feasible, increase waste minimization and recycling activities.
- d) Collect and dispose of waste cost-effectively while operating safely.

The local plan also outlined several key recommendations:

- a) Update solid waste ordinance to reflect new rates.
- b) Create a permanent solid waste advisory committee.
- c) Determine whether to automate garbage collection.
- d) Explore opportunities for City to collect solid waste from SHSU.
- e) Create a franchise for construction and debris (C&D) collection.
- f) Discuss disposal options with TDCJ and SHSU.
- g) Identify level of recycling services desired by citizens (and willingness to pay).
- h) Implement a public education campaign regarding recycling.
- i) Coordinate with Walker County regarding illegal dumping.

b) Fort Bend County Technical Study

Fort Bend County completed a technical study of solid waste issues in September 2001. The H-GAC Board of Directors adopted the technical study on September 18, 2001. In November 2001, the TCEQ reviewed the study and found it acceptable.

The Fort Bend Technical study is intended to provide a twenty-year solid waste planning tool for Fort Bend County. The study provides an in-depth description of the solid waste services provided within the County. In addition, the study identifies certain areas within the County that could potentially benefit from the provision of additional solid waste services.

The study is divided into four sections:

1. Description of planning area
2. Current solid waste services
3. System evaluation and needs assessment
4. Recommendations

The study outlined several key recommendations:

- Solid waste collection: Mandatory garbage collection for all cities; register all private operators; and begin dialogue with homebuilders (to reduce illegal dumping of construction debris)
- Residential recycling: Expand recycling trailer usage; recycle white goods at County's recycling and environmental center; and explore computer recycling options
- Yard waste diversion: Promote increased diversion of yard waste
- Other: Establish a permanent solid waste advisory council; coordinate countywide public awareness campaigns, clarify the County's position on burning; continue environmental enforcement efforts; track and monitor liquid waste; evaluate emergency plans for solid waste issues; and review staffing needs for the County.

- **Colorado County and the Cities of Columbus and Eagle Lake**

These local governments will soon be losing the landfill they currently use. The Type I landfill, operated by Laidlaw Environmental Services, Inc., is expected to close in the next year. Colorado County will be left without an active landfill. While the TCEQ has conducted a Solid Waste Assistance Partnership (SWAP) study by request of Colorado County and its incorporated cities, there are many issues still unresolved. A study regarding specific options and costs is still needed.

- **Harris County and Surrounding Counties**

Harris County and the surrounding counties should consider special studies, plans, and/or ordinances regarding solid waste facility siting issues. Furthermore, the counties would benefit from having long range solid waste management plans to assist in the planning for solid waste program and activities. As the region continues to develop, the siting of new facilities, such as Type I and Type IV landfills and transfer stations, will continue to be

complex. It would be prudent for the counties to investigate what tools they have at their disposal to aid in the governing of facilities. The planning for convenient, safe, cost-effective capacity is needed. In the near future, the complexity of siting facilities may reach beyond disposal facilities to other type of facilities such as HHW permanent centers, composting centers, etc.

iii. **Regional Goals, Objectives, and Action Plan**

A. Summary of Needs and Problems

During the regional plan amendment planning process, H-GAC solicited comments regarding regional and local needs and problems. Two formal Needs Assessment Meetings were held with attendance of approximately 60 for the combined meetings. Additionally, comments were requested via the Department of Community and Development e-newsletter and direct contacts. To assist staff in formulating the Needs and Problems, H-GAC convened a subcommittee to help determine needs.

The needs and problems listed below are based on the regional analysis information and public comment. Related implementation strategies for the Needs and Problems can be found in the Goals and Objective section.

1. Storm Debris

- a) Need to develop model “storm chaser” contract.
- b) Concern regarding continued uses of trench burners as a disposal option in non-attainment areas.
- c) Concern with disposal costs of storm debris.
- d) Concern for lack of organic materials processing centers that can handle storm debris (capacity issue and distribution of facilities).
- e) Need for resources to assess amount of damages and distribution of storm impact.
- f) Need to determine staging areas for storm debris cleanup (subregional and local).

2. Construction & Demolition debris

- a) Need to quantify and characterize the construction and demolition debris for the region.
- b) Concern with sham recyclers (companies that are not recycling the materials they collect).
- c) Need for source separation at construction sites.
- d) Need to promote reuse and recycling over disposal.

3. Local Enforcement & Illegal Dumping

- a) Need for training for peace officers, prosecutors, and judges.
- b) Need for standardize reporting requirements (database).
- c) Need to establish equipment specifications minimum program standards.
- d) Need to centralize local officers.
- e) Need for regional educational materials.

- f) Concern with sham recyclers; need to conduct analysis on reasons for dumping, location, frequency, and waste characterization of illegal dumpsites.
 - g) Need to promote the use of weight-based disposal (scales).
 - h) Need for special prosecutor to work within H-GAC region.
 - i) Need to increase the number of Park and Wildlife Game Wardens within region.
 - j) Concern over outdoor burning.
4. **Outdoor burning**
- a) Concern if burn barrels/trench burners are banned/limited.
 - b) Need to conduct a study to determine the usage of burn barrels and relationship to legal disposal facilities.
 - c) Concern about enforcement issues.
5. **Organic Materials**
- a) Concern that there is a lack of processing capacity for organic materials.
 - b) Need to expand on beneficial uses of compost.
 - c) Need to increase processing capacity and expand distribution of facilities.
 - d) Concern that participation in backyard composting declining.
 - e) Need to address organic materials in commercial and institutional sectors.
 - f) Need to build/expand partnerships between local governments & private sector.
 - g) Need for continued market development.
6. **Education**
- a) Concern that there is a general public lack of knowledge of environmental laws.
 - b) Need to continue training of teachers.
 - c) Need to maximize training dollars; need to develop regional educational campaigns with opportunities for local tie-in.
 - d) Promote regional education and training materials and campaigns.
 - e) Need to evaluate the effectiveness of campaigns and outreach materials.
7. **Networking opportunities**
- a) Need to share information in a cost-effective manner.
 - b) Need to maintain general awareness of solid waste issues with the general public and local officials.
8. **Recycling Including Electronics**
- a) Need to increase amount of materials recycled.
 - b) Concern that recycling programs tend not to be cost effective.
 - c) Need for alternative end uses (i.e. glass and tires).
 - d) Need for more multi-family recycling.
 - e) Need for more recycling drop-off centers.
 - f) Need to continue to promote existing programs.
 - g) Need for strong buy-recycled campaign; concern with high cost of transportation from outlying communities.
 - h) Need to expand participation in existing programs.
 - i) Need to fully develop curbside programs.
 - j) Need to develop recycling programs.
 - k) Need to develop regional recycling/disposal contract.
 - l) Need to obtain better cost figures.

9. **Agricultural waste**
 - a) Need to obtain better waste characterization and volume estimates.
 - b) Need to investigate potential environmental risks associated with agricultural waste.

10. **Household Hazardous Waste (HHW)**
 - a) Concern with high cost of disposal.
 - b) Possibly establish “scholarship” fund for 1st time programs.
 - c) Need to promote permanent facilities over one-day collection events.
 - d) Concern that private donations to offset disposal cost are declining.
 - e) Need to promote regional collection centers and promote shared costs.
 - f) Need to investigate permanent and mobile batteries, oil, latex paint and antifreeze facilities (BOPAs).
 - g) Need to focus on education programs as collection events are collecting less tonnage over time.
 - h) Need for regional public outreach campaigns that focus on alternative uses as well as proper disposal.

11. **Local Solid Waste Plans and/or Technical Study**
 - a) Need to have public entities do a comprehensive study of what programs they have in place and what opportunities they might be missing.
 - b) Need to focus on regional/subregional programs.
 - c) Need to address areas without long-term disposal capacity (10 years or less).
 - d) Need to address long-term sustainability of projects/finds ways to promote regionalism.

12. **Closed Landfill Inventory**
 - a) Need for further investigation on many sites especially in counties that are developing quickly.
 - b) Need to perform environmental risk assessment on sites.

13. **Scrap Tires**
 - a) Need for regional disposal contract.
 - b) Need to develop markets/need to attract alternative uses.
 - c) Need to locate additional end users to H-GAC region.
 - d) Concern with high cost of disposal.
 - e) Concern on amount of tires illegally dumped.

14. **Collection and disposal**
 - a) Need for affordable and convenient collection and disposal options (i.e. citizen collection stations).
 - b) Need to determine which cities have mandatory collection vs. subscription service.
 - c) Need to register all private haulers within cities/counties.
 - d) Need to have counties consider adoption of county landfill siting ordinance.
 - e) Need to have cities address siting of solid waste facilities (landfills, transfer stations, recycling centers, etc.).
 - f) Need to educate counties on collection options including newly passed

- legislation.
- g) Need to address subregions that lack long-term disposal capacity (10 years or less).
 - h) Need to promote the use of weight-based disposal (scales).

B. Goals and Objectives

The regional plan amendment establishes three broad goals for solid waste management within the H-GAC region. The first goal relates to technical assistance, planning and coordination programs. The second goal deals with planning for solid waste facilities and associated H-GAC permit review criteria. The third and last goal pertains to reduction and recycling of all types of waste. Each of the goals is followed by a series of objectives and implementation strategies. Three planning timeframes, short-term (1 to 5 years), intermediate (6-10 years), and long-term (11-20 years or longer), have been set for each of the objectives.

1. Goal 1

Provide services and technical assistance support of local and regional solid waste management planning.

Objectives

- a) Develop regional cooperative service contracts such as regional household hazardous waste collection contract. (*Short-term*)
- b) Promote region-wide membership in environmental professional organizations and trade associations with a solid waste emphasis. (*Intermediate*)
- c) Assess disposal capacity needs to identify the best approach to meet local capacity needs. (*Short-term*)
- d) Support regional and local efforts to identify areas with litter and illegal dumping problems. (*Short-term*)
- e) Continue to develop and maintain an inventory of solid waste management facilities located in the H-GAC region. (*Short-term*)
- f) Maintain a regional clearinghouse on solid waste management practices of H-GAC local governments. (*Short-term*)
- g) Serve as central point of contact for solid waste management outreach, education and training programs. (*Short-term*)
- h) Continue development of a regional geographic information system (GIS) for the H-GAC region. (*Short-term*)

2. Goal 2

Promote the planning for adequate municipal solid waste disposal, handling and management facilities.

Objectives

- a) Continue to review permit applications for municipal solid waste management facilities. (*Short-term*)

- i. Review compliance history and operational record of permit applicant consistent with state and local practices.
- ii. Encourage landscaping and visual screening of sites.
- iii. Advocate aerial buildup with consideration of surrounding topography and screening.
- iv. Encourage applicant use of the “land use” hearing option to provide opportunities for community participation early in the permitting process.
- v. Require consideration of surrounding land use when establishing buffers and setbacks; encourage long-range land use planning at the county level.
- vi. Encourage long-range planning at the county level including adoption of landfill siting ordinances⁵;
- vii. Encourage consistency with local comprehensive plans and zoning ordinances;
- viii. Require consideration of community growth patterns and trends
- ix. Require consideration of possible impacts of a proposed facility on residents and the local community
- b) Encourage the development of facilities that reduce, reuse or recycle waste materials. *(Short-term and Intermediate)*
- c) Encourage appropriate distribution of facilities to minimize transportation costs. *(Short-term)*
- d) Encourage the development of larger regional facilities to the extent practical and where such facilities would be the best alternative. *(Short-term)*
- e) Encourage expansion and redevelopment of existing municipal solid waste facilities, where feasible, over siting of new facilities. *(Short-term)*
- f) Encourage development of transfer stations and citizen collection stations, where appropriate. *(Short-term and Intermediate)*
- g) Continue to endorse the consideration of integrated waste management. *(Short-term)*

3. **Goal 3**

Promote the options for reduction and recycling of waste disposal in municipal solid waste management facilities.

Objectives

- a) Develop and implement on-going public awareness programs to encourage waste minimization, reduction and recycling. *(Short-term and Intermediate)*
- b) Target waste reduction activities to the major components of waste disposal. *(Intermediate)*
- c) Target waste reduction activities to certain components of the waste stream that may pose a special risk or problem. *(Long-term)*

C. Action Plan

1. Plan Conformance/Permit Review

The Texas Commission on Environmental Quality (TCEQ) requires that all municipal

⁵ Specific citations can be found in Health & Safety Code §361.162, §363, 112, and §364.012

solid waste (MSW) facilities proposed for siting in the H-GAC region must conform to the Regional Solid Waste Management Plan, as stipulated in the Texas Health and Safety Code §363.066 and the TCEQ rules (30 TAC §330.566).

The H-GAC Board of Directors (Board) and/or its Project Review Committee will review permit and registration applications filed with the TCEQ to assess their conformance to the plan. The Board's findings will be submitted to the TCEQ for consideration when the Commission decides whether to grant the permit or registration request.

Voluntary Pre-Application Review

A potential permit or registration applicant may request a meeting with H-GAC staff to discuss an impending application, its conformance with the regional plan and steps that may be taken to meet the region's solid waste planning goals. Staff will provide a copy of the Regional Solid Waste Management Plan, review plans for proposed facilities and explain the review process. This pre-application meeting is recommended but not required.

Submitting a Review Request

Subchapter E of the TCEQ's permitting procedures (§330.51 (10)) states that it is the responsibility of the applicant to demonstrate conformance with the regional solid waste plan. Applicants may request a conformance review of their registration or permit application by submitting the following information to H-GAC:

1. One (1) copy of the Application to the TCEQ for Permit or Registration, Parts 1 and 2 or registration materials.
2. One (1) originally signed copy of the H-GAC Solid Waste Plan Conformance Checklist. The applicant will complete the form to the best of his or her ability to indicate how the proposed facility will help in promoting the goals and objectives of the regional plan. The chief administrative officer of the applicant organization must sign the form to attest to the accuracy and truthfulness of the information presented.
3. A five (5) year compliance history of the applicant and its owner(s) including all similar MSW facilities owned or operated by the application in the H-GAC region⁶. The compliance history will include actions by local and state regulatory agencies. If the applicant does not have comparable facilities in the H-GAC region, then a five (5) year compliance history of facilities in the State of Texas may be substituted. H-GAC may ask for additional information regarding operations outside the State of Texas should the applicant be unable to provide sufficient information regarding operations within the State.
4. A cover letter with contact information for the applicant, the applicant's engineer and the TCEQ staff person to whom all review-related correspondence should be sent. Contact information should include name, phone number, mailing address and email address (if available).
5. A map showing the physical location of proposed or existing facility.
6. One page Summary assessing the compatibility of the proposed facility with

⁶ http://www.tnrcc.state.tx.us/enforcement/compl_histories.html

- the regional plan.
7. Any additional information the applicant wishes to provide to facilitate the H-GAC review process.

Requests for permit or registration review shall be submitted to:

H-GAC

Solid Waste Program Manager
3555 Timmons Lane, Suite 120
Houston, Texas 77027

PO Box 22777
Houston, Texas 77227-2777

The SWMC review and comment period will not begin until all required information has been submitted in its completed form.

Once it has been determined that the information has been properly filed, the Solid Waste Program Manager will confirm its receipt in writing to the applicant. Applicants will be notified in writing of the application review date and are strongly encouraged to attend the Board meeting in order to answer questions regarding their application.

Review Considerations

The Board will consider the following factors when reviewing permits and registration applications:

1. Conformance to the goals and objectives of the Regional Solid Waste Management Plan and
2. Compliance history of the applicant and its owner(s).

The Board will review and comment on the appropriateness of the proposed facility in relation to surrounding land use. In considering the facility's compatibility with existing and proposed land use, the Board will examine the following factors:

- Compliance with zoning measures, siting ordinances and/or other land use controls in the vicinity;
- Affect on community growth patterns;
- Impact of the facility on the appearance of the surrounding area;
- The measures that will be taken, if necessary, to blend the appearance and operation of the proposed facility in with its surroundings;
- Impact of adjacent and surrounding land uses; and
- Other factors associated with the public interest.

H-GAC reserves the right to solicit comments from local governments, individuals, and organizations, and local governments located within the proposed facility's impact area when considering the general land use compatibility factor.

Plan Conformance and Recommendations

The H-GAC Board of Directors will determine whether the proposed facility conforms to the Regional Solid Waste Management Plan and recommend a course of action

to the TCEQ. The Board does not approve or deny applications. Rather, it provides a means for the TCEQ to obtain qualified opinions from local governments in the affected region.

1. The permit or registration conforms to the plan.
 - a. The Board recommends approval of the permit or registration.
 - b. The Board recommends approval with specific conditions attached.
2. The permit or registration does not conform to the plan.
 - a. The Board recommends the permit or registration be found inconsistent with the regional plan.
 - b. The Board recommends withholding approval until specified deficiencies are corrected.
 - c. The Board recommends additional action by the TCEQ before making a determination on the permit or registration
3. The Board lacks sufficient information to make a qualified conformance determination.

Report on Review Findings

H-GAC staff will be responsible for communicating the Board's findings in writing to all affected parties. Within 10 business days of the review meeting, H-GAC staff will send a letter to the TCEQ, relating the Board's finding, recommendation and concerns. Copies of the letter will be sent to the applicant.

Appeals Process

As the H-GAC Board of Directors is vested the responsibility for MSW facility application review, its recommendations will generally be final.

An applicant may appeal the Board recommendations if the application review is not processed and treated in accordance with the procedures set forth in this section. Appeals must be submitted to the H-GAC Executive Director in writing, including the specific alleged procedural violation(s). The Executive Director will investigate the allegation, forward it to the Board officers and place the appeal on the agenda of the H-GAC Board of Directors.

An appeal can be filed at any time during the 5-day period following the Board's review meeting and decision. Any appeals received after that date will not be considered and the Board of Directors' recommendation letter will be immediately forwarded to the TCEQ.

The protesting applicant will be notified of the time and date for consideration of the appeal. At this time, the applicant may present its case directly to the Board of Directors, which will render a decision on the matter.

2. Grants Funding Plan

a) Regional Solid Waste Management Plan Priorities

H-GAC has chosen not to prioritize its goals due to the diversity of the region. It is not feasible to set priorities. Each local government entity will have different priorities depending on its population size⁷ and levels of solid waste needs and services. Grant funds may be used to implement any of the implementation strategies identified in the Goals and Objective sections.

b) Specific Projects

This section of the plan includes types of projects that H-GAC may allocate funds to during the various planning timeframes⁸. This listing is not all-inclusive and may be expanded. The projects listed may be implemented either by H-GAC and/or local governments. For regional projects, H-GAC will assume the lead responsibility. The projects listed below are not in priority order.

Storm Debris

- Conduct waste generation model, including GIS component to classify types and quantities of waste. (*Short-term*)
- Locate local and sub-regional staging areas as part of planning process. (*Intermediate*)
- Conduct a cost analysis to include FEMA reimbursement and a model debris contract for local government usage. (*Long-term*)

Local Enforcement and Illegal Dumping

- Develop regional local enforcement resource center to include a database of illegal dumping activities and equipment standardization. (*Short-term*)
- Establish a professional development program for local enforcement personnel. (*Intermediate*)
- Expand regional personnel to include prosecutor circuit riders and Texas Parks and Wildlife game wardens. (*Long-term*)

Education/Networking

- Develop regional educational program to include publicly available database of locations, PSAs, and sample brochures for:
 - Grass Cycling (*Short-term*)
 - Household Hazardous Waste (*Intermediate*)
 - Recycling including Buy Recycled (*Long-term*)

Recycling including Electronics

7 Within the H-GAC region, the populations of cities range from 38 to 1,953,631 (2000 Census). One hundred and twelve cities have a population less than 50,000. Four cities have a population range between 50,000 and 150,000. Only one city has a population over 150,000 (City of Houston's population is 1,953,631).

8 Three planning timeframes, short-term (1 to 5 years), intermediate (6-10 years), and long-term (11-20 years or longer), have been set for each of the objectives.

- Establish joint agreements to study and initiate the development of transfer stations for recyclables. *(Short-term)*
- Promote regional electronics recycling *(Intermediate)*
- Create pilot programs for recycling in multi-family dwellings and commercial establishments. *(Long-term)*

Scrap Tires

- Implement a regional scrap tire disposal contract. *(Short-term)*
- Develop alternative tire end uses, i.e. beach restoration. *(Intermediate)*
- Investigate opportunities to develop the tire-derived fuel market. *(Long-term)*

Collection and Disposal

- Inventory available regional collection services to identify collection service gaps. *(Short-term)*
- Encourage local governments to require mandatory garbage collection service or develop citizen collection stations to eliminate collection gaps. *(Intermediate)*
- Promote the usage of weight-based disposal (scales). *(Long-term)*

Organic Materials

- Encourage facilities to register for TCEQ's composting refund program. *(Short-term)*
- Implement comprehensive yard management program to include "Don't Bag It" program, composting basics, integrated pest management and xeriscaping. *(Short-term)*
- Increase capacity of organic materials composting and mulching operations. *(Intermediate)*
- Conduct market development strategies for organic materials composting. *(Long-term)*

Household Hazardous Waste

- Develop mobile BOPAs. *(Short-term)*
- Encourage the construction of permanent HHW collection centers over hosting one-day collection events. *(Intermediate)*
- Develop mobile HHW collection units *(Long-term)*

Local Plans and Technical Studies

- Encourage the adoption of local solid waste plans and/or technical studies for each subregion or county. *(Short-term)*
- Create permanent countywide solid waste advisory committees. *(Intermediate)*
- Encourage local governments to address solid waste facility siting in their comprehensive plans and zoning ordinances. *(Long-term)*

Landfill Siting

- Revise the regional landfill siting guidelines. *(Short-term)*
- Encourage the adoption of county landfill siting ordinances.

(Intermediate)

- Create a public participation model to facilitate landfill siting. *(Long-term)*

Closed Landfill Inventory

- Conduct workshop on TCEQ regulations regarding development over closed landfills and how to use the closed landfill inventory. *(Short-term)*
- Develop risk assessment criteria for the closed landfill inventory *(Short-term)*
- Complete data gaps. *(Intermediate)*
- Expand data management to include all facilities to ensure ease of transfer into closed landfill database once a facility has closed. *(Long-term)*

Construction and Demolition Debris

- Conduct study to quantify and characterize the Construction and Demolition debris for the region. *(Short-term)*
- Require proof of legal disposal as part of the demolition process. *(Intermediate)*
- Develop a “clean builder” program to address waste minimization in the construction industry. *(Intermediate)*

c) **Project Categories**

For the short-term planning timeframe (1 to 5 years), the following project categories have been established by H-GAC. All funded projects must fit within one or more of these categories. The project categories may be revised prior to each two-year (biennial) funding period. Eligible project categories may include:

- **Local Enforcement:** This category consists of projects that contribute to the prevention of illegal dumping of MSW, including liquid waste. Under this category, eligible activities include investigation of illegal dumping problems, enforcement of laws and regulations pertaining to the illegal dumping of MSW, establishment of programs to monitor the collection and transportation of municipal liquid waste through administration of a manifesting system and education of the public on illegal dumping laws.

Related Goals and Objectives

Goal 1-Provide services and technical assistance support of local and regional solid waste management planning.

- Support regional and local efforts to identify areas with litter and illegal dumping problems.
 - Serve as central point of contact for solid waste management outreach, education and training programs.
- **Litter and Illegal Dumping Cleanup:** This category includes ongoing and periodic activities to clean up litter and illegal dumping of MSW, excluding the cleanup of scrap tire dumping sites. Projects under this

category may support the Lake and River Cleanup events. Eligible expenses include waste removal, disposal of recycling of removed materials, fencing and barriers; and signage. Placement of trash collection receptacles in public areas with chronic littering problems may also be funded.

Related Goals and Objectives

Goal 3 –Promote the options for reduction and recycling of waste disposal in municipal solid waste management facilities.

- Develop and implement on-going public awareness programs to encourage waste minimization, reduction and recycling.

Goal 1-Provide services and technical assistance support of local and regional solid waste management planning.

- Support regional and local efforts to identify areas with litter and illegal dumping problems.
- Serve as central point of contact for solid waste management outreach, education and training programs.

- **Source Reduction and Recycling:** This category includes projects which are intended to provide a direct and measurable effect on reducing the amount of MSW going into landfills, by diverting materials from the MSW disposal stream for recycling and reuse, or by reducing waste generation at the source. This category does not include the collection, processing, and/or recycling of scrap tires.

Related Goals and Objectives

Goal 2 -Promote the planning for adequate municipal solid waste disposal, handling and management facilities.

- Encourage the development of facilities that reduce, reuse or recycle waste materials.
- Encourage appropriate distribution of facilities to minimize transportation costs.
- Continue to endorse the consideration of integrated waste management.

Goal 3 -Promote the options for reduction and recycling of waste disposal in municipal solid waste management facilities

- Develop and implement on-going public awareness programs to encourage waste minimization, reduction and recycling.
- Target waste reduction activities to the major components of waste disposal.
- Target waste reduction activities to certain components of the waste stream that may pose a special risk or problem.

- **Local Solid Waste Management Plans:** This category includes projects to develop and/or amend local solid waste management plans by local governments.

Related Goals and Objectives

Goal 2 - Promote the planning for adequate municipal solid waste disposal, handling and management facilities.

- Encourage the development of facilities that reduce, reuse or recycle waste materials.

Goal 1 -Provide services and technical assistance support of local and regional solid waste management planning.

- Support regional and local efforts to identify areas with litter and illegal dumping problems.

Goal 3 - Promote the options for reduction and recycling of waste disposal in municipal solid waste management facilities.

- **Citizen Collection Stations, Small Registered Transfer Stations and Community Collection Events:** This category includes projects to construct MSW collection facilities in areas of the region that are underserved by collection services or lack public access to proper disposal facilities. Periodic community collection events, to provide for collection of residential waste materials for which there is not a readily available collection alternative, may also be funded. This type of project may not include regular solid waste collection efforts, such as weekly waste collection. Collection events may be held no more frequently than four time per year, and must on be intended to provide residents an opportunity to dispose of hard-to-collect materials, such as large and bulky items that are not picked up under the regular collection system.

Related Goals and Objectives

Goal 2 -Promote the planning for adequate municipal solid waste disposal, handling and management facilities.

- Continue to review permit applications for municipal solid waste management facilities
- Encourage the development of facilities that reduce, reuse or recycle waste materials.
- Encourage development of transfer stations and citizen collection stations, where appropriate.

- **Household Hazardous Waste:** This category includes projects that provide a means for the collection, recycling, reuse, or proper disposal of household hazardous waste. This category may also include events conducted under the TCEQ's Texas Country Cleanup program. Projects may include permanent collection facilities, periodic collection events, consolidation and transportation of collected materials, recycling or reuse of materials, proper disposal of materials, and education and public awareness programs. *(Note: Disposal costs are limited to no more than 2 years. For first-time applicants, 100% of disposal cost will be covered, percentage for second year applications will be at the discretion of the H-GAC Solid Waste Management Committee.)*

Related Goals and Objectives

Goal 3 –Promote the options for reduction and recycling of waste disposal in municipal solid waste management facilities

- Develop and implement on-going public awareness programs to encourage waste minimization, reduction and recycling.
- Target waste reduction activities to the major components of waste disposal.
- Target waste reduction activities to certain components of the waste stream that may pose a special risk or problem.

Goal 2 -Promote the planning for adequate municipal solid waste disposal, handling and management facilities.

- Encourage the development of facilities that reduce, reuse or recycle waste materials.
- Encourage appropriate distribution of facilities to minimize transportation costs.
- Continue to endorse the consideration of integrated waste management.

- **Technical Studies:** This category includes projects for the collection of pertinent data, analysis of issues and needs, evaluation of alternative solutions, and identification of recommended actions to assist in making solid waste management decisions at the local or regional level. Projects under this category may also include research and investigations to determine the location, boundaries, and contents of closed and abandoned MSW landfills, and to assess the possible risks to human health or the environment associated with those landfills or sites.

Related Goals and Objectives

Goal 2 - Promote the planning for adequate municipal solid waste disposal, handling and management facilities.

- Encourage the development of facilities that reduce, reuse or recycle waste materials.

Goal 1 -Provide services and technical assistance support of local and regional solid waste management planning.

- Support regional and local efforts to identify areas with litter and illegal dumping problems.

Goal 3 - Promote the options for reduction and recycling of waste disposal in municipal solid waste management facilities.

- **Educational and Training Projects:** This category is intended for educational projects or training events dealing with a variety of MSW management topics.

Related Goals and Objectives

Goal 3 - Promote the options for reduction and recycling of waste disposal in municipal solid waste management facilities.

- Develop and implement on-going public awareness programs to encourage waste minimization, reduction and recycling.
- Target waste reduction activities to the major components of waste disposal.
- Target waste reduction activities to certain components of the waste stream that may pose a special risk or problem.

Goal 2 -Promote the planning for adequate municipal solid waste disposal, handling and management facilities.

- Encourage the development of facilities that reduce, reuse or recycle waste materials.
- Continue to endorse the consideration of integrated waste management.

d) Allocation and Priorities

- FY02 Budget - \$1,484,644
- FY03 Budget - \$1,484,644
- FY04/05 Budget – \$1,484,644 for each year
- Minimum or Maximum funding limits – \$10,000 minimum; no maximum funding limits are established. (Exceptions may be made at the end of the regional grant program cycles as obligated funds are returned to H-GAC .)
- Grants purchasing a single piece of equipment will be prohibited unless the equipment purchase is to enhance or expand an existing program. Typically, single equipment purchases are discouraged because they have historically been more for replacement purposes than expansions and/or enhancements.(Exceptions may be made at the end of the regional grant program cycles as obligated funds are returned to H-GAC.)
- HHW disposal costs are limited to no more than 2 years. For first-time applicants, 100% of disposal cost will be covered; percentage for second year applications will be at the discretion of the H-GAC Solid Waste Management Committee.
- Salary, including overtime, is limited to no more than 2 years; however, 2nd year funding is not guaranteed. All second year funding requests will need to compete in the overall grant process as any other grant application would need to compete.
- No funding priorities are proposed.

e) Project Selection Process

For the short-term planning grant cycles (1 to 5 years), H-GAC will utilize a competitive project selection process. All eligible entities are invited to submit applications to H-GAC. The applications are reviewed and ranked by H-GAC's Solid Waste Review Committee, using screening and selection criteria developed in cooperation with the Texas Commission on Environmental Quality (TCEQ). The Solid Waste Review Committee, consisting of six (6) members with representation from local government, private industry, citizen/environmental groups, non-profit organizations, and H-GAC staff

(tentative), will score the solid waste grant applications. All review committee members, excluding H-GAC staff are either members or alternates of H-GAC's Solid Waste Management Committee. Final project selection is determined by the H-GAC Board of Directors.

Projects are reviewed and scored on the following: magnitude and/or extent of the problem; potential environmental risk on not implementing the project; volume displacement/potential impact of the project; cost benefit of the project; if the project utilizes multi-jurisdictional partnerships; and if the project is a pilot program/demonstration project. Projects selected for funding may not provide a competitive advantage over private industry. All projects must be consistent with the *2002 Plan* as approved by the TCEQ. Also, projects funded with these grants must promote cooperation between public and private entities and may not be otherwise readily available or create a competitive advantage over a private industry that provides recycling or solid waste services.

3. Local Solid Waste Management Plans

As stated in the Goals and Objectives section, it is recommended that local governments evaluate their solid waste management programs and activities every five years. An excellent way to conduct this evaluation is through a local plan or technical study. Additionally, local plans are recommended for subregions/counties with disposal capacity of ten years or less.

4. Regional Coordination and Planning

For short-term planning timeframe, H-GAC's regional coordination and planning activities will focus on the following:

- Developing regional public awareness campaigns and educational materials;
- Conducting regional studies;
- Developing risk assessment criteria for the closed landfill inventory, and
- Assisting local governments in evaluating their solid waste management systems.

Additionally, H-GAC will continue to serve as a central point of training, provide technical assistance, conduct solid waste facility permit reviews, and continue its other planning and data assessment work. H-GAC provides technical assistance, conducts informational programs, participates in civic and community presentations and otherwise provides assistance to entities and individuals within the region on issues pertaining to solid waste management. H-GAC serves as a central point of contact for solid waste management outreach, education and training programs. Additionally, H-GAC has a regional collection of solid waste information and reference materials and provides the public access to those materials.

5. Local and Subregional Recommendations

The local and subregional recommendations are addressed under the Goals

and Objectives and Specific Project sections of the *2002 Plan*.

6. Recommendations for State-Level Action

The regional plan amendment may include recommendations for state-level actions; however, at this time, H-GAC has no recommendations.

7. Other

The regional plan amendment may include other recommendations and proposed actions; however, at this time, H-GAC has no other recommendations.

Appendix A - Solid Waste Management Committee

The Solid Waste Management Committee is appointed by the Board of Directors of the Houston-Galveston Area Council to assist and advise elected officials in their decision-making responsibilities by making recommendations on issues related to solid waste management in the Gulf Coast Planning Region.

Responsibilities

- Review and make recommendations to H-GAC Board of Directors on solid waste management issues.
- Revise and update H-GAC's regional solid waste management plan.
- Score solid waste management grant applications to H-GAC's regional plan implementation program.
- Nominate and prioritize other solid waste management projects for state or federal funding, when appropriate.
- Review local solid waste management plans for consistency with H-GAC's plan.
- Oversee H-GAC's solid waste management work program.
- Serve as a forum for discussing solid waste issues and coordinating local efforts.

Meeting Schedule

The Solid Waste Management Committee meets quarterly.

Membership

The Solid Waste Management Committee shall consist of 23 members.

- Non-profit organization (with a solid waste emphasis) 2
- Citizen/environmental group 2
- Industry- with representation from recycling, composting, hauling and disposal 5
- Subregion 8
 - City of Houston 1
 - Harris County 1
 - Open 1
- Subregions 1-7 7
- At-large Local Government (may be from any subregion and one of the at-large members will have a local enforcement emphasis) 4

Solid Waste Management Committee

SUBREGION 1

Cindy Blaylock
Sanitation Supervisor
City of Huntsville

Bill Dayette (alternate)
City of Huntsville

SUBREGION 2

Jimmy Kahla
Solid Waste Director
Chambers County

Don Brandon (alternate)
County Engineer
Chambers County

SUBREGION 3

Michael Stump
Solid Waste Manager
City of Texas City

Tom Kessler (alternate)
Director of Public Works
City of Texas City

SUBREGION 4

Dolores Fenwick
Keep Pearland Beautiful Coordinator
City of Pearland

Wes Shows (alternate)
Public Works Director
City of Pearland

SUBREGION 5

Ed Schulze
Director of Environmental Health
Matagorda County

SUBREGION 6

Larry Mayberry
Public Works Director
City of Sealy

John Maresh (alternate)
City Manager
City of Sealy

SUBREGION 7

Ron Drachenberg
County Engineer's Office
Fort Bend County

Troy Scalco (alternate)
Fort Bend County

SUBREGION 8

Thomas (Buck) Buchanan
Director of Solid Waste Management Dept.
City of Houston

Marilyn Leday (alternate)
City of Houston

Steve Hupp
Pollution Control Division
Harris County

Fred Pack
Director of Public Works
City of Baytown

Mike Prewitt (alternate)
City of Baytown

AT-LARGE GOVERNMENT

Darrell Gertson
Commissioner, Precinct #4
Colorado County

Ron Holland (alternate)
City Manager
City of Eagle Lake

Chris King
Commissioner, Precinct #2
Wharton County

Michelle Belco
Councilmember
City of Bunker Hill Village

Ruthie Sager
City Administrator
City of Bunker Hill Village

Larry Mitchell
Sergeant, Environmental Enforcement Division
Harris County

NON-PROFIT ORGANIZATIONS

Terri Cardwell
Volunteer Coordinator
Keep Lake Jackson Beautiful

Lynne Aldrich
The Woodlands Green

Kathie Herrich (alternate)
The Woodlands Green

CITIZEN/ENVIRONMENTAL GROUPS

Sandra Pickett
Interested Citizen

Craig McNair
Interested Citizen

INDUSTRY

John C. Ferguson
Nature's Way Resources, Inc.

Ben Walker
Abitibi Consolidated

Pattie Foster (alternate)
Abitibi Consolidated

Chuck Rivette
Waste Management of Texas

Glenn Masterson (alternate)
Waste Management of Texas

Raymond Franks
Browning-Ferris Industries

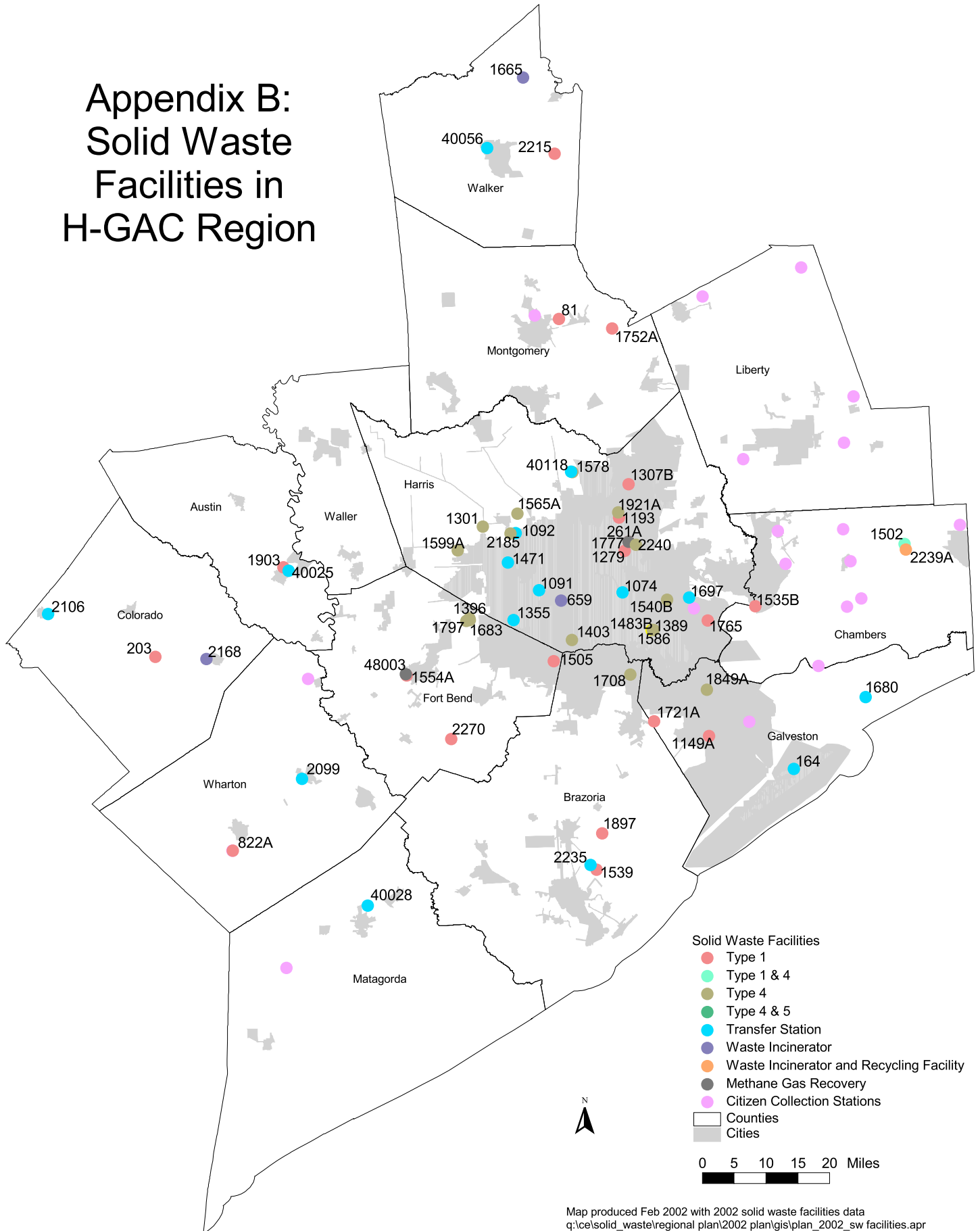
Marcos R. Elizondo
Republic Waste Service

Steve Carroll (alternate)
Republic Waste Service

TCEQ STAFF
Regional Office
Rama Yadav
Municipal Solid Waste

COG Assigned Planner (Advisory Role)
Cheryl Hare Untermeyer
Strategic Environmental Analysis &
Assessment Division

Appendix B: Solid Waste Facilities in H-GAC Region



Appendix C – Federal and State Legislation and Regulations

Federal Legislation and Regulations

Newly adopted federal legislation and regulations¹ have an impact on solid waste management. A summary of the new and/or revised legislation is provided below:

Landfill Gas Tax Credits - Comprehensive National Energy Bill (HR 4) will encourage the collection of methane gas from landfills to generate electricity or to supplement gas fuel supplies for use as a renewable resource. The U.S. House of Representatives passed the bill in August 2001 and currently, the Senate is considering HR 4.

Consumer Labeling Initiative - In October 2001, the Environmental Protection Agency (EPA) issued a notice providing revised guidance for the development of disposal instructions for empty and partly filled non-antimicrobial, residential/household use pesticides product labels. EPA is now providing a service so consumers can call their local authorities for specific disposal instructions. This provides state and local governments greater latitude in carrying out their responsibilities for product disposal and waste management programs.

40 CFR 122.30 – 122.37 - Storm Water Phase II – This new regulation provides that a NPDES permittee must implement a public education program to distribute educational materials to the community or conduct equivalent outreach activities about the impacts of storm water discharges on water bodies and the steps that the public can take to reduce pollutants in storm water runoff. The public education program should inform individuals and households about the steps they can take to reduce storm water pollution, such as ensuring proper septic system maintenance, ensuring the proper use and disposal of landscape and garden chemicals including fertilizers and pesticides, protecting and restoring riparian vegetation, and properly disposing of used motor oil or household hazardous wastes.

State Legislation and Regulations

New solid waste legislation was passed by the Texas Legislature during the 77th Legislative Session (2001). A summary of the new regulations is provided below:

- *Senate Bill (SB) 5* – SB 5 created the Texas Emission Reduction Plan (TERP). The TERP is to provide grants and other incentives for improving air quality throughout the state. The bill affects solid waste management since targets owners and operators of on-road and off-road, diesel-powered equipment and vehicles. TERP funds are available anywhere in the state for on-road, heavy-duty vehicles with a gross vehicle weight rating of over 10,000, including garbage and recycling trucks. Additionally, in certain counties, funds are available to both public and private entities to purchase the off-road, diesel-powered equipment. Equipment that is typically associated with the operation of solid waste management facilities.

¹ Source: Solid Waste Association of North America (SWANA) MSW Solutions, November 2001, Vol. 23, No. 11

- *30 Texas Administrative Code (TAC) 39.105 & 39.106 and 30 TAC 305.70*: The current rule was adopted by TCEQ in 1993, to establish a process to allow administrative approval of certain changes to municipal solid waste permits. This proposal is designed to update the rule to serve current needs. The primary features of the proposed revision address the following: (1) incorporate the TCEQ decision of May 19, 2000 that Subtitle D upgrades at inactive landfill sites can continue to be processed as a modification to a permit only until May 19, 2003; (2) more clearly describe the types of facility changes which can be made through the modification process; (3) limit the number of notices of deficiency which can be used in the modification process; (4) authorize the executive director to approve changes to registered facilities by modification; (5) apply notice requirements for certain modifications; and (6) improve organization and readability.
- *Senate Bill 352* – Texas law provides counties the authority to offer and require solid waste services, and permits them to collect fees for the service, however, the law does not provide an effective enforcement mechanism to compel payment. SB 352 permits a county to contract with a private or public entity, including a public utility, to collect solid waste fees. This new law took effect January 2, 2002.
- *House Bill 631* - Effective September 1, 2001, a new law was enacted by the Texas Legislature relating to fines for illegal dumping. This new legislation provides for stricter punishment for the offense of illegal dumping.
- *House Bill 2912* – TCEQ Sunset Bill – The legislature created TCEQ in 1993 to implement state and federal environmental regulatory laws. TCEQ is subject to the Texas Sunset Act and would have been abolished September 1, 2001 if HB 2912 had not passed. The Sunset Advisory Commission found in its review that TCEQ's regulatory approach focused on outputs and did not support innovation, provide incentives to reward performance or solve persistent environmental problems. HB 2912 continues TCEQ until September 1, 2013. TCEQ's recommendations to address the state's environmental needs are also included in the bill. The Texas Health and Safety Code will be updated as follows:

Section 361.1125: Immediate Remediation or Removal of Hazardous Substance at Scrap Tire Site – After investigation, if a release or threat of a release of a hazardous substance exists at a scrap tire site, TCEQ may undertake immediate remedial or removal action at the scrap tire site with TCEQ appropriations.

Section 361.119: Regulation of Solid Waste Facilities – HB 2912 requires TCEQ to ensure that a solid waste processing facility does not operate unregulated as a recycling facility. The bill requires TCEQ to adopt rules to recycling facilities in check.

Section 361.120: Notice of Hearing and Requirements for Reopening of Closed or Inactive Landfills – Any municipal solid waste landfill facility may be reopened or accept waste again if the permittee demonstrates compliance with federal, state, and local requirements. The reopening of any such facility shall be considered a major amendment. For any facility that is subject to a contract of sale as of January 1, 2001, the scope of the public hearing is to be limited to land use.

Section 361.431: Prioritization of New Technology – A political subdivision or solid waste producer shall give preference in contracting for the disposal of solid waste to license or permit holder who use processes and technologies that reduce the volume of sludge and hazardous waste that is being disposed of through beneficial use land application, landfill disposal, and other methods. Technology that reduces the volume of solid waste, destroys the solid waste, or renders the solid waste inert is preferred to minimize the possibility of hazardous materials entering the state's air, waterways, and water sources.

Section 361.122: Denial of Certain Landfill Permits – TCEQ may not issue a permit for a Type IV landfill if (1) the proposed site is located within 100 feet of a canal that is used as a public drinking water source or for irrigation of crops used for human or animal consumption, (2) if the proposed site is located in a county with a population of more than 225,000 that is located adjacent to the Gulf of Mexico, and (3) prior to final consideration of the application by TCEQ, the county commissioners in which the facility is located have adopted a resolution recommending denial of the application. Galveston and Brazoria Counties would fall under the requirements for this section.

House Bill 3415 – There are many municipal solid waste landfills in Texas that produce economically recoverable amounts of methane gas which has both environmental and economic benefits. HB 3415 amends the Texas Health and Safety Code to require the Public Utility Commission of Texas (PUC) and TCEQ to promote the economic development and use of landfill gas in a three ways: (1) publicizing agency information on landfills with potential for economic landfill gas development, including an estimate on the potential, (2) assisting gas developers, landfill owners and operators, electric utilities, and gas utilities in establishing partnership and (3) establishing a clearinghouse of information on landfill gas development and use. Additionally, if TCEQ requires a person to register before undertaking landfill gas recovery activities, the TCEQ shall give priority to processing applications for registration. The TCEQ and the PUC shall report to the legislature by November 1 of 2002, 2004 and 2006 on the status of the development of landfill gas recovery in the state. The reports shall summarize the activities of the agencies, identify landfills with gas recovery projects, state the amount of gas produced from recovery projects and the resulting amount of electricity generated, identify the environmental benefits of the recovery and use of landfill gas and identify any obstacles to the further development and use of landfill gas. This Act took effect September 1, 2001 and will expire on September 1, 2007.

Appendix D: Solid Waste Facilities

County	Permit Number	Amendment	Type	Status	Authorized to Accept Liquid Waste	Full Permittee Name	ALIAS (Landfill Project Name)	Facility Location	Permitted Acreage	Facility Address	Gate Rates (per cubic yard)	Permitted Capacity	Remaining Capacity (Tons) 2000
Montgomery	81		I	IP		Waste Management of Texas, Inc.	Conroe Landfill Western Waste Landfill	0.75 MI E OF HWY 1484 ON LOOP 336, 2 MI NE OF CONROE	64	100 Genoa Red Bluff Road Houston, TX 77034	N/A		135,000
Galveston	164		5TS	A		City of Galveston	City of Galveston Transfer Station	5515 PORT INDUSTRIAL BLVD.	(1.8882)	5627 Harborside Drive Galveston, TX 77551	\$29.02 per ton		N/A
Colorado	203		I	A	Solidification (203)	Laidlaw Environmental Services, Inc.	Laidlaw Environmental Services Landfill Altair Landfill Tricol (Laidlaw) Landfill	2 MI N OF ALTAIR ON W SIDE OF SH71	157	Hwy 71 (2 miles North of Allan) Altair, TX 77412	\$10.50/ton \$9.00 (uncompacted) \$9.15 (compacted)		29,659
Harris	261	A	I	A	Solidification (261A)	Browning-Ferris, Inc.	McCarty Landfill	N US 90 S LEY RD 0.9 MI E FM 527 IN HOUSTON	465	5757A Oates Road Houston, TX 77078	\$9.25 (uncompacted) \$9.20 (compacted)		8,592,219
Harris	659		5WI	A		City of Southside Place		500'S OF EDLOE & BELLAIRE BLVD INTSCN. IN SOUTHSIDE PLACE CITY	0	Edloe @ Bellaire Blvd. Houston, TX 77005	N/A		N/A
Wharton	822	A	I	IP		City of El Campo		1 MI S EL CAMPO W SIDE CO RD & 1 MI W OF FM 1163	118	El Campo	N/A		1,069,640
Harris	1074		5RR	IP		City of Houston	Lawndale (Southeast) Transfer Station	500 FT E IH610 S OF PT TERMINAL RR N SOUTHERN PACIFIC RR	N/A	9200 Lawndale Street Houston, TX 77012	N/A		N/A
Harris	1091		5TS	INA		City of Houston	Westpark Recycling Center	N OF WESTPARK DR S OF US59 0.4 MI W OF CHIMNEY ROCK RD	N/A	5900 Westpark Drive Houston, TX 77081	N/A		N/A
Harris	1092		5TS	INA		City of Houston	City of Houston Transfer Station Northwest Transfer Station Waste Management	SW OF SOMMERMEYER RD 200FT SW US290 300 FT E OF TEAG...	N/A	14400 Sommermeyer Street Houston, TX 77041	N/A		N/A
Galveston	1149	A	I	A	Solidification (1149A)	Browning-Ferris, Inc.	BFI Galveston County Landfill BFI Hitchcock Landfill	15 MI W INT IH45, FM1764 & FM2004, & 4 MI S OF FM 1764	315	3935 Avenue A Santa Fe, TX 77510	\$8.85 (uncompacted) \$9.35 (compacted)		5,841,948
Harris	1193		I	A		Browning-Ferris, Inc.	Whispering Pines Southwestern Waste Management Corp.	W FM527 & MO PAC RR 900 FT S FURAY RD 1100 FT N LITTLE YORK	199	8101 East Little York Houston, TX 77016	\$11.50 (uncompacted) \$12.00 (compacted)		7,165,300
Harris	1247		IV	closed		Doty Sand Pit Venture	Doty Landfill	12000 BISSONNET ST RT 4 BOX 283 D	56	12000 Bissonnet Houston, TX 77099-1412	N/A		
Harris	1279		I	INA	Solidification (1279)	Waste Management of Texas, Inc.	Bluebonnet Recycling & Disposal Site WMNA (Waste Management) Landfill Texas Waste Systems, Inc. Landfill	500 FT S OF US90, 110 FT E OF E OST DR, 0.7 MI W OATES	49	Harris County	N/A		65,400
Harris	1301		IV	IP		USA Waste of Texas Landfills		6415 ADDICKS-FAIRBANKS RD	65	6415 Addicks-Fairbanks Road Houston, TX 77041			996,000
Harris	1307	B	I	A	Solidification (1307B)	Waste Management of Texas, Inc.	Atascocita Landfill Atascocita Development Corp. Landfill	3 MI SW OF HUMBLE, TX; 3 MI E OF US HWY59 & S ATASCOCITA RD	120	3623 Wilson Road Humble, TX 77396	\$6.50 (uncompacted) \$7.90 (compacted)		6,598,260
Harris	1355		5RR	IP		Gulf Coast Waste Disposal Authority	Ruffino Road Transfer Station	N SIDE 9700 BLOCK RUFFINO RD, 1000 EAST BEDFORD ST	14		N/A		N/A
Harris	1389		IV	INA		Waste Management of Texas, Inc.	North Houston Greenbelt Landfill Pit Operation, Inc. Landfill Walker Pit	5900 BLK OF UNNAMED RD, S INT GENOA-RED BLUFF RD/GRYS...	38	City of Houston	N/A		14,050
Fort Bend	1396		IV	A		Sprint Industries, Inc.	Sprint Landfill Fort Bend County Reclamation Landfill	1.3 MI W OF SH6 BOSS GASTON RD INT	108	16007 Bossgaston Richmond, TX 77469	\$5.75 (uncompacted) \$6.15 (compacted)		102,400
Harris	1403		IV	A		Casco Hauling and Excavation	Casco Hauling and Excavation Landfill CASCO Landfill	SE CORNER OF INTX E ANDERSON & HOOPER ROADS	115	1306 East Anderson Road Houston, TX 77047	\$6.25 (uncompacted)		1,021,504
Harris	1471		5TS	A		Waste Management of Texas, Inc.	Sam Houston Transfer Station Recycling Center Inc. Sam Houston Sprint Waste Disposal Co.	1123 LUMPKIN ROAD	N/A	1138 West Belldrive N. Houston, TX 77043	\$28.00/ton		N/A
Harris	1483	A	IV	A		Waste Corporation of America	Greenbelt Landfill Urban Landfill			550 Old Genoa Red Bluff Road Houston, TX 77034			426,187
Harris	1483	A	5TS	A		Waste Corporation of America	Genoa Transfer Station Waste Reduction Systems	10007 KOENIG ROAD, HOUSTON	9	10007 Koenig Street Houston, TX 77034	\$4.00 (uncompacted)		N/A
Chambers	1502		I	A		Chambers County	Chambers County Landfill	4MI E ALONG SH65 FROM MONROE CITY POST OFFICE	88	7501 Highway 65 Anahuac, TX 77514	\$7.00 (uncompacted) \$7.20 (compacted)		433,174

Permitted Facilities

Appendix D: Solid Waste Facilities

County	Permit Number	Amendment	Type	Status	Authorized to Accept Liquid Waste	Full Permittee Name	ALIAS (Landfill Project Name)	Facility Location	Permitted Acreage	Facility Address	Gate Rates (per cubic yard)	Permitted Capacity	Remaining Capacity (Tons) 2000
Chambers	1502		IV			Chambers County operates a type I and IV landfill under the same permit number!							
Fort Bend	1505		I	A		Browning-Ferris, Inc.	Blueridge Landfill	W SIDE FM521, 3 1/2 MI N OF SH6, 1 1/2 MI S HARRIS CO LINE	598	2200 FM 521 Fresno, TX 77545	\$8.85 (uncompacted) \$9.50 (compacted)		20,191,070
Chambers	1535	B	I	A	Solidification (1535A)	Waste Management of Texas, Inc.	Baytown Landfill Hazelwood Landfill	NW QUADRANT, INTRSC FM1405/2354, ADJACENT TO FM1405/23...	259.39 (239 disposal)	4791 Tri-City Beach Road Baytown, TX 77520	\$6.50 (uncompacted) \$7.25 (compacted)	25,900,000 yd3	10,060,320
Brazoria	1539		I	A		Republic Services, Inc.	Seabreeze Environmental Landfill Brazoria County Landfill Urban Waste Technologies Brazoria County Recycling Center	1.7 MI SE INTRSC FM523/FM2004, ADJ E SIDE FM523	245	10310 FM 523 Angleton, TX 77515	\$6.65 (uncompacted) \$7.40 (compacted)		3,200,040
Harris	1540	A	IV	IP/INA		USA Waste of Texas Landfill, Inc.	Green Shadows Landfill	IN PASADENA, 5800 FT S SH225, 700 FT N OF SAN AUGUSTINE	42	Jana Lane, Pasadena			2,170,500
Fort Bend	1554	A	I	INA		Fort Bend County	Fort Bend County Landfill	2500 FT SE SH259, 2500 FT N US59, ADJ TO N SIDE KLAUKE RD	87	330 Klauke Road TX 77411 Rosenberg,	N/A		1,025,284
Harris	1565	A	IV	A		Waste Management of Texas, Inc.	Fairbanks Landfill Sanfill Fairbanks North Houston	2.5 MI N US290, 870 FT W FAIRBANKS N HOUSTON RD	118	8205 Fairbanks-N. Houston Houston, TX 77064	\$6.35 (\$20.12 minimum)	5,940,000 yd3	1,697,950
Harris	1578		IV	IP		Waste Corporation of America	Hardy Landfill Gatorhawk Landfill	18784 HARDY ST	83	18784 E. Hardy Road Houston, TX 77073	N/A		691,000
Harris	1586		IV	IN		Waste Corporation of America	Olshan Dem Co./ Genoa Bluff Rd. Landfill	INTSC HAYNESWORTH & RED BLUFF-GENOA RD	28	550 Old Genoa Red Bluff Road Houston, TX 77034	\$5.60		701,500
Harris	1599	A	IV	A		G.O. Weiss, Inc.	Greenhouse Road Landfill	3506 GREEN HOUSE RD 5 MI N I-10	125.4213 (93 disposal)	3510 Greenhouse Road Houston, TX 77084	\$6.00 (\$20.00 minimum)	11,106,500 yd3	2,945,624
Walker	1665		5WI	C		Texas Dept. of Criminal Justice	Ellis II incinerator	5 MI NW OF SH19 & FM980	0	Riverside			N/A
Galveston	1680		5TS	A		Galveston County	Peninsula Waste Landfill Tejas Waste Landfill City of Crystal Beach Landfill	0.1 MI E OF MONKHOUSE DR & SH87 & 0.25 MI S OF SH87	11	900 Noble Carl Road Crystal Beach, TX 77650	\$10.00(uncompacted) \$10.00 (compacted)		N/A
Fort Bend	1683		IV	INA		Sprint Industries, Inc.	Sprint Waste Disposal Landfill	1.5 MI NW OF SUGARLAND; W OF OLD RICHMAN RDD ON HISSMAN S...	30	16007 Bossgaston Richmond, TX 77469	\$5.75 (uncompacted) \$6.15 (compacted)		515,725
Harris	1697		5TS	A		City of Deer Park	Deer Park Transfer Station	AT INTRSC EXISTING UNDERWOOD RD & UNIMPROVED "X" ST	N/A	610 Old Underwood Park, TX 77536 Deer	Free for Deer Park residents (not available to non-residents)		N/A
Brazoria	1708		IV	A		Hill Sand Company, Inc.	Dixie Farm Rd Landfill	SE OF DIXIE FARM RD, 1300 FT SW OF CANDLE TR. RD & E HWY35	96	4649 Dixie Farm Road TX 77581 Pearland,	\$5.50 (\$20.00 minimum)		1,378,682
Galveston	1721	A	I	A	Solidification (1721)	Waste Management of Texas, Inc.	Coastal Plains Recycling and Disposal Facility Coastal Plains Landfill E & D Waste Systems TransAmerican Waste	2 MI E INTRSC SH6/SH35, N SIDE SH6	279	21000 East Highway 6 TX 77511 Alvin,	\$6.10 (uncompacted) \$7.00 (compacted)	31,600,000 yd3	15,096,360
Montgomery	1752	A	I	A		Waste Management of Texas, Inc.	Security Recycling and Disposal Montgomery Contractors Landfill	2.4 MI SE INTRSC SH105/OLD SH105, ADJ OLD SH105	330	19248 Highway 105 East Cleveland, TX 77327	\$7.75 (uncompacted) \$7.75 (compacted)		2,306,095
Harris	1765		I	INA		City of La Porte	La Porte- Seabrook Landfill	E OF BAY AREA BLVD, 2600 FT S OF FAIRMONT PKWY/BAY AREA BLVD INTSC	81	La Porte	N/A		1,571,442
Harris	1777		9GR	A		GSF Energy, LLC	McCarty Rd Landfill Gas Recovery Plant	11013 BEAUMONT HWY AT BFI/MCCARTY RD LANDFILL (PN 261...	464	Houston	N/A		N/A
Fort Bend	1797		IV	A		Sprint Industries, Inc.	Fort Bend County Reclamation Landfill	1.2 MI NW OF SUGARLAND; 1.2 MI SW OF BOSSGASTON RD & SH6	75	16007 Bossgaston Richmond, TX 77469	\$5.75 (uncompacted) \$6.15 (compacted)		1,908,058
Galveston	1849	A	IV	A		Republic Waste Services	North County Landfill Sunray Type IV Landfill Sunray Services Landfill USA Waste Landfill	0.8 MI E OF SH3 ON FM646 & 0.3 MI S OF FM646	40	2015 Wyoming League City, TX 77573	\$5.30 (\$18.00 minimum)	3,215,000 yd3	825,374
Brazoria	1897		I	INA		Waste Management of Texas, Inc.	Angleton Landfill B & D Landfill	1.4 MI E OF CR 212 INT WITH KING RD (CR 213)	53	City of Angleton	N/A		443,694

Permitted Facilities

Appendix D: Solid Waste Facilities

County	Permit Number	Amendment	Type	Status	Authorized to Accept Liquid Waste	Full Permittee Name	ALIAS (Landfill Project Name)	Facility Location	Permitted Acreage	Facility Address	Gate Rates (per cubic yard)	Permitted Capacity	Remaining Capacity (Tons) 2000
Austin	1903		I	IP		City of Sealy		0.8 MI E OF SH36 FM 1094 INT ON COLUMBUS/SAN FELIPE ST 0.6 MI N DOW	19				1,404,728
Harris	1921	A	IV	A		Waste Management of Texas, Inc.	Cougar Landfill Cougar Disposal Inc.	8627 E MT HOUSTON RD- ON N SIDE OF MT HOUSTON RD	117	8601 East Mount Houston Houston, TX 77050	\$5.35		2,346,200
Wharton	2099		5TS	A		City of Wharton	Wharton Transfer Station Waste Management Transfer Station	803 S SHEPPARD	N/A	208 South Sheppard Street Wharton, TX 77488	\$7.00		N/A
Colorado	2106		5TS	A		City of Weimar	City of Weimar Transfer Station	1900 FT E INTRSC FM155 (EAGLE ST) AND ST CHARLES ST	2	801 St. Charles Street Weimar, TX 78962	\$12.00 (uncompacted) \$10.50 (compacted)		N/A
Colorado	2168		5WI	IN		Dunham Environmental Services, Inc.		0.5 MI WEST EAGLE LAKE ON HWY 90A, 0.1 MI N ON HUBBARDS FERRY RD.	27	Eagle Lake			N/A
Harris	2185		IV	IP		USA Waste of Texas Landfills Inc.	Hawthorn Landfill Crawford Road Landfill	340 FT E, BELTWAY 8, 1150 FT W GESSNER, 10300 - 10500 BLK TANNER		6019 Crawford Houston, TX 77041	N/A		1,715,000
Waller	2215		I	INA		Waste Corporation of America	Darrell Dickey Landfill	APPROX 4000'S OF INTER OF US 190 & FM 405	100		N/A	4,190,000 yd3	2,812,380
Brazoria	2235		5RR	A		Republic Waste Services	Brazoria County Recycling Center B&D Landfill	FM 523, 5.5 MI FROM BRAZORIA COUNTY AIRPORT	15	218 Highway 332 West Clute, TX 77531	N/A		N/A
Chambers	2239	A	5WI			Chambers County	Chambers County Incinerator	8.5 MI FROM ANAHUAC, TX, ON NORTH SIDE OF HWY 65	{10}	7505 SH-65		100 tons/day (20 tons medical waste)	N/A
Chambers	2239	A	5RR			Chambers County	Chambers Co. RR & Recycling Center	8.5 MI FROM ANAHUAC, TX, ON NORTH SIDE OF HWY 65	1			200,000 gallons/day	N/A
Harris	2240		IV	INA/IN		Waste Corporation of America	Ralston Road Landfill	RALSTON ROAD, SOUTH OF US HWY 90	50	6612 John Ralston Road Houston, TX 77049	N/A		1,578,000
Fort Bend	2270		I			Long Point Partners, L.P.	Long Point Landfill	Approximately 12 mi S of Rosenberg, 6 mi E of Needville, 4 mi SE of Fairchilds and 5.5 mi sw of Thompsons, Texas at the intersection of FM 1994 and Davis Estate Road.	1194.9 (309.3 disposal, 885.6 park / wildlife reserve)			47,986,340 yd3	
Waller	40014		5TS	A		City of Hempstead	City of Hempstead Transfer Station			23rd and San Antonio Hempstead, TX 77445	\$6.50		
Austin	40025		5TS	A		City of Sealy	City of Sealy Transfer Station			1097 Downey Road Sealy, TX 77474	\$11.00 (compacted) \$7.50 (uncompacted)		
Matagorda	40028		5TS	A		Matagorda County	Matagorda County Transfer Station Matagorda County Landfill - Bay City			FM 2540 (same site as landfill #1093) Bay City, TX 77414	\$2.00 (per pound) \$35.00 (compacted ton)		
Austin	40050		5TS	A		Country Waste	Country Waste Transfer Station			229 Palm Road Belville, TX 77418	Not open to the public. Internal operations only.		
Walker	40056		5TS	A		City of Huntsville	City of Huntsville Solid Waste Transfer Station Huntsville Landfill #196 (closed)			590 IH 45 N Huntsville, TX 77320	\$4.00		
Harris	40118		5TS	A		Republic Waste Services	Hardy Road Transfer Station			18784 East Hardy Road Houston, TX 77073	\$28.00 (max. per ton) \$15.00 (min. per ton)		
Fort Bend	40161		5TS			Sentinel Clodine		0.7 MI S ON OBRIEN RD OF THE FORKED INT BTWN FM 1464, W OF OBRIEN, 3.3 MI NW OF SUGARLAND, TX	(NE 463.25)	9650 Obrien Road Richmond, TX 77469			N/A
Fort Bend	48003		9GR			Pacific National Energy Ecogas Corporation	Fort Bend County Landfill Gas Recovery Facility	N of Klauke Road, 1800 ft W of Blume Road and 1000 ft N of US 59	2.137				

Permitted Facilities

Appendix D: Solid Waste Facilities

County	Status	Full Permittee Name	ALIAS (Landfill Project Name)	Facility Location	Facility Telephone Number	Contact Name	Contact Telephone Number	Comments (Materials Accepted)
Chambers	A	Chambers County	Anahuac Citizen Collection Station	1811 Belton Lane, Anahuac TX 77514	N/A	Jimmy Kahla	409-267-8202	household waste, brush, demolition debris, and recyclables such as tires, motor oil, filters, batteries, and white goods no sludge
Chambers	A	Chambers County	Smith Point Citizen Collection Station	806 Plummer Camp Road Anahuac TX 77514	N/A	Jimmy Kahla	409-267-8202	household waste, brush, demolition debris, and recyclables such as tires, motor oil, filters, batteries, and white goods no sludge
Chambers	A	Chambers County	Winnie/Stowell Citizen Collection Station	47414b IH-10 East, Winnie TX 77665	N/A	Jimmy Kahla	409-267-8202	household waste, brush, demolition debris, and recyclables such as tires, motor oil, filters, batteries, and white goods no sludge
Chambers	A	Chambers County	Mont Belvieu/ Old River Citizen Collection Station	10610 Eagle Drive, Mt Belvieu TX 77580	N/A	Jimmy Kahla	409-267-8202	household waste, brush, demolition debris, and recyclables such as tires, motor oil, filters, batteries, and white goods no sludge
Chambers	A	Chambers County	Beach City Citizen Collection Station	5121 Lawrence Road, Beach City TX 77520	N/A	Jimmy Kahla	409-267-8202	household waste, brush, demolition debris, and recyclables such as tires, motor oil, filters, batteries, and white goods no sludge
Chambers	A	Chambers County	Wallisville/ Hankamer Citizen Collection Station	24318 IH-10 East Wallisville TX 77597	N/A	Jimmy Kahla	409-267-8202	household waste, brush, demolition debris, and recyclables such as tires, motor oil, filters, batteries, and white goods no sludge
Chambers	A	Chambers County	Double Bayou Citizen Collection Station	2817 Eagle Ferry Road Anahuac TX 77514	N/A	Jimmy Kahla	409-267-8202	household waste, brush, demolition debris, and recyclables such as tires, motor oil, filters, batteries, and white goods no sludge
Chambers	A	Chambers County	Oak Island Citizen Collection Station	308 Eagle Drive, Anahuac TX 77514	N/A	Jimmy Kahla	409-267-8202	household waste, brush, demolition debris, and recyclables such as tires, motor oil, filters, batteries, and white goods no sludge
Liberty	A	Liberty County	Liberty County Precinct 1 Citizen Convenience Center	FM 770 South, Raywood TX 77582	409-587-4417	Harry Hilton	409-587-4922	Household waste, tires, batteries, motor oil, filters, appliances no sludge
Liberty	A	Liberty County	Liberty County Precinct 2 Citizen Convenience Center	Hwy 834, Hull TX 77564	409-536-3522	Lee Groce	281-592-1172	Household waste, recyclables such as tires, batteries, paper, glass, plastic no sludge
Liberty	A	Liberty County	Liberty County Precinct 2 Citizen Convenience Center	Hwy 146, 2 1/2 S of Rye Tarkington TX 77327	281-593-0206	Lee Groce	281-592-1172	Household waste, recyclables such as tires, batteries, paper, glass, plastic no sludge
Liberty	A	Liberty County	Liberty County Precinct 3 Maintenance Yard	County Road 2206 Cleveland TX 77327	281-592-7321	Melvin Hunt	281-592-3571	Household waste, no tires, no batteries
Liberty	A	City of Dayton and Precinct 4	City of Dayton Precinct 4 Collection Station	999 County Road 491 Dayton TX 77535	409-258-7803	Robert Ewart	409/258-2642	SW, Household waste no recyclables, no sludge, no tires, no batteries, no tree limbs
Matagorda	A	Matagorda County	El Matron Citizen Collection Center	FM 459, Bay City TX 77414	N/A	Ed Schulze	409-244-2717	MSW, recyclables such as tires, batteries, motor oil, scrap metal, plastic, glass no sludge
Montgomery	A	privately owned	City of Conroe Citizen Convenience Station	2501 North Frazier, Conroe TX 77303	409-539-4431	N/A	N/A	SW, trash and rubbish recyclables accepted include newspaper, plastic 1&2, glass, and aluminum, motor oil and filters no sludge or tires
Wharton	A	Wharton County	Wharton County Precinct 2 Citizen Collection Station	17423 N. Foundation Loop (Old landfill site #819) East Bernard TX 77435		Chris King	979-335-7541	all MSW, Type IV material, appliances, scrap metal recyclables include plastics, OCC, tires, motor oil, aluminum. no sludge or glass is accepted
Wharton	A	City of Wharton	City of Wharton Citizen Collection Station	498 South Sheppard Street, Wharton TX 77488		Phil Bush	979-532-2491	Household garbage, tree limbs, building materials, tires, metal no sludge, no recycling Waste Management now operates it. (8/03/99)
Montgomery	A	Montgomery County	Montgomery County Precinct 3 Citizen Collection Station	1122 Pruitt Road, Spring TX 77380	281-367-7283	Becky Cottingham	281-367-7283	
		Holiday Lakes						

Citizen Collection Stations

Appendix D: Solid Waste Facilities

County	Name	Mailing Address	Facility Location	County Precinct	In City of Houston?	Key Map	Contact Name	Facility Telephone Number	Property Owner	IS IT A RECYCLER?	COMPLIES WITH 30 TAC 330.4?
Harris	Wood Resources, Inc.	4200 Clow Road Houston, TX 77068	4200 Clow Road Houston, TX 77068	4	No	330V	Lawrence R. Wood	281-880-9663	McAdams		
Harris	AAA Natural Recycling	P.O. Box 1959 Spondora, TX 77372-1959	5921 FM 1960 West Humble, TX 77338	4	No	334N	Larry Thumann	281-540-2288	Ben Noble Interest c/o Marvin J. Noble, Trustee	No	No
Harris	Allwood Tree Disposal	11842 Eastex Freeway Houston, TX 77039	11842 Eastex Freeway Houston, TX 77039	1	No	414L	Nicholas Polotko	281-590-3636	Nicholas Polotko 13663 Lakeview Drive	No	No
Harris	Champion Recycling/ Copperfield/ Cyfair Mulch	7800 1/2 Wright Road Houston, TX 77041		4	No	409J	Oliver Tyson	713-466-4510			
Harris	Lincoln M. LaCour	13506 Homestead Road Houston, TX 77050	11511 Sheridan Street	1	No	415Q	Lincoln LaCour	281-458-5782	Lana McClain	No	No
Harris	Paten Bell	9009 E Mount Houston Road Houston, TX 77050		1	No	415M	Truitt Lively	713-464-2821			
Harris	John H. Stibbs, Jr., Tre (formerly Kaiser Brothers)	10077 Grogan's Mill Road Ste 475 The Woodlands, TX 77380	West of Kuykendahl, north of Azrock	4	No	249R	Fred LaBlanc	281-719-6121	John H. Stibbs, Jr., Tre	No	No
Harris	AAA Natural Recycling	P.O. Box 1959 Spondora, TX 77372-1959	20220 Morton Road Katy, TX 77449	3	No	446P	Larry Thumann	281-398-8323	Warren & Mike Fry	No	No
Harris	Houston Materials Recovery, LLC	8610 Alameda-Genoa Houston, TX 77075	8610 Alameda-Genoa Houston, TX 77075	1	Yes	575R	John F. Angelina	281-941-4141	D. H. Griffin of Texas, Inc.	No	No
Harris	American Wood Waste Recycling	11510 Charles Road Houston, TX 77041	11510 Charles Road Houston, TX 77041	4	No	409P	Jerome Rhodes	713-937-0127	Roger Goerlitz	Yes	Yes
Harris	Beltway 8 Mulch Supply & Wood Recycling	11923 North Garden Street Houston, TX 77071	11923 North Garden Street Houston, TX 77071	1	No	570K	Oliver Tyson	713-774-6254			
Harris	Houston Quality, LLC dba DTS Recycling	P.O. Box 96587 Houston, TX 77213	16434 Beaumont Hwy	2	No	418W	Richard Gerring	281-456-8098	Richard Gerring	Yes	Yes
Harris	WRI Recycling, Inc. Div. Waste Recovery, Inc.	P.O. Box 680005 Houston, TX 77268	N. end Rothwood Rd.	4	No	291E/A	Pierre Morow	281-583-7757	Michael Gray, CEO	Yes	Yes
Harris	Phuong Thi Ngoc Lam dba LNP	1018 Turney Dr. Houston, TX 77038	850 Turney Dr.	1	No	412G	Tom P. Lam	281-235-3688 281-260-9563	Mrs. Phuong Thi Ngoc Lam	Yes	Yes
Harris	Son-Way Agri Products	P.O. Box 1772 Conroe, TX 77305	24038 Kuykendahl	4	No	290A	Allan Chandler	281-290-7927	Augusta Pines Development	Yes	Yes
Harris	Bio-Energy Landscape and Maintenance	7930 Pinemont Houston, TX 77040	West Road Adjacent to Cypress Creek	3	No	367K	Jaun Hernandez	713-462-8552	Bio-Energy Landscape & Maintenance	Yes	Yes
Harris	JMJ Organic Material	13610 Reeveston Houston, TX 77039	2400 blk Aldine - Bender	1	No	374W	Tim Wade	713-557-5002	Don White	Yes	Yes
Harris	Texas Environmental Recycling, Inc.	9945 Windfern Road Houston, TX 77064	9945 Windfern Road Houston, TX 77064	4	No	410A	Al Bolt	281-970-0003	Ceres Environmental Services, Inc.	Yes	Yes
Harris	Novus Wood Group, L.P.	12621 Featherwood Suite380 Houston, TX 77034	5900 Haynesworth at Beltway 8	2	Yes	577N	Steve Ghormley	281-922-1000	Bill Winters, CEO	Yes	Yes
Harris	Mulch Matters Soil & Recycling Technologies	9911 C.E. King Parkway Houston, TX 77044	9911 C.E. King Parkway	1	No	416Y	Lance Bowe	281-459-1800	Mulch Matters	Yes	Yes
Harris	Living Earth Technologies, Inc.	5625 Crawford Street Houston, TX 77041	5625 Crawford at Tanner Road	4	No	449D	Peter Psillides Richard Stamper	713-466-7360			
Harris	CJM Trucking Company and Soils, Inc.	12202 Cutten Road Houston, TX 77066	12202 Cutten Road	4	No	370L	Perry Senn	281-537-2377		Yes	Yes
Harris	Arbor Care, Inc.	336 McFarland Houston, TX 77060	336 Mc Farland	1	No	413A	John J. Dailey	713-694-8898	John Daley, co-owner	Yes	Yes

Wood Processing

Appendix D: Solid Waste Facilities

County	Name	Mailing Address	Facility Location	County Precinct	In City of Houston?	Key Map	Contact Name	Facility Telephone Number	Property Owner	IS IT A RECYCLER?	COMPLIES WITH 30 TAC 330.4?
Harris	Mulch King	12622 Boudreaux Road Tomball, TX 77375	12622 Boudreaux Road	4	No	288Z	Lori Stasny	281-351-5422	Richard Gower	Yes	Yes
Harris	C&H Services	20818 Red Oak Drive Cleveland, TX 77327	2528 FM 1960 East Humble	4	No	336X	Carlos Rodriguez	281-300-3345	National Bank of Conroe	Yes	Yes
Montgomery	Living Earth Technologies, Inc.	17835 I-45 North Conroe, TX 77385	17835 I-45 North Conroe, TX 77385					936-321-4001			
Fort Bend	Living Earth Technologies, Inc.	1503 Industrial Drive Missouri City, TX 77489	1503 Industrial Drive Missouri City, TX 77489				Scott Estes	281-499-5641			
Fort Bend	CJM Trucking Company and Soils, Inc.	1700 Hwy 90A East Richmond, TX 77469	1700 Hwy 90A East Richmond, TX 77469					281-342-6113			
Galveston	CJM Trucking Company and Soils, Inc.	1000 FM 1266 Dickinson, TX 77539	1000 FM 1266 Dickinson, TX 77539					281-337-5091			
Galveston	Bush's Best Compost	PO Box 461 La Marque, TX 77568						409-935-1539			
Montgomery	Nature's Way Resources, Inc.	1945 FM 1488 Road Conroe, TX 77384-3911	1945 FM 1488 Road Conroe, TX 77384-3911					936-321-6990			
Harris	Waste Reduction Systems, Inc.	100 Genoa Red Bluff Houston, TX 77034	100 Genoa Red Bluff Houston, TX 77034					281-922-1000			
Brazoria	Waste Reduction Systems, Inc.	10310 FM 523 Angleton, TX 77515	10310 FM 523 Angleton, TX 77515					409-265-2252			
Galveston	Novus Wood Group, L.P.	2900 Nichols Road Dickinson, TX 77539	2900 Nichols Road Dickinson, TX 77539					281-337-1990			
Montgomery	Nelson Services	12289 Hwy 105 East Conroe, TX 77303	12289 Hwy 105 East Conroe, TX 77303					409-756-8594			
Walker	Hyponex Corporation	RR 1 Box 245 TX 77340	Huntsville, 1284 Hwy 75 North Huntsville, TX 77320					409-291-6386			

Wood Processing

Appendix D: Solid Waste Facilities

Registration #	Company Name	Facility Type	Fee	Type of Processing	Mailing Address	City	Zip Code	County	Telephone #	Contact	Source & Date
6015724	Aarons Tire Repair & Service	Scrap Tire Processor	Drop off: \$0.90/car or small truck, \$5.00/oversized Pick up: Same charges	Shredding	108 East Hwy 90	Dayton	77535	Liberty	936-257-9449	Spoke with Solomon	Called 10-10-01
6026988	American Tire Disposal Co.	Scrap Tire Processor			4343 Clow Road	Houston	77068	Harris	281-397-7618		TNRCC website, Oct 01
79555	Dearth Brothers, Inc.	Scrap Tire Processor			3515 Almeda Genoa Road	Houston	79555	Harris	Unlisted		TNRCC website, Oct 01
6027052	J&J Used Tires	Scrap Tire Processor	Drop off: \$0.70/car, small truck; \$7.00/oversized Pick up: \$1.00/car, small truck; \$10.00 oversized		5100 East Mount Houston	Houston	77093	Harris	281-442-7497	Myron Galison	Called 10-10-01
79507	Safe Tire Disposal Corp.	Scrap Tire Processor	Drop off/Pick up: Passenger cars/small trucks: \$1.00 <17.5" rim, \$1.50 on rim. 18-Wheeler: \$4.00, \$6.00 on rim. Off-the-Road (OTR): fees vary	Transporter (Liberty), Shredding (Midlothian and Cleveland)	PO Box 592	Cleveland	77327	Liberty	800-354-6276 713-330-4020	Lucy Marcellis	TNRCC website, Oct 01; Called 10-10-01
6025572	La Porte Tire Center	Scrap Tire Processor	Drop off: Passenger car: \$2, \$10.50 with rim; Large Truck: \$6, \$17.25 with rim; OTR (\$35-\$55) Pick up: \$40/hr to load	Transport, Shred	11011 W. Fairmont Parkway	La Porte	77571	Harris	281-471-3541	Jim	Spoke with Jim on 11-09-01
79556	Rubber Recycling Resources	Scrap Tire Processor	Same as Safe Tire Disposal Corp.	Chipping	1400 South Travis	Cleveland	77371	Liberty	281-592-6545	Lucy Marcellis	TNRCC website, Oct 01; Called 10-10-01
79551	Uni-Wide Auto Imports, Inc.	Scrap Tire Processor			9909 Airline Drive	Houston	77037	Harris	Unlisted		TNRCC website, Oct 01
76401	Waste Recovery, Inc.	Scrap Tire Processor			5302 Wade Road	Houston	77521	Harris	281-242-4011		TNRCC website, Oct 01

Tires

Appendix D: Solid Waste Facilities

Registration #	Company Name	Facility Type	Fee	Type of Processing	Mailing Address	City	Zip Code	County	Telephone #	Contact	Source & Date
79503	Waste Recovery, Inc.	Scrap Tire Processor			5302 Wade Road	Baytown	77520	Harris	281-242-4011		TNRCC website, Oct 01
6200006	Green Tree Resorts, LLP	Land Reclamation Project Using Tires (LRPUT)	\$0.5/tire (\$50.00/ton) up to 20" tires and \$2.75 for large, >20" truck tires, \$10.00 for farm tires, and \$2.00 for car rims/\$5.00 for truck rims. Prices do not include trucking.	Part of LRPUT - receive, shred, and mix 50-50 with soil or inert fillers, dispose into ground	11800 Sheridan Road	Houston	77050	Harris	281-449-9651 281-831-7554 mobile	Butch Battreall, Manager	James Impero, COH SW Recycling Division
76903	Abitibi-Consolidated, Sheldon Division	Energy Recovery		N/A	PO Box 23011	Houston	77228	Harris	281-456-6930		TNRCC website, Oct 01
44095	Waste Recovery, Inc.	Storage Site	N/A	N/A	5302 Wade Road	Baytown	77520	Harris	281-424-4011		TNRCC website, Oct 01
76401	Waste Recovery, Inc.	Storage Site	N/A	N/A	5302 Wade Road	Houston	77521	Harris	281-242-4011		TNRCC website, Oct 01
44109	Safe Tire Disposal	Storage Site	N/A	N/A	1400 S Travis	Cleveland	77328	Liberty	800-354-6276	Lucy Marcellis	TNRCC website, Oct 01

Appendix D: Solid Waste Facilities

Type and Permit Number														
County	Full Permittee Name	Chemical Toilet Waste Transporter	Grease Trap Waste Processor	Grease Trap Waste Transporter	Grit Trap Waste Transporter	Septic Tank Waste	Transfer Station	Water Supply Treatment Plant Sludge	Wastewater Treatment Sludge	Telephone	Mailing Address	Gate Rates (per cubic yard)	Total Disposal (Tons) 2000	Remaining Capacity (Tons) 2000
Harris	A2Z Septic and Line Cleaning Service					22515				281-821-4711	4626 Theiss Humble, TX 77338			
Harris	All Pro Septech					22879				713-695-6800	6 Frels Lane Houston, TX 77076			
Harris	All Star Septic			23103	23103	23103				281-235-7070	30106 Huffman Cleveland Rd. Huffman, TX 77336			
Brazoria	Alvin, City of								21993	281-388-4328	7100 S CR 160 Alvin, TX 77511			
Harris	American Sanitation			23034		23034				281-320-0706	23023 Willow End Tomball, TX 77375			
Harris	American Sanitation Services, Inc.	23007								713-641-6161	5930 Waltrip Street Houston, TX 77087			
Harris	American Wastewater, Ltd.		2234							713-673-2995	250 Gellhorn Drive Houston, TX 77013	\$0.12 to \$0.14/gallon (grease) \$0.17/gallon (grit)	33,725,025	N/A
Fort Bend	Aqua-Zyme Services, Inc.					21480				409-245-0957	FM 2540 South Van Vleck, TX 77482			
Harris	A-Sanitech Grease Service						40130							
Harris	A-Vac					22093				281-324-3493	223 Deen Drive Huffman, TX 7336			
Harris	Aztec Rental Center, Inc.	22068								713-681-1383	2001 West 34th Houston, TX 77018			
Harris	Best Jet Services, Inc.			21238						281-441-2441	4045 Wilson Road Humble, TX 77396			
Harris	B J Portacan							22514		281-426-2851	408 Vann Road Highlands, TX 77562			
Harris	BFI Waste Systems - Houston				20064				20064	713-635-6666	8101 Little York Houston, TX 77016			
Galveston	BFI/Hitchcock													
Harris	BFI/McCarty Road													
Harris	Bioset, Inc.								22746	281-893-1474	13700 Veterans Memorial Dr. Houston TX 77014			
Brazoria	Biosolids Management, Inc.								22430	281-388-1111	1500 Willowbend Alvin, TX 77511			
Brazoria	Brazoria County Septic Service								22576	979-265-0002	308 Commerce Street Clute, TX 77531			
Harris	Brumfield Sanitation Services							21490		281-449-5847	4732 Orange Grove Houston, TX 77039			
Harris	CAT Contracting				22056					281-449-5218	5000 Askins Houston, TX 77093			
Brazoria	Chief Environmental Services			22689		22689				281-489-8000	6423 Amie Lane #3 Pearland, TX 77584			
Harris	Clean-Rite Services			23072		23072				832-372-6604	512 North Main Street Highlands, TX 77562			
Colorado	Columbus, City of								22113	979-732-2366	605 Spring Street Columbus, TX 78934			
Harris	Cut-Rate Vacuum Truck Service, Inc.						40136							

Liquid Waste

Appendix D: Solid Waste Facilities

County	Full Permittee Name	Type and Permit Number								Telephone	Mailing Address	Gate Rates (per cubic yard)	Total Disposal (Tons) 2000	Remaining Capacity (Tons) 2000
		Chemical Toilet Waste Transporter	Grease Trap Waste Processor	Grease Trap Waste Transporter	Grit Trap Waste Transporter	Septic Tank Waste	Transfer Station	Water Supply Treatment Plant Sludge	Wastewater Treatment Sludge					
Harris	Earth America Co Inc.	23065		23065	23065	23065				281-489-8900	7011 Lozier Houston, TX 77221			
Harris	Environmental Waste Services			22686		22686				281-998-3974	1505 Aldine Bender Houston, TX 77032			
Harris	Enviro-Pal, Inc.			22523		22523				281-360-9168	260 Birchwood Drive Huffman, TX 77336			
Harris	Evergreen Vacuum Service, LLC			23112	23112	23112		23112	23112					
Montgomery	Frank Runnels Septic								20045	936-445-2600	10030 Steitz Lane Conroe, TX 77303			
Galveston & Harris	Fresh Can	23063								281-482-7853	16730 David Glen Friendswood, TX 77546			
Harris	Gold Star Environmental					23061				281-290-6492	1000 Hicks Street Tomball, TX 77375			
Harris	Groce Company, Inc.		1117							713-941-2525	P. O. Box 34605 Houston, TX 77034		8,202,268	N/A
Harris	GTM Services, Inc.		2241							713-869-9965	P.O. Box 7400 Houston, TX 77248-7400		6,346,651	N/A
Waller	Honey Bee Pumping	23097				23097				936-931-9778	18818 Penick Waller, TX 77484			
Harris	Houston, City of				22154					713-731-6000	7440 Cullen Houston, TX 77051			
Harris	HouTex Pipeline Cleaning & TV Inspection			22823	22823				22823	713-869-4584	403 Aurora Houston, TX 77008			
Harris	Humble Manufacturing Company, Inc.				22140					281-446-8360	1325 South Houston Avenue Humble, TX 77338			
Walker	Huntsville, City of								22509	936-294-5760	1212 Avenue M Huntsville, TX 77340			
Brazoria	IESI TX Corporation								22802	281-388-4210	550 West Highway 6 Alvin, TX 77511			
Harris	J. Cooper						40099							
Brazoria	Joe Whipple			23035		23035				979-798-7501	CR 342 Brazoria, TX 77422			
Harris	Kinsel Industries, Inc.								21646	713-641-5111	8121 Broadway, Suite 300 Houston, TX 77061			
Harris	Lone Star Sanitation					23047				713-451-6607	14705 Force Street Houston, TX 77015			
Harris	LTT Vacuum Service			23110	23110	23110								
Harris	Millennium Service Industries LLC	22674								713-472-1415	109 North Richey #101 Pasadena, TX 77506			
Montgomery	New Cany MUD								22220					

Liquid Waste

Appendix D: Solid Waste Facilities

County	Full Permittee Name	Type and Permit Number								Telephone	Mailing Address	Gate Rates (per cubic yard)	Total Disposal (Tons) 2000	Remaining Capacity (Tons) 2000
		Chemical Toilet Waste Transporter	Grease Trap Waste Processor	Grease Trap Waste Transporter	Grit Trap Waste Transporter	Septic Tank Waste	Transfer Station	Water Supply Treatment Plant Sludge	Wastewater Treatment Sludge					
Galveston	Peninsula Septic Service									22211	409-684-1925	894 Sandollar Drive Crystal Beach, TX 77650		
Harris	Pit Stop Porta Pots	23056									281-351-1929	218 Foster Street Tomball, TX 77375		
Harris	Port-A-San	23062				23062					281-422-7900	4219 North Alexander Drive Baytown, TX 77520		
Galveston	Quality Service					23108								
Harris	Ramco Container Systems, Inc.									22738	713-991-3433	5709 Almeda Genoa Road Houston, TX 77048		
Harris	Safety Lights Sales & Leasing, Inc.	22077												
Montgomery	Sanico			23085	23085	23085					281-354-7134	21898 Horseshoe Circle Porter, TX 77365		
Chambers	Sanifill/Hazelwood													
Harris	Severn Trent Environmental Services, Inc.						22452				281-209-2100	283 Lockhaven, Suite 214 Houston, TX 77073		
Harris	Snuffy Smith Industries, Inc.	23113												
Harris	Source Point Solutions			22479	22479					22479	281-370-9135	1207 Spring Cypress Spring, TX 77379		
Harris	Southern Discount			21948							281-328-5753	5606 Maple Street Crosby, TX 77532		
Harris	Space City Environmental			23099	23099	23099						12375 Bissonnet Houston, TX 77099		
Harris	Specialized Waste Systems, Inc.						20044		20044		713-455-7799	1273 Sheffield Houston, TX 77015		
Harris	Synagro of Texas-CDR, Inc.									20009	281-356-7756	24938 FM 2920 Hockley, TX 77447		
Harris	Tanks A lot	20716									281-351-5921	21450 Cedar Lane Tomball, TX 77375		
Colorado	Texana Vacuum	21087		21087	21087	21087					972-732-6677	IH-10 Feeder Road South Columbus, TX 77934		
Harris	Texas Outhouse, Inc.	22739									713-785-5788	1640 Fountainview Houston, TX 77057		
Liberty	The Outhouse	22404									281-592-9422	Route 10, Box 5887 Cleveland, TX 77327		
Montgomery	Top Notch Transport									23051	936-344-2793	11251 Blackland Road Willis, TX 77318		
Colorado	Town and Country Septic Tank Service						22494				979-732-9560	Route 3, Box 3727a Columbus, TX 78934		
Harris	Trapmaster by Terminix			22429							281-495-1265	11777 W Sam Houston Pkwy S Houston, TX 77031		
Colorado	Tricil Environmental Resp.													
Harris	Uranus Services					22716	22716				713-828-6377	9619 Stroud Drive Houston, TX 77036		

Liquid Waste

Appendix D: Solid Waste Facilities

County	Full Permittee Name	Type and Permit Number								Telephone	Mailing Address	Gate Rates (per cubic yard)	Total Disposal (Tons) 2000	Remaining Capacity (Tons) 2000
		Chemical Toilet Waste Transporter	Grease Trap Waste Processor	Grease Trap Waste Transporter	Grit Trap Waste Transporter	Septic Tank Waste	Transfer Station	Water Supply Treatment Plant Sludge	Wastewater Treatment Sludge					
Harris	US Liquids of Texas, Inc.			22718	22718	22718		22718	22718	281-459-1122	250 Gellhorn Road Houston, TX 77013			
Brazoria	US Maintenance Service, Inc.			20074	20074	20074				281-824-0050	2022 FM 528 Alvin, TX 77511			
Harris	USA Environmental Services, Inc.				22700			22700	22700	281-464-6889	100 Genoa Red Bluff Houston, TX 77034			
Harris	WMT/Atascocita													
Harris	WMT/Bluebonnet													
Galveston	WMT/E & D Landfill													
Harris	Big Chief Environmental, Inc.		1672									N/A	0	N/A
Harris	Genesyst International, Inc.		2114							214-688-5982 Dallas			0	N/A
Harris	Downstream Environmental, LLC		43008								10400 Westpark Drive Houston, TX 77042			
Harris	Darling International Incorporated Grease Division		43009							713-921-2093	1712 75 th Street, Houston, TX 77011	\$35/pick up (Depends on restaurant's needs)		

Liquid Waste

Appendix D: Solid Waste Facilities

County	Full Permittee Name	Transfer Station	Transporter	Medical Waste Processor	Telephone	Mailing Address	Facility Location	Source & Date of Info	Contact
Fort Bend	American 3CI	40079			800-947-4587	2725 FM 521 North Fresno, TX 77545		TNRCC Region 12, Jan 2002	Chester Smith
Montgomery	Stericycle, Inc.		50002	2222 (5AC)	936-441-8950	8950 Conroe Park N. Drive Conroe, TX 77303	IH 45 TO FM 3083 EAST TO CONTERBURY DR NORTH LEFT ON UNNAMED	TNRCC Region 12, Jan 2002	Jim De Carlo
Fort Bend	American 3CI		50007		281-431-1968	Fresno		TNRCC Region 12, Jan 2002	Chester Smith
Harris	Ryder Integrated Logistics, Inc.		50027		713-462-6992	1800 Delano Houston, TX 77003		TNRCC Region 12, Jan 2002	Debbie Costello
Harris	Trimed Waste Disposal		50048		713-673-6116	PO Box 633 Galena Park, TX 77547	7780 Harwin Drive Houston, TX 77036	TNRCC Region 12, Jan 2002	Teresa McGuire
Galveston	Gamma Environmental Services		50050		281-461-0677	1125 Grand Avenue Bacliff, TX 77547		TNRCC Region 12, Jan 2002	Thomas Cherion
Harris	Tropic Express		50054		713-453-7298	13301 East Freeway Suite 202 Houston, TX 77015		TNRCC Region 12, Jan 2002	Elizabeth Leverett
Harris	AmeriTech		50067		281-448-0800	14010 Interdrive East Houston, TX 77032		TNRCC Region 12, Jan 2002	Jay Howard
Fort Bend	Dyneco, Inc.		50057		281-242-4032	2302 Country Club Sugar Land, TX 77478		TNRCC Region 12, Jan 2002	Robert Holberg
Harris	LSM, Inc.		50058		713-349-0063	2616 Sea Harbor Road Dallas, TX 75212		TNRCC Region 12, Jan 2002	
Harris	PMT USA, Inc. dba Air & Sea Environmental		50059		713-680-8833	333 N. Sam Houston Pkwy East Houston, TX 77060		TNRCC Region 12, Jan 2002	David Berry
Harris	CSDS		50065		281-463-0175	202 S. Avenue G Street Humble, TX 77347		TNRCC Region 12, Jan 2002	Tara Smith
Galveston	UTMB			2232 (5WI)	409-772-3694	800 Port Industrial Galveston, TX 77555	AT THE 700 BLOCK OF PORT INDUSTRIAL, GALVESTON , TX 77555-1049		
Harris	M.D. Anderson Cancer Center			1504 (5WI)	713-792-2210	6723 Bertner Avenue Houston, TX 77030			
Walker	UTMB-TDCJ Managed Care		55004 - self transporter			Route 6, FM 980 Huntsville, TX 77340			
Harris	M.D. Anderson Cancer Center		55001- self transporter			1515 Holcombe Boulevard Houston, TX 77030			
Harris	Medwaste Technologies Corporation		50060 54007- on site		713-849-5480	6830 N. Eldridge Pkwy #110 Houston, TX 77041			
Harris	Medical Waste Services of America, LLC		50062		713-349-0063	6575 W. Loop South Suite 145 Bellaire, TX 77401			
Harris	Gamma Waste Systems		50073		713-910-6477	9106 Old Galveston Road Houston, TX 77034			
Harris	Harris County Hospital District		54001 - on site 55002 - self transporter		713-636-5000	5656 Kelley Street Houston, TX 77026			

Medical Waste

Appendix D: Solid Waste Facilities

County	Permit Number	Amendment	Type	Status	Full Permittee Name	ALIAS (Landfill Project Name)	Service Area	Site Location	Acreage	Comments	Source and Date of Information
Brazoria	887		I	FOP	TDC / Ramsey unit 2			TX DEPT OF CORRECTIONS, RAMSEY UNIT 1, ROSHARON, TX	5		
Colorado	1001		I	E	Landfill						
Chambers	1012		IV	NPC	Chambers County			4 MI E MONROE 1 MI N OF SH65 ON E SIDE IRRIGATION CANAL	9		
Harris	1079		I	CLOSED	NEGEV CORPORATION			1MI S ON USHWY90 1MI N HNTNGBYOU .7MI V ON OATES ROAD	1		
Harris	1109		I	closed	BFI Waste Industries	Holmes Road Landfill		4.8 MI NW OF HOUSTON CITY LIMITS ALONG US290	389		
Harris	1160		I	CLOSED	CONSERVATION MANAGEMENT			15.5 MI NW CENTER OF HOUSTON, 0.5 MI N KATY-HOCKLEY/HOUSE-HAHL ROADS	982		
	1223		TS	closed	City of Liberty	City of Liberty Landfill					
Harris	1224		I	CLOSED	BFI			E OF S EXT PETRO LA S HLMESRD .4MI NWUTHERING HGHTS DR	293		
Harris	1227		IV	CLOSED	KNAUFF, JERRY J			IH 10 W & SE CORNER OF PROPOSED WESTGREEN RD	8		
Harris	1252		IV	CLOSED	HOLCOMB & HOLCOMB			W SIDE SHERIDAN RD 1440 FT N MOUNT HOUSTON RD			
Harris	1257		I	E	US Forest						
Harris	1262		IV	CLOSED	STABILIZED MATERIALS			1M N CITY LIMIT 2100FT SSE INTX FM529 & ADDICK-SATSM	25		
Harris	1267		I	CLOSED	GEORGE R MOODY, INC.			SW INTX FM 518 & FELLOWS RD ADJ W CITY LIMIT	45		
Harris	1355		I	closed	City of Bellaire	City of Bellaire Landfill, GCWDA Landfill		2000'SE US 59, N OF 9700 BLK OF RUFFINO RD IN HOUSTON CITY LIMITS	14		
Harris	1441	A	I	PC	Indian Paintbrush Development			2000 FT E CUTTEN RD, 380 FT S FM1960, AT END OF GANT RD	28	affadavit to public dated 07/20/1998	
Harris	1441		IV	closed	Sanifill of Texas, Inc.	IPB Development Landfill, Sanifill Landfill		2000 FT E CUTTEN RD, 380 FT S FM1960, AT END OF GANT RD	28	affadavit to public dated 07/20/1998	
Harris	1478		IV	PC	Sanifill of Texas, Inc.			OFF GENOA-RED BLUFF RD 1 MI E INTX W/SH3 ON UNPAVED RD	39	affadavit to public dated 11/04/1996	
	1479		IV	closed	Sanifill of Texas, Inc.	Greenbelt Development Landfill, Hughes Landfill					
Harris	1485		IV	CLOSED	FRALEY, OSCAR			2000FT N STOCKDICK RD & 1500FT KATY-HOCKLEY RD	20		
Harris	1531		IV	CLOSED	MATCON, INC			1000FT E TANNERRD FROM ITS INTX WITH PROPOSED BELTWAY8	24		
Harris	1570		IV	CLOSED	CLEAN WAY, INC.			4212 CLOW RD HOUSTON			
Harris	1578		TS	closed	USA Waste Management	Hardy Road Landfill		18784 HARDY ST	83		
Harris	1589		IV	CLOSED	WALKER, T. DELBERT			SE INTERSECT GENOA-RED BLUFF RD & GRAYSON LN	24		
Walker	1647		II	closed	Darrell Dickey, Inc.			8 mi. E of Huntsville, 0.5 mi SE US HWY 190, E side of McFarland Road	10	permit voluntarily cancelled 07/16/1996	Landfill was never opened. Currently #2215 on site.
Harris	1660		I	CLOSED	EVERGREEN DEVELOPMENT			SOUTH SIDE OF BELTWAY 8, 3MI EAST OF US59	281		
Galveston	1721		I	E	Waste Mgmt of ...			2 MI E INTRSC SH6/SH35, N SIDE SH6 NE OF INT OF BRITTMOORE RD & TANNER RD	286		
Harris	1740		IV	CLOSED	BSI-WII/WCSI			600FT N TANNER RD, BETWEEN CLARA RD & CRAWFORD ST.	2		
Harris	1877		I	CLOSED	WEST BELT DEVLPMENT, INC			ADJACENT TO ESIDE FARLEY ST 200FT S GENOA-RED BLUFF RD	71		
Harris	1881		IV	CLOSED	HUGHES SAND PITS, INC.			700FT SSE OF 6614 JOHN RALSTONROAD	29		
Harris	1965		I	CLOSED	GREENS BAYOU DEVELOPMENT			0.4MI NNW IH10, 0.4MI W TMPSN RD, 0.75MI E LYNCHBURG RD	43		
Harris	2071		IV	CLOSED	EAST MARK DEVELOPMENT INC			750FT S US90 AT END OF RALSTON RD, 350FT E GREENS BAYOU	34		
Other	2107		IV	CLOSED	N.G.S. INC				20		

Appendix D: Solid Waste Facilities

County	Permit Number	Amendment	Type	Status	Authorized to Accept Liquid Waste	Approved Composting	Received Composting Credit	Full Permittee Name	ALIAS (Landfill Project Name)	Service Area	Facility Location	Permitted Acreage	Facility Address	Facility Telephone Number	Contact Name	Contact Telephone Number	Gate Rates (per cubic yard)	Permitted Capacity
Fort Bend	2110		1	Withdrawn				Madden Road Landfill Ltd.			3000FT W OBRIEN RD,ADJ W SIDE MADDEN RD	180						
Harris	2249		IV	Denied 02/04/98				BMFS, Inc.	Spring Cypress Landfill		N side of Spring Cypress Road, approximately half mi W of the Spring Cypress - Stuebner Airline intersection in the City of Houston ETJ	53.0769						
Harris	2276		IV	Pending				Applerock Group, LLC	Applerock Disposal Facility		NE of the intersection of Hwy 3 and Genoa Red Bluff Road (Fuqua Drive).	100.644 (60 disposal)	313 Genoa Red Bluff Road		Anthony Koby	713-944-4253		
Brazoria	2282		IV	Pending				Juliff Gardens LLC	Juliff Gardens Landfill		2500 ft S of the intersection of FM 521 and CR 56	258.8	11015 FM 521 Rosharon, TX 77583	N/A	Juan Pupo	281-491-7775		
Fort Bend	40163		5TS	Withdrawn 12/01/00				Ace Environmental					10811 FM 1464 Richmond, TX 77469		Dave Parikh			
Harris	40182		5TS(med)	Pending				Ameritech Environmental, Inc.			SE corner of interdrive East and Maximilian Drive		14010 Interdrive East Houston, TX 77032	281-448-0800			22,000 lbs/day medical waste, 30 tons/month USDA waste	
Harris	43006		5GG	Pending				Downstream Environmental, LLC			900 ft S of int of Neuens and Oak Tree Drive	[43346.77 ft2]	1657 Oak Tree Drive Houston, TX					
Wharton	42020		RC	Pending				Aqua-Zyme Services, Inc.	Don Tol Compost Facility		4 mi S of Boling, along FM 1301 at the int of FM 1301 and Wharton County Road 101 (Don Tol Road)							
Waller	710826		?	Permitted 06/23/00 ?				K-3 Resources, Inc.										
Harris	1483	B	IV	Withdrawn				Waste Corporation of America	Greenbelt Landfill Urban Landfill	Harris County			550 Old Genoa Red Bluff Road Houston, TX 77034	281-464-9797				
Harris	1483	B	5TS	Withdrawn				Waste Corporation of America	Genoa Transfer Station Waste Reduction Systems	Harris, Fort Bend, Montgomery	10007 KOENIG ROAD, HOUSTON	9	10007 Koenig Street Houston, TX 77034	N/A	N/A	N/A		

Pending Permits

Appendix E: Local Enforcement and Illegal Dumping Programs

Austin County

Austin County's environmental crimes are handled through the Austin County Sheriff's Department. Deputy Sammy Miller is the lone environmental enforcement officer for this area. At his disposal is his Ford Explorer, video surveillance, three still surveillance cameras, and a vehicle mounted surveillance camera. Deputy Miller's position was established in February 1998.

Baytown, City of

The City of Baytown operates code enforcement services as part of its Neighborhood Protection Services. Neighborhood Protection activities included investigations, civic and community presentations, code violation notice letters and maintenance of a web site for outreach and dissemination of public information.

Fort Bend County

Fort Bend County's Environmental Crime Unit is comprised of two commissioned peace officers operating full time, and one part-time non-peace officer assisting on investigation of cases. Established in approximately 1996, the Unit is involved in enforcement, as well as prevention. In aiming to prevent environmental crimes, the Unit has developed several brochures, conducted giveaways of brochures, portfolios, and mouse pads, and developed two educational videos. In their enforcement work, the Environmental Crime Unit uses two pick-up trucks (1 4x4), one Chevy Tahoe, a Polaris ATV, two digital cameras, one video camera, three 35mm cameras, and night vision equipment. The Unit will soon also have at its disposal a new boat for patrol of the Brazos River.

Galveston, City of

Mr. Keith Ware has used his expertise in several fields to develop an arm of pollution control aimed at curbing environmental crimes about four years ago. Mr. Ware is the director of Public Works for the City of Galveston. Sargent Mike Mize does double duty as well. While on patrol, Sargent Mize stays on the lookout for signs of illegal dumping. Both use the resources at their disposal for enforcement of environmental crimes. Mr. Ware uses his recycling truck to also investigate environmental crime cases, and Sargent Mize uses his patrol vehicle and the standard equipment offered with it. Mr. Ware and Sargent Mize also work cooperatively with the Galveston County Health District.

Galveston County

Environmental enforcement for Galveston County is handled by the Galveston County Sheriff's Department and the Galveston County Beach and Parks Department. While there is no specific environmental crimes division, both parties have made a concerted effort to curb and enforce environmental crimes. An anti-litter enforcement team makes up the majority of the effort to enforce environmental crimes. Activities such as an anti-litter campaign for Bolivar Peninsula consisting of brochures and litterbags has helped spread their anti-litter message. Enforcement is done on a regular basis using the equipment that the officers normally have at their disposal with their police car. In addition, extra officers are scheduled on weekend and peak times throughout the year to enforce their anti-litter campaign.

Harris County

The Harris County Environmental Enforcement Division has been established since 1993 when it was started with two officers. The Division has now expanded to seven officers, with further expansion expected soon. Of those seven officers, six are commissioned through Harris County Precinct 1, and the other is commissioned through Harris County Precinct 5. Public education and outreach is key to the success of this unit. The Environmental Enforcement Division has produced an educational video geared toward students and adults beginning at the Junior High level. They have also developed pamphlets and brochures for all levels of children and adults, and they regularly work with HISD schools to promote their campaign to end illegal dumping. The Harris County Environmental Enforcement Division has a variety of tools at their disposal when investigating environmental crimes. All vehicles are equipped with Mobile Data Terminals, GPS systems, and Polaroid and digital cameras. The department also has video cameras for surveillance, perimeter detection kits, photo ionization detectors, a night vision scope, and highly sensitive metal detectors. The department also has Four 4x4 vehicles, and one police-equipped mountain bike.

Houston, City of

The environmental unit of the Houston Police Department was established in late 1993. The unit now supports a staff of 15 individuals. Six of these are environmental officers (commissioned through the Houston Police Department) and six are city inspectors. The unit also employs two people for support staff, and one community liaison. Sylvia Brumlow, community liaison, organizes and schedules Officers and Inspectors for public speaking engagements. She has prepared both an Environmental Crimes poster, which has been requested nationwide, and community brochures, which have the environmental law and associated materials. When pursuing cases, the officers of HPD's Environmental Crime Unit are well equipped. They have at their disposal 5 Ford Explorers and 6 Jeeps for surveillance and response, 1 ¾ Ton Ford F250 Pick-Up with camper for Scene Response, 1 Buick LaSabre for community outreach, 1 Airboat for waterside investigations, and remote surveillance as well as other cameras.

Montgomery County

Montgomery County has two officers assigned to environmental enforcement. The officers are Deputy Tim Holifield and Deputy Tommy Gage.

Oak Ridge North, City of

The City of Oak Ridge North has two full-time environmental officers. Officer Doug Berry serves his regular patrols along with his police dog assistant Jasper. The chief of the Oak Ridge North Police Department also has training to assist with environmental crime investigation and prosecution. Officer Berry has an abundance of equipment for use in his investigations. This equipment includes a Chevrolet S-10 pick-up with 4x4, a 4-wheel ATV, surveillance cameras (remote cameras, 3 still cameras, 2 video cameras with VCR's, and a handheld video camera), GPS for scene documentation, and night vision. Officer Berry's position was established in May of 1996.

Pearland, City of

Assistant Fire Marshall Jerry Byrd is the lone man for environmental crime investigation and prosecution in the City of Pearland. He receives secondary support from Pearland police officers, but Assistant Marshall Byrd is the only staff member dedicated to environmental crime. At his disposal are several pieces of equipment. He has a laptop,

digital camera, Super-8 video camera, motion activated 35-mm camera, and a GPS locator. This unit was established in 1998.

Texas City, City of

The City of Texas City does not have any officers dedicated to environmental crimes. However, Tom Kessler, Director of Public Works coordinates officers to work cases as needed.

Walker County

Officer Tom Olelink has served as the enforcement officer since 1997. Officer Olelink works out of the District Attorney's office. At his disposal are a pick-up truck, 35mm still camera, and a video camera. Officer Olelink works very close with Walker County Proud Communities and the City of Huntsville.

Wharton County

Deputy Mark Sommer is the lone enforcement officer for environmental crimes in Wharton County. Currently, his position is part-time. He is commissioned through the Wharton County Constable's Office (Precinct 2). Deputy Sommer's position was established in 1996. Deputy Sommer now uses the tools at his disposal, including his normal patrol equipment, a computer, a camera system, and a 1994 Chevrolet Truck.

Appendix F – Plan Conformance/Facility Review

H-GAC reviews solid waste facility permit applications for consistency with the regional solid waste management plan. As part of the review process, H-GAC request comments or suggestions concerning the technical aspects of the project from the local government officials in the project area. Local government comments are incorporated into the permit review. The recommendation is then heard and acted on by the Board of Directors at their monthly board meeting immediately following the Project Review Committee.

To assist, H-GAC staff with their review a subcommittee was established in 1996. The H-GAC's Solid Waste Management Committee (SWMC) established a Landfill Siting Criteria Subcommittee to revisit H-GAC's review procedures, and develop recommendations for clarification or improvement. The subcommittee included representation from private sector waste management companies, local government staff, elected officials and citizens. The subcommittee's work is provided for ***informational purposes only***.

As part of the 2002 regional plan amendment, it has been recommended that another subcommittee be formed to revisit H-GAC's review criteria. Prior to the formation of that subcommittee, the 2002 SWMC has made other comments regarding this paper. The 2002 comments are incorporated into this paper and appear in Italics and parenthesis after the appropriate text.

General Issues

There was general agreement that both applicants and the H-GAC staff would benefit by clarifying and/or quantifying review criteria whenever possible. This would also help allay the concern about permit decisions becoming a political process, because of concerns that no politician would ever be able to support a landfill. However, in the ensuing discussion, it proved difficult to come up with "hard and fast" criteria. Nonetheless, there were some consensus points in the areas of: determination of the "need" for a facility; concentration of landfills in certain areas; buffers zones and mitigation factors; and, notification and "vested rights." The subcommittee also agreed that it would be beneficial to the applicants to conduct the H-GAC review earlier in the permitting process, and developed some recommendations for what information would be required for this review, and how the process would be structured. The results of this discussion are summarized as follows.

How should H-GAC address the "need" for a landfill in its reviews?

- There was consensus that economics will dictate facility need, that H-GAC cannot/should not get into assessing the market feasibility of a given facility.
- In considering the need for a facility, H-GAC should assess the overall disposal capacity for the region (or planning subregion), with a goal of maintaining adequate capacity overall and achieving some balance in the distribution of facilities.
- There was agreement that competition in the landfill business is good for the region because it keeps the tipping fees lower.

- There was general agreement that H-GAC should continue to encourage development of larger regional facilities, because of their (presumed) greater operational capacity and whatever negative impacts would be balanced by the longer life of the facility.
- The point was also raised that some small operators do an outstanding job of facility management and should not be penalized.
- There was general agreement that a Subtitle D Type I facility would require a 20-year lifespan (or be at least 100 acres) to be economically feasible. However, *this is only a general rule of thumb*. There may be situations in a rural area where a local government may need to develop a smaller landfill to serve local needs, *precisely because the economics do not work for the private sector*. Whereas, in Houston, a facility would probably need to be much greater than 100 acres to be considered a "large regional facility." The assumptions behind such considerations should be spelled out in the H-GAC review.
- It was agreed that with respect to the H-GAC review criteria, whether a facility was to be developed and operated by the public or private sector should not be a consideration.
- No consensus was reached on the optimum size for a Type IV. It was agreed that H-GAC's review should take into account factors such as the amount of construction & demolition waste being generated in the area and the availability of other Type IV's within a "reasonable haul distance."

Conclusions

It was agreed that H-GAC shouldn't set arbitrary numbers on what constitutes a large regional facility, but inform applicants that the following factors will be considered in making this determination:

- Size of the facility and overall contribution to the capacity of the surrounding area, subregion and region.
- Existing capacity within a "reasonable" haul distance. It was agreed that there should be no hard and fast rules on what constitutes a "reasonable haul distance," but that 50 miles for a Type I and 10 miles for a Type IV would be "ballpark numbers" upon which to begin the evaluation. *(2002 Comment: It was re-stated that the haul distances vary by facility and no one number can be applied to all facilities.)*

H-GAC review would proceed on this basis. Applicants challenging a consistency finding could do so based on the assumptions made about "overall contribution" and "reasonable haul distance."

On whether H-GAC's review should consider concentration of landfills in certain areas:

- The primary driver in siting decisions is soil suitability; some areas just have better soils for landfills and concentration should not be discouraged in these areas.
- A concern was raised about environmental justice issues pertaining to landfill siting; i.e., that high-income anglo neighborhoods could put up better organized and funded opposition to a permit, meaning that most facilities will wind up in lower income areas.
- The best way to influence the siting of Type IV landfills is to regulate the location of sandpits or other excavation activities (few, if any, Type IV's are developed on "greenfield" sites).

Buffer and screening issues

Buffers

- There was consensus that a landfill's "buffer" should start from the "toe" of the waste disposal cell and not from the facility property line. There was general consensus that there should be different buffer standards for "greenfield" vs. "brownfield" facilities, and between Type I's and Type IV's. However, it was pointed out that there is really no technical basis for establishing a hard and fast buffer distance. Appropriate buffer distances could vary significantly depending upon the surrounding land uses, terrain and vegetation.
- The question was raised about what impacts landfills can have on surrounding properties that buffers will minimize and/or shield. Factors discussed that should be evaluated included consideration of surrounding land uses, landfill height and visual appearance, noise, odor and traffic. These factors can be addressed in the facility's mitigation plan.

Mitigation issues

Consideration of surrounding land uses

- There was agreement that surrounding land uses, existing and planned (e.g., platted, permitted, zoned) should be considered in the review, along with development patterns in the surrounding area. However, a facility, which is otherwise well sited, should not be found inconsistent because of general "growth trends" in that direction.
- Examples were noted of well-designed/operated landfills where residential development actually moved towards the facility.

Height and screening

- There was consensus that landfill height is a technical issue and that H-GAC should not set a maximum height review criteria. It was agreed that design and screening should be considered, but questions remained as to whether the proposed screening plan should be required to address the visibility of the landfill from adjacent properties or properties within 500 feet, or should also take into account visibility from longer distances. *(2002 Comment: Concern regarding the 500 feet was*

expressed. It was noted that many of the existing facilities in the H-GAC region are visible with 500 feet.)

- There was consensus that a landfill should be well screened from properties within 500 feet. There was also general agreement that there is nothing intrinsically wrong with someone being able to see "a green hill" from greater distances, and that the applicant should be judged on the ability to "maintain green" on the final cover.

Noise

- The main consideration in the mitigation of noise issues should be distance from sensitive land uses, screening and hours of operation. It was pointed out that the main noise nuisance from a landfill is the back-up alarms from the trucks.

Odor

- The test generally used to determine whether a landfill has an odor problem is when someone is deprived of the reasonable enjoyment of his or her property. Of course, defining what may be offensive to someone is subjective.
- Odors are subject to dramatic fluctuations depending on weather conditions. The prevailing winds (southeast in the H-GAC region) should be a factor in odor mitigation. For example, there may be a need for a greater buffer distance in the direction that is "downwind" from the landfill.
- It was pointed out that, technically, all the factors that create odor problems are regulated and controllable through good management practices. Another factor that should be considered is the methane extraction plan (this will soon be requirement for Type I landfills under air quality regulations). It was also pointed out that citizens have more opportunity for recourse against an odor problem in places like Harris County, which have county enforcement departments, than in a rural counties which have limited resources for enforcement.
- It was pointed out that odor may be a bigger problem with Type IV's than with Type I's, because Type IV's still accept decomposable materials like brush and paper, but have only weekly cover requirements.

Traffic

- There was agreement that traffic impacts should be a concern if the major access to the facility would generate truck traffic near a school.
- It was pointed out that there are already regulations to cover some nuisance factors like tracking mud on the roadway.
- It was noted that other types of facilities, such as sand pits, generate large amounts of truck traffic, but that that the siting of such facilities is not regulated by traffic concerns.
- It was also pointed out that it is impossible for the permit applicant to know exactly where its traffic is going to be coming from, so it is difficult to assess the impact on individual roadways.

"Vested rights"

This issue pertains to a hypothetical situation that a landfill opponent could construct or file for the development of an incompatible land use, such as a church, adjacent to the proposed site in an attempt to block the permit. The question is, when should the permit applicant be "vested" so that subsequent plans to build or develop surrounding properties would not be considered in a permit review?

- It was agreed that, for the purposes of H-GAC's review, only land uses that are existing or planned (e.g., platted, permitted or licensed) at the time of the review should be considered. If a "sensitive" land use is "planned" after the H-GAC review, it should be considered in the hearing, but should not be revisited by H-GAC.

Information needed for H-GAC review to occur earlier in the permitting process

It was agreed that it would be beneficial for the applicant to have the H-GAC consistency review occur early on, to allow for consideration of alternative sites before so much has been invested in that there is "no turning back." Also applicants are reluctant to modify their applications once in progress, for fear of extending the time frame of the permitting process.

The subcommittee agreed that the following information should be sufficient for H-GAC to conduct its review:

- Location
- Size/capacity
- Surrounding land uses, particularly "sensitive" uses (e.g., residential, schools, day care, churches, and medical facilities); also should review local zoning, if applicable.
- Height
- Types of waste to be accepted
- Haul distance from major users of the facility

Information not needed

- Geology (TCEQ responsibility)
- Airports (FAA responsibility)

Notification and H-GAC review process

- The subcommittee agreed that the applicant should notify by certified mail all property owners within 500 feet of the landfill as part of the H-GAC review, as well as the standard newspaper notice. There should be a 30-day time limit on responses and that the responses should come to H-GAC for use in its review. *(2002 Comment: It was noted that this section dealing with notification was confusing. It was unclear whether a separate notice would be required as part of the H-GAC review. It was additionally noted that there are TCEQ requirements regarding notification.)*
- There was disagreement as to whether the applicant should be required to place a sign on the proposed site as an additional form of notification. One suggestion was that the applicant be required to post a temporary sign on the site, following the size standards required by the TCEQ air emission permit program, just for the duration of the 30-day comment period.

- It was agreed that H-GAC should conduct its consistency review one time only. An applicant would have the opportunity to request a variance from H-GAC's determination or demonstrate adequate mitigation of any factors that formed the basis of a finding of inconsistency. TCEQ would make the final ruling on granting the variance or on the adequacy of mitigation measures.



RESOLUTION

A RESOLUTION OF THE BOARD OF DIRECTORS OF THE HOUSTON-GALVESTON AREA COUNCIL OF GOVERNMENTS ADOPTING *REGIONAL SOLID WASTE MANAGEMENT PLAN 2002-2020* AS THE REGIONAL SOLID WASTE MANAGEMENT PLAN FOR THE GULF COAST REGION.

WHEREAS, the Houston-Galveston Area Council (H-GAC) is a regional voluntary association of local governments and local elected officials serving the 13-county Gulf Coast Planning Area, with over 4.8 million people; and

WHEREAS, the 68th Texas Legislature enacted the Comprehensive Municipal Solid Waste Management, Resource Recovery and Conservation Act which provides for the development of regional solid waste management plans; and

WHEREAS, in 1989, the 71st Legislature enacted Senate Bill 1519 which stipulated that solid waste management plans must be developed by the State, regional planning agencies, and local governments; and

WHEREAS, the mission of the Houston-Galveston Area Council is to help local government plan for the future; and

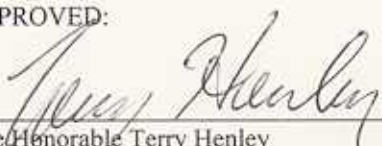
WHEREAS, management of solid waste is and will continue to be a critical issue facing local governments in the Gulf Coast Planning Area; and

WHEREAS, H-GAC has a regional solid waste management plan which has been adopted by the Texas Natural Resource Conservation Commission; and


NOW, THEREFORE, BE IT RESOLVED that the Board of Directors of the Houston-Galveston Area Council that: The Board of Directors of the Houston-Galveston Area Council adopts the regional plan amendment and authorizes its submittal to the Texas Natural Resource Conservation Commission as the regional plan for solid waste management.

PASSED AND APPROVED AT A REGULAR, DULY CALLED MEETING OF THE HOUSTON-GALVESTON AREA COUNCIL BOARD OF DIRECTORS, THIS 16th DAY OF APRIL 2002.

APPROVED:


The Honorable Terry Henley
Alderman, City of Meadows Place
H-GAC Chair

ATTEST:


The Honorable Bill Welch
Councilman, City of Pasadena
H-GAC Vice Chair





RESOLUTION

A RESOLUTION OF THE BOARD OF DIRECTORS OF THE HOUSTON-GALVESTON AREA COUNCIL OF GOVERNMENTS ADOPTING REVISIONS TO *REGIONAL SOLID WASTE MANAGEMENT PLAN 2002-2020* AS THE REGIONAL SOLID WASTE MANAGEMENT PLAN FOR THE GULF COAST REGION.

WHEREAS, the Houston-Galveston Area Council (H-GAC) is a regional voluntary association of local governments and local elected officials serving the 13-county Gulf Coast Planning Area, with over 5 million people; and

WHEREAS, the 68th Texas Legislature enacted the Comprehensive Municipal Solid Waste Management, Resource Recovery and Conservation Act which provides for the development of regional solid waste management plans; and

WHEREAS, in 1979, H-GAC was designated by the Governor as the regional planning agency for solid waste management in the Gulf Coast region; and

WHEREAS, in 1989, the 71st Legislature enacted Senate Bill 1519 which stipulated that solid waste management plans must be developed by the State, regional planning agencies, and local governments; and

WHEREAS, the mission of the Houston-Galveston Area Council is to help local government plan for the future; and

WHEREAS, management of solid waste is and will continue to be a critical issue facing local governments in the Gulf Coast Planning Area; and

WHEREAS, H-GAC has a regional solid waste management plan which has been adopted by the Texas Commission on Environmental Quality; and

WHEREAS, a draft plan amendment was developed and adopted by the H-GAC Board of Directors under the rules and procedures of the Texas Commission on Environmental Quality; and

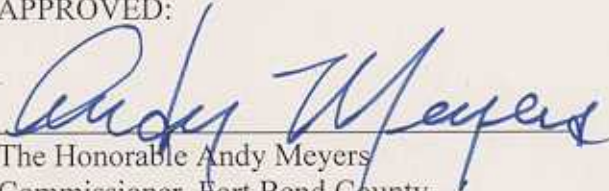
WHEREAS, upon its review of the upon review of the plan amendment, the Texas Commission on Environmental Quality requested revisions; and

WHEREAS, H-GAC's Solid Waste Management Committee has reviewed and concurred with the proposed plan amendment revision; and a public hearing was conducted to receive comments on the revisions; and

NOW, THEREFORE, BE IT RESOLVED that the Board of Directors of the Houston-Galveston Area Council that adopts the regional plan amendment, as revised, and authorizes its submittal to the Texas Commission on Environmental Quality as the regional plan for solid waste management.

PASSED AND APPROVED AT A REGULAR, DULY CALLED MEETING OF THE HOUSTON-GALVESTON AREA COUNCIL BOARD OF DIRECTORS, THIS 19th DAY OF AUGUST 2003.

APPROVED:


The Honorable Andy Meyers
Commissioner, Fort Bend County
H-GAC CHAIR

ATTEST:


The Honorable Greg Westmoreland
County Judge, Matagorda County
H-GAC VICE CHAIR





RESOLUTION

A RESOLUTION OF THE BOARD OF DIRECTORS OF THE HOUSTON-GALVESTON AREA COUNCIL OF GOVERNMENTS ADOPTING THE CLOSED LANDFILL INVENTORY AS THE REGIONAL SOLID WASTE MANAGEMENT PLAN FOR THE GULF COAST REGION.

WHEREAS, the Houston-Galveston Area Council (H-GAC) is a regional voluntary association of local governments and local elected officials serving the 13-county Gulf Coast Planning Area, with over 4.8 million people; and

WHEREAS, in 1993, the 73rd Legislature enacted House Bill 2537 which required regional councils of governments (COGs) to develop and include an inventory of closed municipal solid waste landfills in their regional solid waste management plans; and

WHEREAS, in 1999, the 76th Legislature enacted Senate Bill 1477 which expanded the COG role in the closed landfill inventory to include documentation and mapping of boundaries of each closed landfill and notification of current landowners of the location of each closed landfill; and

WHEREAS, the mission of the Houston-Galveston Area Council is to help local government plan for the future; and

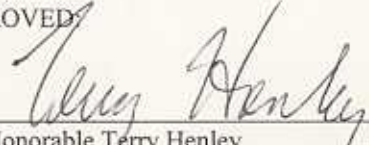
WHEREAS, management of solid waste is and will continue to be a critical issue facing local governments in the Gulf Coast Planning Area; and

WHEREAS, H-GAC has a regional solid waste management plan which has been adopted by the Texas Natural Resource Conservation Commission; and


NOW, THEREFORE, BE IT RESOLVED that the Board of Directors of the Houston-Galveston Area Council that: The Board of Directors of the Houston-Galveston Area Council adopts the closed landfill inventory and authorizes its submittal to the Texas Natural Resource Conservation Commission.

PASSED AND APPROVED AT A REGULAR, DULY CALLED MEETING OF THE HOUSTON-GALVESTON AREA COUNCIL BOARD OF DIRECTORS, THIS 16th DAY OF APRIL 2002.

APPROVED


The Honorable Terry Henley
Alderman, City of Meadows Place
H-GAC Chair

ATTEST:


The Honorable Bill Welch
Councilman, City of Pasadena
H-GAC Vice Chair

