



**DRAFT**  
**Regional**  
**Solid Waste**  
**Management Plan**  
**2022-2042**

# Regional Solid Waste Management Plan Volume I

Regional Solid Waste Management Plans are required by Texas Health and Safety Code (THSC), §363.062, relating to Regional Solid Waste Management Plan (RSWMP). Contents of the RSWMP are described in THSC §363.064 and in 30 Texas Administrative Code (TAC), Chapter 330, Subchapter O.

This form contains set fields for data entry. To complete an entry, click on the area where the instructions are shown and begin typing. Rows can be added or deleted in the tables as needed. The RSWMP Volume I Form was developed by the Texas Commission on Environmental Quality (TCEQ) in coordination with the Texas Association of Regional Councils. Planning organizations with questions about the form can contact the **TCEQ Business and Program Services Section** by calling 512-239-2335.



# Regional Solid Waste Management Plan Volume I

## Regional Organization Information

Table 1. Organization Information

<b>Name of Council of Government</b>	Houston-Galveston Area Council
<b>Mailing Address</b>	P.O. Box 22777, Houston, TX 77227-2777
<b>Website</b>	www.h-gac.com
<b>Phone Number</b>	713-627-3200
<b>Email Address</b>	N/A

## Section I. Geographic Scope

[Ref. 30 TAC §330.645(a)(1)]

*The geographic scope of the regional planning process shall be the entire planning region.*

Table I.I. Geographic Scope

<b>Names of Member Counties in the Entire Planning Region</b>	Austin, Brazoria, Chambers, Colorado, Fort Bend, Galveston, Harris, Liberty, Matagorda, Montgomery, Walker, Waller, and Wharton
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## Section II. Plan Content

[Ref. 30 TAC §330.635(a)(2)]

*A regional plan shall be the result of a planning process related to the proper management of solid waste in the planning region. The process shall include identification of overriding concerns and collection and evaluation of the data necessary to provide a written public statement of goals and objectives and actions recommended to accomplish those goals and objectives.*

## II.A. Regional Goals and Objectives

[Ref. 30 TAC §330.635(a)(2)(A)]

In the table, list the long-range regional goals and corresponding objectives for the proper management of solid waste in the planning region. Add rows as needed.

**Table II.A. Regional Goals and Objectives**

<p><b>Goal #1</b> Promote the planning for adequate municipal solid waste disposal, handling, processing, transfer, and management facilities while providing recommendations to limit adverse impacts</p>	<p><b>Objective 1.A</b> Encourage site development strategies and operating procedures that limit adverse impacts from municipal solid waste facilities</p> <p><b>Objective 1.B</b> Encourage the development of facilities that reduce, reuse, and recycle waste materials</p> <p><b>Objective 1.C</b> Encourage appropriate distribution of facilities to minimize transportation costs</p> <p><b>Objective 1.D</b> Encourage the development of larger regional facilities to the extent practical and where such facilities would be the best alternative</p> <p><b>Objective 1.E</b> Encourage expansion and redevelopment of existing municipal solid waste facilities, where feasible, over siting of new facilities</p> <p><b>Objective 1.F</b> Encourage development of transfer stations and citizen collection stations, where appropriate</p> <p><b>Objective 1.G</b> Encourage long-range land use planning at the county level</p> <p><b>Objective 1.H</b> Identify future disposal capacity needs and disposal options</p>
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<b>Goal #2</b> Educate on all aspects of materials management	<b>Objective 2.A</b> Provide information to the public to encourage and enable behavior change  <b>Objective 2.B</b> Educate local governments, nonprofits, and other groups responsible for materials management  <b>Objective 2.C</b> Educate parties on new and emerging innovations, technologies, and regulations
<b>Goal #3</b> Act as a vehicle for coordination to take advantage of opportunities for economies of scale and partnerships	<b>Objective 3.A</b> Develop and maintain regional cooperative service contracts  <b>Objective 3.B</b> Encourage cooperative outreach campaigns  <b>Objective 3.C</b> Support partnerships and interjurisdictional cooperation on a full range of materials management activities
<b>Goal #4</b> Support programs that encourage environmental protections and minimize safety risks	<b>Objective 4.A</b> Support the development and utilization of collection programs for components of the waste stream that may pose a special risk or problem  <b>Objective 4.B</b> Target waste reduction activities to components of the waste stream that may pose a special risk or problem  <b>Objective 4.C</b> Support planning efforts to abate illegal dumping and litter  <b>Objective 4.D</b> Support disaster debris management planning efforts

	<b>Objective 4.E</b> Support the enforcement of illegal dumping/disposal of solid waste
<b>Goal #5</b> Encourage and promote market development for composted, reused, and recycled goods with a focus on the economic impact of sustainable materials management	<b>Objective 5.A</b> Focus outreach efforts to stimulate market development  <b>Objective 5.B</b> Facilitate opportunities for networking for public and private entities to help create sustainable markets  <b>Objective 5.C</b> Raise awareness of the economic impact of various aspects of sustainable materials management
<b>Goal #6</b> Facilitate and support the creation and expansion of materials management programs	<b>Objective 6.A</b> Target waste reduction activities to the major components of the waste stream  <b>Objective 6.B</b> Provide resources to help local governments evaluate and implement materials management programs and practices  <b>Objective 6.C</b> Support the development and funding of materials management facilities and infrastructure
<b>Goal #7</b> Support research and data collection efforts related to materials management	<b>Objective 7.A</b> Maintain a regional clearinghouse on materials management practices and activities of H-GAC local governments  <b>Objective 7.B</b> Support efforts to more effectively collect useful data  <b>Objective 7.C</b> Encourage efforts that increase knowledge regarding materials management strategies and needs

<b>Goal #8</b> Develop, support, and maintain partnerships with private industry and nonprofit organizations	<b>Objective 8.A</b> Encourage coordination of public and private interests in addressing solid waste problems  <b>Objective 8.B</b> Support the collection and dissemination of information on materials management facilities and organizations in the region  <b>Objective 8.C</b> Promote best management practices from subject matter experts

## II.B. Efforts to Minimize, Reuse, and Recycle Waste

[Ref. 30 TAC §330.635(a)(2)(B)]

In the table, provide a description and assessment of efforts to minimize, reuse, and recycle waste.

**Table II.B. Waste Minimization, Reuse, and Recycling**

Subject	Description
Current Efforts to Minimize Municipal Solid Waste and to Reuse or Recycle Waste	<p>Cities and counties provide recycling services to residents through curbside collection or at drop off facilities. Around 63% have access to recycling. Around 50% of the region's residents have access to yard waste collection and around 40% have access to drop off tire collection.</p> <p>Reuse happens through the thrift stores, antique stores, and the companies that refurbish items for resale. Some local governments also get involved in reuse. Two counties offer household hazardous materials that are in good condition for reuse; one county reblends latex paint for resale; and one city has facilities that accept craft materials, books, post-consumer and industrial scrap, and construction materials and then make them available for reuse.</p> <p>Sludge is generally handled in one of four ways in the region, land application of biosolids, use of sludge in composting operations, heat pelletizing of sludge, or landfilled.</p>
Recycling Rate Goal for the Region	<p>The H-GAC region is currently at around a 26% recycling rate. We are proposing that we will recover 10% of what is currently being disposed of over the next 20 years. This results in a recycling rate goal of 31%. The region has good programs aimed at increasing recycling and will continue to improve those programs and make progress in the future.</p>
Recommendations for Encouraging and Achieving a Greater Degree of Waste Minimization and Waste Reuse or Recycling	<ul style="list-style-type: none"> <li>-Increase opportunities for household hazardous waste disposal through events, partnership, and new funding streams</li> <li>-Reduce contamination in single-stream recycling through educational campaigns for awareness and consequences for recycling incorrectly</li> <li>-Collection of food waste by private industry or through backyard composting</li> <li>-Decrease illegal dumping of tires by providing collection events or incentives to return old tires to seller when buying new tires</li> </ul>



Subject	Description
Existing or Proposed Community Programs for the Collection of Household Hazardous Waste	<p>With a population of over 7 million people and only seven permanent locations collecting household hazardous waste (HHW) and one collecting just batteries, oil, latex paint, and antifreeze (BOPA) the number of facilities providing collection is inadequate. These facilities are spread among four of the region's counties. This leaves nine counties without a permanent facility collection option.</p> <p>Some cities and municipal utility districts offer curbside pickup of HHW, but this service is not widespread. Residents in the nine counties without a permanent HHW collection option are served by occasional one-day events. Entities rely heavily on TCEQ grant funds to host these one-day events. Other strategies and sources of funding are needed for proper management of household hazardous wastes.</p>
Composting Programs for Yard Waste	<p>The recommended composting programs for yard waste and related organic wastes may include:</p> <ul style="list-style-type: none"> <li>☑ (I) creation and use of community composting centers;</li> <li>☑ (II) adoption of the "Don't Bag It" program for lawn clippings developed by the Texas Agricultural Extension Service; and</li> <li>☑ (III) development and promotion of education programs on home composting, community composting, and the separation of yard waste for use as mulch.</li> </ul>
Public Education/Outreach	<p>H-GAC conducts outreach and education through a variety of methods. Each month staff develop recycling or reuse related messages to be used on social media on topics such as gardening, plastic, back to school, or cardboard. These messages are used by H-GAC and are also made available to local governments throughout the region to use as their own. H-GAC also maintains educational information on its website, and as needed, produces print materials, ads for radio, ads for print and online newspapers, and videos. When requested, staff gives presentations to community groups, businesses, and schools.</p>

## II.C. Commitment Regarding the Management of MSW Facilities

[Ref. 30 TAC §330.635(a)(2)(C)]

By checking the boxes below, the Council of Government makes a commitment to the following, regarding the management of MSW facilities:

- ☒ (i) encouraging cooperative efforts between local governments in the siting of landfills for the disposal of solid waste;
- ☒ (ii) assessing the need for new waste disposal capacity;
- ☒ (iii) considering 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;
- ☒ (iv) allowing 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;
- ☒ (v) completing and maintaining an inventory of MSW landfill units in accordance with Texas Health and Safety Code, §363.064. One copy of the inventory shall be provided to the commission and to the chief planning official of each municipality and county in which a unit is located; and
- ☒ (vi) developing a guidance document to review MSW registration and permit applications to determine conformance with the goals and objectives outlined in *Volume II: Regional Solid Waste Management Plan Implementation Guidelines* as referenced in 30 TAC §330.643.

## Section III. Required Approvals

Table III.I. Required Approvals

<b>Solid Waste Advisory Committee</b>	Enter approval date by the Solid Waste Advisory Committee.
<b>Public Meeting Dates</b>	Enter dates of public meetings.
<b>Executive Committee</b>	Enter approval date by the Executive Committee.

# Regional Solid Waste Management Implementation Plan Volume II

## Regional Organization Information

Table 1. Organization Information

<b>Name of Council of Government</b>	Houston-Galveston Area Council
<b>Mailing Address</b>	P.O. Box 22777, Houston, TX 77227-2777
<b>Website</b>	www.h-gac.com
<b>Phone Number</b>	713-627-3200
<b>Email Address</b>	N/A

## Section I. Geographic Scope

Table I.I. Geographic Scope

<b>I.A. Names of Member Counties in the Entire Planning Region</b> [Ref. 30 TAC §330.643(a)(1)]	Austin, Brazoria, Chambers, Colorado, Fort Bend, Galveston, Harris, Liberty, Matagorda, Montgomery, Walker, Waller, and Wharton
<b>I.B. Geographic Planning Units Used in the Regional Implementation Plan</b> [Ref. 30 TAC §330.643(a)(1)]	<input type="checkbox"/> Small geographic areas such as census tracts or city boundaries for the most detailed data collection and manipulation; <input type="checkbox"/> Planning areas to be used for the assessment of concerns and the evaluation of alternatives. These planning areas shall be aggregations of small geographic areas; <input type="checkbox"/> County boundaries for the summarization and presentation of key information; or <input checked="" type="checkbox"/> The entire planning region

## Section II. Planning Periods

[Ref. 30 TAC §330.643(a)(2)]

**Table II.I. Planning Periods**

<b>II.A.1. Current and Historical Information</b>	2019-2020 data was used for the current information. H-GAC hosts quarterly webinars/workshops on a variety of topics to increase the knowledge of local government staff, organizations, nonprofits, and individuals. Topics include illegal dumping enforcement, recycling, household hazardous waste, food waste, electronics, and others. Debris webinars/workshops are held on an annual basis. H-GAC maintains regional contracts for household hazardous waste collection, transportation, and disposal; and electronics collection, transportation, and recycling. Information on solid waste facilities is available on the H-GAC website. H-GAC develops recycling education/outreach messages for use on social media platforms. These are made available for use by others in the region.
<b>II.A.2. Short-range Planning Period</b>	2022-2026 - H-GAC will continue all activities mentioned in II.A.1. Additional activities will include compiling and promoting funding opportunities, developing or coordinating regional education/outreach campaigns, and incorporating automation for data requests from the closed landfill inventory webpage.
<b>II.A.3. Intermediate Planning Period</b>	2027-2031 - H-GAC will continue activities mentioned in II.A.1 and II.A.2 that are ongoing tasks or need to be repeated. Additional activities will include establish a method for sharing ideas/strategies, focus on model policies and best management practices, develop and promote regional standards for data collection and measurement, and conduct analyses to continue the economic impact conversation.
<b>II.A.4. Long-range Planning Period</b>	2032-2042 - H-GAC will continue activities mentioned II.A.1, II.A.2, and II.A.3 that are ongoing tasks or need to be repeated.
<input type="checkbox"/> Check box if additional details provided in <i>Attachment II.A.</i>	

## Section III. Plan Content

### III.A. Demographic Information

[Ref. 30 TAC §330.643(a)(3)(A)]

*In the table, provide population projections, significant commercial and industrial economic activity affecting waste generation and disposal in the area, and recycling activities. Use five-year increments beginning from the base year to the end of the long-range planning period. Refer to Regional Plan Instructions for more information on III.A. Demographic Information.*

**Table III.A.I. Residential Waste Generation**

Year	Growth Rate per Year	Current Population / Population Projection	Landfill Disposal (Tons)	Disposal Rate (lbs./Person /Day)	Recycling (Tons)	Recycling Rate (lbs./Person /Day)	Residential Waste Generation (Tons)
Current	N/A	7,311,929	9,674,596	7.25	3,442,822	2.58	13,117,418
2022	1.11%	7,476,737	9,892,657	7.25	3,520,422	2.58	13,413,079
2027	1.12%	7,911,361	10,467,719	7.25	3,986,757	2.76	14,454,476
2032	1.06%	8,343,059	11,038,910	7.25	4,480,275	2.94	15,519,185
2037	0.94%	8,746,545	11,572,773	7.25	4,986,269	3.12	16,559,042
2042	0.92%	9,160,912	12,121,031	7.25	5,525,519	3.30	17,646,550

**Table III.A.II. Commercial Waste Generation**

Year	Description of significant commercial activities affecting waste generation and disposal in the area.	Expected increase or decrease to Commercial Waste Generation
2022	<p>The total commercial waste is projected to be 4,269,572 tons with a per capita rate at 7.57 lbs/person/day. The total commercial employment is projected to be 3,089,160 people.</p> <p>The current commercial employment by sector is as follows:</p> <p>Accommodation and Food Service - 13.45%  Health Care and Social Assistance - 13.12%  Retail Trade - 11.21%  Educational Services - 10.77%  Construction - 8.21%  Administrative, Support, Waste Management, and Remediation - 7.57%  Wholesale Trade - 6.14%  Transportation and Warehousing - 4.85%</p>	Increase of 1.13%

	Finance and Insurance - 3.47% Other Services - 3.09% Public Administration - 2.89% Real Estate, Rental, and Leasing - 2.16% Management of Companies and Enterprises - 1.72% Arts Entertainment, and Recreation - 1.35% Information - 1.20% Utilities - 0.77%	
2027	During this time the fastest growth will be seen in healthcare support, food preparation and serving, personal care and service, and healthcare practitioners. The total commercial waste is projected to be 4,519,703 tons with the per capita rate remaining constant at 7.57 lbs/person/day. The total commercial employment is projected to be 3,264,186 people.	Increase of 1.15%
2032	The total commercial waste is projected to be 4,767,980 tons with the per capita rate remaining constant at 7.57 lbs/person/day. The total commercial employment is projected to be 3,438,021 people.	Increase of 0.94%
2037	The total commercial waste is projected to be 4,999,659 tons with the per capita rate remaining constant at 7.57 lbs/person/day. The total commercial employment is projected to be 3,600,730 people.	Increase of 0.96%
2042	The total commercial waste is projected to be 5,237,460 tons with the per capita rate remaining constant at 7.57 lbs/person/day. The total commercial employment is projected to be 3,767,536 people.	Increase of 0.89%

**Table III.A.III. Industrial Waste Generation**

Year	Description of significant industrial waste activities affecting waste generation and disposal in the area.	Expected increase or decrease to Industrial Waste Generation
2022	<p>The total industrial waste is projected to be 937,128 tons with a per capita rate of 14.98 lbs/person/day. The total industrial employment is projected to be 342,859 people.</p> <p>The current industrial employment by sector is as follows:</p> <p>Manufacturing - 71.41%</p>	Increase of 1.09%



	Mining, Quarrying, and Oil and Gas - 26.88% Agriculture, Forestry, Fishing, and Hunting - 1.71%	
2027	During this time the fastest growth will be seen in manufacturing and mining/oil and gas. The total industrial waste is projected to be 990,223 tons with the per capita rate remaining constant at 14.98 lbs/person/day. The total industrial employment is projected to be 362,284 people.	Increase of 1.12%
2032	The total industrial waste is projected to be 1,042,958 tons with the per capita rate remaining constant at 14.98 lbs/person/day. The total industrial employment is projected to be 381,578 people.	Increase of 0.92%
2037	The total industrial waste is projected to be 1,092,318 tons with the per capita rate remaining constant at 14.98 lbs/person/day. The total industrial employment is projected to be 399,637 people.	Increase of 0.86%
2042	The total industrial waste is projected to be 1,142,920 tons with the per capita rate remaining constant at 14.98 lbs/person/day. The total industrial employment is projected to be 418,150 people.	Increase of 0.88%

### III.B. Estimates of Current and Future Solid Waste Amounts by Type

[Ref. 30 TAC §330.643(a)(3)(B)]

*In the table, provide the current and project solid waste amounts by type that will be generated and managed within the region. Use five-year increments beginning from the base year to the end of the long-range planning period. Refer to Regional Plan Instructions for more information on III.B. Estimates of Current and Future Solid Waste Amounts by Type.*

**Table III.B.1. Current and Future Solid Waste Amounts by Type**

Waste Type	Number of Landfills Accepting Waste Type	Percent of Total Tons Disposed	Current Year	5-year Projection (tons)	10-year Projection (tons)	15-year Projection (tons)	20-year Projection (tons)
Municipal	12	54.93%	5,149,767	5,265,247	5,321,059	5,371,076	5,420,490
Brush	4	0.15%	14,392	14,715	14,871	15,010	15,148
Construction or Demolition	27	27.25%	2,554,559	2,611,843	2,639,529	2,664,341	2,688,852
Litter	0	0%	0	0	0	0	0
Class 1 Non-hazardous	6	2.32%	217,405	222,281	224,637	226,748	228,834
Classes 2 and 3 Non-hazardous	12	8.61%	807,543	825,652	834,404	842,247	849,996
Incinerator Ash	0	0%	0	0	0	0	0
Treated Medical Waste	3 (doesn't mention if it is treated or not)	0.09%	8,096	8,278	8,365	8,444	8,522
Municipal Hazardous Waste from CESQGs	0	0%	0	0	0	0	0
Regulated Asbestos-containing Material (RACM)	5	0.09%	8,868	9,067	9,163	9,249	9,334
Non-RACM	5	0.19%	17,483	18,243	18,436	18,610	18,781
Dead Animals	5	<0.01%	242	247	250	252	254
Sludge	7	3.74%	350,591	358,453	362,252	365,658	369,022
Grease Trap Waste	1	0.01%	1,076	1,100	1,112	1,122	1,133
Septage	0	0%	0	0	0	0	0
Contaminated soil	5	2.11%	198,077	202,519	204,666	206,590	208,490

Waste Type	Number of Landfills Accepting Waste Type	Percent of Total Tons Disposed	Current Year	5-year Projection (tons)	10-year Projection (tons)	15-year Projection (tons)	20-year Projection (tons)
Tires (split, quartered, shredded)	4	<0.01%	783	801	809	817	824
Pesticides	0	0%	0	0	0	0	0
Used Oil Filter	0	0%	0	0	0	0	0
Other* (identify other types reported as <b>Attachment III.B.</b> )	8	0.49%	45,590	46,612	47,107	47,549	47,987
Total	27	100%	9,374,832	9,585,056	9,686,658	9,777,713	9,867,668
<input type="checkbox"/> Check box if additional details provided in <b>Attachment III.B.</b>							

\*Other waste includes grit trap waste, non-industrial class 1 waste, non-industrial solids, sand blast material, special non-industrial liquids, off specification material, paint waste, food waste, clean fill, and dirt/soil.

### III.C. Description of Current and Planned Solid Waste Management Activities

[Ref. 30 TAC §330.643(a)(3)(C)]

*In the tables, provide the current and planned solid waste management activities in the region with a description. Solid waste management activities should focus on data, activities, and resources within the planning area. Refer to Regional Plan Instructions for more information on III.C. Description of Current and Planned Solid Waste Management Activities in the Region.*

**Table III.C.I. Current Solid Waste Management Activities in the Region**

Activity	Description
Generation	In 2019, 9,374,831 tons of waste was disposed of in the region's landfills and 3,277,512.99 tons of materials were recycled. The combined per capita rate of waste disposal and recycling was 9.97 lbs/person/day.
Source Separation	Of the 25 landfills in the region, 7 reported diverting materials. Diverted materials included white goods, construction and demolition materials, yard waste, metal, brick, and concrete.
Collection	Generally, residents in single-family households in the region have access to curbside pickup of waste, and residents of multifamily housing have access to on-site dumpsters for waste collection. Waste collection is largely procured by cities, homeowners' associations, and municipal utility districts, but there are some areas, particularly in unincorporated parts of counties, where collection of curbside waste is procured by individual homeowners/renters. Collection of recycling is handled in much the same way as waste. Some areas have curbside collection of recycling while others rely on one or more of the 64 recycling facilities operated by cities or counties where residents can drop off recyclables. Recycling collection for multifamily housing is limited. There are also 12 citizens' collection stations in 4 counties in the region.
Handling	In the H-GAC region, there are 40 facilities that fall under the category of waste handling: 1 medical waste transfer station, 1 liquid waste transfer station, 26 transfer stations spread among 7 counties, and 12 low volume transfer stations
Storage	The region does not have storage specific facilities, although there are facilities that store items as part of their process, such as tire facilities and material recovery facilities.
Transportation	Transportation of waste and recycling is largely handled by private companies, although some cities handle their own collection and transportation of materials or at least portions of it.
Processing	There are numerous landfills, facilities, and recyclers in the region engaged in processing: 8 landfills that process gas

Activity	Description
	produced by the landfill, and 1 of those 8 landfills sells the processed gas as energy; 5 grease and grit trap facilities; 40 composting facilities; 1 facility classified as a medical waste incinerator; and 86 recyclers processing materials such as mulch, electronics, sand, concrete, shingles, and others.
Treatment	There are 9 landfills and facilities in the region that treat waste: 2 landfills compost materials, 1 landfill has liquid solidification operations, 4 autoclave facilities with permits, and 2 medical waste facilities.
Resource Recovery	There are 9 beneficial gas recovery facilities in the region, 2 household hazardous waste facilities (HHW) that give out HHW still in good condition to anyone that wants it, and 1 that reblends usable latex paint for resale. There is one city operated facility that accepts building materials for reuse and private companies and nonprofits that take them in for resale. There are also hundreds of thrift stores, antique stores, and other businesses that sell used items across the region.
Disposal of Solid Waste	In 2020, 8.8 million tons of waste was disposed in the region. There are 25 landfills in the region-- 11 Type I landfills and 14 Type IV landfills. A 26th landfill closed at the beginning of 2021. The region's landfills have 35 years of capacity, which is adequate. However, distribution of landfills is geographically concentrated in the central and eastern counties of the region. Of the 13 counties in the region only 6 have a landfill, and 13 of the region's 25 landfills are in Harris County. Average tipping fees for the region's landfills are \$33.03/ton for Type I landfills and \$11.18/uncompacted cubic yard for Type IV.

**Table III.C.II. Planned Solid Waste Management Activities in the Region**

Activity	Description
Generation	No major changes to how waste and recycling are generated are expected.
Source Separation	No major changes to how recycling is separated are expected.
Collection	No major changes to how waste and recycling are collected are expected.
Handling	There are 11 new transfer stations planned in the region: 1 liquid waste transfer station not yet constructed (permit issued in 2015); 7 transfer stations not yet constructed (permits issued in 2005, 2008, 2011, 2012, 2018, and 2021); 2 transfer stations with a pending permit, 2 low volume transfer stations not yet constructed (acknowledgement issued in 2015 for one and the other is pending).
Storage	No storage specific facilities are expected.
Transportation	No major changes to how waste and recycling are transported are expected.
Processing	There are 8 new or expanded facilities for processing waste planned for the region: 1 grit & grease trap facility has a pending expansion; 3 grit and grease trap facilities are not yet constructed (permits issued in 1989, 2009, and 2012); 1 composting facility with a pending permit; 1 medical waste incinerator not yet constructed (permit issued in 1992); and 2 composting facilities not yet constructed.
Treatment	There are two facilities for treating medical waste planned in the region: 1 pending medical waste facility, 1 medical waste facility not yet constructed (permit issued in 1992).
Resource Recovery	There is one beneficial gas recovery facility not yet constructed in the region (permit issued in 2020).
Disposal of Solid Waste	Two Type IV landfill expansions are currently pending. Two landfills are permitted, but not yet constructed. One is a Type I in Walker County not yet constructed, but they've had the permit since 1997, and one is a Type IV not yet constructed in Harris County (permit issued in 2002).
<input type="checkbox"/> Check box if additional information of solid waste management activities is provided as <i>Attachment III.C.</i>	



### III.D. Description and Assessment of the Adequacy of Existing Solid Waste Management Facilities & Practices, and Household Hazardous Waste Programs

[Ref. 30 TAC §330.643(a)(3)(D)]

*In the table, identify if specific waste management facilities, practices, and programs are adequate in the region. Provide an assessment and description of activities that are inadequate in Attachment III.D. Refer to Regional Plan Instructions for more information on III.D. Description and Assessment of the Adequacy of Existing Solid Waste Management Facilities and Practice, and Household Hazardous Waste Programs.*

**Table III.D.I. Adequacy of Existing Facilities and Practices**

Program	Facility Adequacy	Practices Adequacy
Resource Recovery	<input type="checkbox"/> Yes <input checked="" type="checkbox"/> No, description of facility inadequacy provided in <b>Attachment III. D.</b>	<input type="checkbox"/> Yes <input checked="" type="checkbox"/> No, description of practice inadequacy provided in <b>Attachment III. D.</b>
Storage	<input checked="" type="checkbox"/> Yes <input type="checkbox"/> No, description of facility inadequacy provided in <b>Attachment III. D.</b>	<input checked="" type="checkbox"/> Yes <input type="checkbox"/> No, description of practice inadequacy provided in <b>Attachment III. D.</b>
Transportation	<input checked="" type="checkbox"/> Yes <input type="checkbox"/> No, description of facility inadequacy provided in <b>Attachment III. D.</b>	<input checked="" type="checkbox"/> Yes <input type="checkbox"/> No, description of practice inadequacy provided in <b>Attachment III. D.</b>
Treatment	<input checked="" type="checkbox"/> Yes <input type="checkbox"/> No, description of facility inadequacy provided in <b>Attachment III. D.</b>	<input checked="" type="checkbox"/> Yes <input type="checkbox"/> No, description of practice inadequacy provided in <b>Attachment III. D.</b>
Disposal	<input type="checkbox"/> Yes <input checked="" type="checkbox"/> No, description of facility inadequacy provided in <b>Attachment III. D.</b>	<input checked="" type="checkbox"/> Yes <input type="checkbox"/> No, description of practice inadequacy provided in <b>Attachment III. D.</b>
Household Hazardous Waste Collection	<input type="checkbox"/> Yes <input checked="" type="checkbox"/> No, description of facility inadequacy provided in <b>Attachment III. D.</b>	<input type="checkbox"/> Yes <input checked="" type="checkbox"/> No, description of practice inadequacy provided in <b>Attachment III. D.</b>

Program	Facility Adequacy	Practices Adequacy
Household Hazardous Waste Disposal	<input type="checkbox"/> Yes <input checked="" type="checkbox"/> No, description of facility inadequacy provided in <b>Attachment III. D.</b>	<input checked="" type="checkbox"/> Yes <input type="checkbox"/> No, description of practice inadequacy provided in <b>Attachment III. D.</b>

### III.E. Assessment of Current Source Reduction and Waste Minimization Efforts, Including Sludge, and Efforts to Reuse or Recycle Waste

[Ref. 30 TAC §330.643(a)(3)(E)]

Refer to Regional Plan Instructions for more information on III.E. Assessment of Current Source Reduction and Waste Minimization Efforts, Including Sludge, and Efforts to Reuse or Recycle Waste.

- ☒ Assessment of current source reduction and minimization efforts, including activities to reduce sludge, and efforts to reuse or recycle waste is provided as **Attachment III.E.**

### III.F. Identification of Additional Opportunities for Source Reduction and Waste Minimization, and Reuse or Recycling of Waste

[Ref. 30 TAC §330.643(a)(3)(F)]

In the table, identify new and additional opportunities for source reduction and waste minimization, including waste reuse or recycling programs. Add or remove rows as needed. Refer to Regional Plan Instructions for more information on III.F. Identification of Additional Opportunities for Source Reduction and Waste Minimization, and Reuse or Recycling of Waste.

**Table III.F.I Additional Opportunities for Source Reduction and Waste Minimization, Reuse and Recycling of Waste**

Category of Activity (Source Reduction and Waste Minimization, Reuse or Recycling of Waste)	Opportunity Name	Brief Description
Waste Minimization	Household hazardous waste collection	Not all cities and counties provide regular collection of household hazardous waste; therefore, many residents only have the option to landfill these materials. While this is a legal method of handling these materials it's not the best or safest. Local governments could consider expanding collection opportunities through partnerships, new funding

Category of Activity (Source Reduction and Waste Minimization, Reuse or Recycling of Waste)	Opportunity Name	Brief Description
		sources, or the use of the more economical batteries, oil, latex paint, and antifreeze collections.
Source Reduction and Waste Minimization	Food waste collection	Food waste collection is limited in the region. A limited number of restaurants, facilities, and food manufacturers collect food waste for composting or digesting. Some options available for residential food waste collection include at the curb, or door (in the case of apartments), or at a drop off location. A second option for removing food waste from the waste stream is through the use of backyard composting. There is no tracking mechanism in place to know how many households participate in backyard composting, however, this continues to be a viable option for residents that could be promoted to a greater degree.
Recycling and Waste Minimization	Debris diversion	Following a disaster, a city or county must balance the need for quick removal of debris with the opportunity to divert some of the debris by sorting the items for collection. Increased outreach efforts before and after a disaster, teaching residents the preferred method of setting out debris could make a difference and allow for greater diversion.
Recycling	Electronics recycling	Electronics recycling opportunities are not equal across the region with those living in urban areas having much better access to electronics recycling than those in rural areas due to a lack of stores or government run drop off facilities that accept them.
Recycling	Tire collection and recycling	Illegal dumping of tires is a common problem for communities across the

Category of Activity (Source Reduction and Waste Minimization, Reuse or Recycling of Waste)	Opportunity Name	Brief Description
		region. Providing an incentive to leave tires with the tire sellers when new tires are bought would partially address the problem.
Reuse	Expand paint reblending operations	Latex paint is the most commonly collected item at household hazardous waste events and facilities, yet only one county in the region reblends latex paint to sell. Others could learn to do this and incorporate it into their procedures.
Source Reduction	Don't Bag It	Grass clippings can be diverted from landfills with the promotion of the Texas AgriLife Extension's Don't Bag It program which encourages the practice of mulching grass clippings rather than bagging them.
<input type="checkbox"/> Check box if additional information of opportunities and source reduction and waste minimization, reuse and recycling of waste is provided in <i>Attachment III. F.</i>		

### **III.G. Recommendations for Encouraging and Achieving a Greater Degree of Source Reduction and Waste Minimization, and Reuse or Recycling of Waste**

[Ref. 30 TAC §330.643(a)(3)(G)]

*In the table, provide a list of recommendations for encouraging and achieving a great degree or source reduction and waste minimization, and reuse and recycling of waste in the planning region. Add or remove rows as needed.*

**Table III.G.I. Recommendations for Greater Source Reduction and Waste Minimization, and Reuse or Recycling of Waste**

<p>#1 Increased opportunities for household hazardous waste disposal -</p> <p>Four of the 13 counties in the H-GAC region have a permanent facility for household hazardous waste. In the other nine counties the residents are served by occasional one-day collection events, and entities rely heavily on TCEQ grant funds to host these events. Other strategies and sources of funding are needed for proper management of household hazardous wastes. Some recommendations that could help to address this need include seeking additional funding sources, such as partnering with local industry to help fund the events; partnering with all cities within the county for a larger event instead of multiple events in multiple cities; or seeking other grant opportunities; and hosting the less expensive batteries, oil, latex paint, and antifreeze collection option more frequently to collect a large portion of the materials.</p>
<p>#2 Reduced contamination in single-stream recycling -</p> <p>When contamination is high in single-stream recycling there is a greater chance that some materials that could have been recycled will instead end up in the waste stream. Contamination can increase the costs to process the materials - a cost that will be passed on to the residents. Recommendations for reducing contamination include developing clear messaging in multiple languages, increasing outreach through a variety of platforms, conducting cart/bin audits, and working closely with neighborhoods and utilizing block leaders.</p>
<p>#3 Collection of food waste -</p> <p>Over half of the region's population has access to recycling either at the curb or through a drop-off facility. The same cannot be said for collection of food waste. Since the 1990's, some companies have begun to collect food waste for composting from residents or businesses, and there are other groups focusing on collecting food that could still be consumed by other people or animals, but more can be done. Recommendations for reducing food waste include increasing education about the rules and regulations surrounding food donation, promoting backyard composting, and improving the information online about donation or composting options.</p>
<p>#4 Decreased illegal dumping of tires -</p> <p>Illegal dumping of tires is a common problem across Texas. Recommendations for decreasing the dumping of tires include increasing outreach to inform residents of all the negative ways illegal dumping affects a community, increasing fines or more awareness about existing</p>

fines, developing programs that entice individuals to leave their old tires at the shop for recycling, and developing programs to regulate tire transporters.

#5 Increased opportunities for electronics recycling -

Electronics recycling opportunities are not equal across the region with people in urban areas having much better access to electronics recycling due to a proximity to stores or government run drop off facilities that accept electronics. Residents in areas without a permanent recycling drop off location are served by one-day collection events. These are often use TCEQ grants to fund them. Diversification of funding sources would be beneficial. Some recommendations that could help to address this need include seeking additional funding sources, such as partnering with local industry to help fund the events; partnering with all cities within the county for a larger event instead of multiple events in multiple cities; or seeking other grant opportunities.

☐ Check box if additional details are provided in *Attachment III.G.*

### **III.H. Identification of Public and Private Management Agencies and Responsibilities**

[Ref. 30 TAC §330.643(a)(3)(H)]

- ☒ A list of public and private solid waste management agencies and their responsibilities that affect and impact solid waste management in the planning region is provided as ***Attachment III.H.***



### III.I. Identification of Solid Waste Management Concerns and Establishment of Priorities for Addressing Those Concerns

[Ref. 30 TAC §330.643(a)(3)(I)]

*In the table, list solid waste management concerns for the planning area and the priorities to address those concerns. Add or remove rows as needed.*

**Table III.I Solid Waste Management Concerns and Priorities**

Solid Waste Management Concern	Priorities to Address the Concern
Collection of household hazardous waste	Funding and access are concerns for the region. Priorities include: -Finding additional funding for collection of HHW -Encouraging partnerships -Encouraging the use of BOPA events
Illegal dumping	Awareness and enforcement are opportunities for the region. Priorities include: -Utilization of more effective penalties -Outreach campaigns focused on -Increased education on environmental enforcement laws -Increased awareness of legal disposal/recycling options
Disaster debris	Education and awareness is crucial for the region. Priorities include: -Continued education on debris management strategies and rules/regulations -Greater awareness of diversion opportunities and benefits -Increased outreach on the proper way to sort and set out debris
Recycling contamination	Raising awareness for successful recycling and adding consequences for unsuccessful recycling can make a difference in the region. Priorities include: -Better and increased outreach on proper recycling and awareness of the cost to residents of poor recycling and “wishcycling” -Imposing consequences for those recycling poorly such as cart/bin tagging and possible removal of cart/bin
Electronics recycling	Increased opportunities and awareness are crucial for collecting a greater quantity of electronics. Priorities include: -Raising awareness of existing electronic recycling programs -Increasing opportunities for electronics recycling

Solid Waste Management Concern	Priorities to Address the Concern
	through permanent facilities or one-day collection events -Finding additional funding for collection of electronics
Hard to manage products	Exploring new ideas is important for managing hard to recycle and dispose of items. Priorities include: -Promote the concept of the circular economy -Encourage the use of existing laws and the development of new extended producer responsibility laws for hard to manage products
Collection of food waste	Increased awareness and opportunities are key components of improving food waste reduction in the region. Priorities include: -Greater understanding of rules/regulations surrounding food donation -Increasing the opportunities for food composting through either curbside collection, collection from businesses, or drop-off locations -Encouragement of backyard composting
Landfills and transfer stations (capacity and siting)	Communication, access, and source reduction are strategies to manage expectations associated with new, expanding, or lacking landfills. Priorities include: -Researching distances individuals are willing to travel to properly dispose of waste -Encouragement to reduce, reuse, and recycle more -Increased awareness that until zero waste is achieved, trash must go somewhere -Encouraging the development of transfer stations in areas without landfills
<input type="checkbox"/> Check box if additional details are provided in <i>Attachment III.I</i>	

### III.J. Planning Areas and Agencies with Common Solid Waste Management Concerns that Could be Addressed Through Joint Action

[Ref. 30 TAC §330.643(a)(3)(J)]

*In the table below, list planning areas and agencies that may provide solutions and support to the established priorities for the concerns identified in III. I. Add or remove rows as needed.*

**Table III.J.I Planning Areas and Agencies with Common Solid Waste Management Concerns**

<b>Solid Waste Management Concern</b>	<b>Names of Planning Areas and Agencies that Could Address the Concern via Joint Action(s)</b>
Collection of household hazardous waste	Local governments, private companies, H-GAC, homeowners associations, USDA, and municipal utility districts
Illegal dumping	Police departments, solid waste departments, Keep Texas Beautiful affiliates, H-GAC, TCEQ, USDA, Texas Parks and Wildlife, and lawmakers
Disaster debris	Local governments and H-GAC
Recycling contamination	Local governments, H-GAC, private industry recyclers, Keep Texas Beautiful affiliates, EPA, TCEQ, and independent school districts
Electronic recycling	H-GAC, TCEQ, local governments, and private industry
Hard to manage products	H-GAC, TCEQ, lawmakers, industry groups, STAR, and local governments
Collection of food waste	H-GAC, EPA, TCEQ, private industry, and local governments
Landfills and transfer stations (capacity of siting)	H-GAC, local governments, and private industry

### III.K. Identification of Incentives and Barriers for Source Reduction and Waste Minimization, and Resource Recovery, Including Identification of Potential Markets

[Ref. 30 TAC §330.643(a)(3)(K)]

*In the table, identify incentives and barriers for source reduction and waste minimization and resource recovery including potential markets and strategies. Describe incentives and barriers impacting source reduction and waste minimization, and resource recovery. Identify public and private incentives and markets available to assist in meeting goals and objectives. Add or remove rows as needed for each section. Refer to Regional Plan Instructions for more information on III.K. Identification of Incentives and Barriers for Source Reduction and Waste Minimization, and Resource Recovery, Including Identification of Potential Markets.*

**Table III.K.I Incentives and Barriers for Source Reduction and Waste Minimization, and Resource Recovery**

Source Reduction and Waste Minimization	
Pushes back the need for greater landfill capacity	Siting a landfill or other waste management facility adjacent to a residential area may be viewed as problematic. One way to avoid the need for more or expanded landfills is to reduce the reliance on greater landfill capacity by minimizing the amount of waste sent to the landfill. This can be accomplished by reducing the quantity of materials consumed by individuals, reusing items that can be reused, and recycling everything left that can be recycled. This cause-and-effect relationship is easy to understand, but many consumers are not thinking about it when they make purchases or dispose of things. Developing and promoting outreach messages on this topic could help to increase the number of people that make the connection and take actions based on their new insights.
Difficult to change individual's behaviors	<p>Convenience is important to people as they move through their busy days, but convenience often translates into increased quantities of waste. Convenience can take the form of single-use plastics, broken items that are easier (and often more cost effective) to replace than repair, and packaging from items sent straight to a residence after shopping online.</p> <p>Another behavior that leads to increased quantities of waste is people's desire to always have the newest thing, whether it be fashion, toys, or electronic gadgets. And the companies selling these items work hard to convince consumers that they need these things.</p> <p>Changing any of these behaviors will be a great challenge.</p>
Resource Recovery	
Job creation	Based on a study conducted by H-GAC in 2013 and a subsequent statewide study, more jobs are created by recycling and reuse than

	are created by continued disposal of items in the landfill. Job creation, as a cause, is something that all can get behind.
Limited access to recycling in some areas	While a large portion of the population in the H-GAC region has access to either curbside or drop off recycling, there are still areas that don't have those options or the distance someone would have to travel to a drop off recycling facility is too great to realistically expect them to do so. This is true in the rural areas of the region, but it is also true in Harris County, the most urban of the region's counties. Individuals in the unincorporated portions of the county have a few drop off options, but because of the traffic and sometimes limited hours of operation the drop off options are not accessible enough.
Confusion around what can and can't be recycled	Knowing what can and can't be recycled is often a challenge. Different materials are accepted in different recycling programs, and the education materials developed to let people know what can be recycled are sometimes confusing. This can lead people to put all sorts of things in the recycling cart/bin that then must be removed during the sorting process.
<b>Potential Markets</b>	
Food waste	According to the "Recycling Market Development Plan" released in August 2021, food waste makes up the largest portion of the waste stream, by weight, in Texas that could be diverted. There has been an interest in food waste collection by some cities and food waste collection efforts by private industry has begun to expand. There is much more that could be diverted.
Paper products	Although paper product recycling is one of the most available recycling services in the region (behind scrap metal recycling), there is still a large quantity of these materials going into the landfill. With a high value for the materials, and an increasing demand for cardboard as a result of the shift to online shopping, there is potential for the paper product recycling markets to grow in the region.
Advances in technology	As new products and technologies emerge, so will the need for managing them when they are no longer usable. This will create the opportunity for the recycling markets to grow, particularly those for electronics. For example, although the first electric vehicle was developed in the 1800's, they have only become commercially viable in the 21 <sup>st</sup> century, with the marketing and associated infrastructure growing during that time. As more individuals and fleets shift to electric vehicles, the need to efficiently recycle their batteries will also grow. It is difficult to forecast what new products and technologies will come on the market by 2042, but recycling and disposal options should be considered and addressed as needed.

### III.L. Regional Goals and Objectives, Including Waste Reduction Goals

[Ref. 30 TAC §330.643(a)(3)(L)]

*In the table, list the regional goals and corresponding objectives for the proper management of solid waste in the planning region. Identify the timetable for achieving each goal and objective using the established planning periods. Add rows as needed. The regional goals and objectives listed should match the goals and objectives provided in Volume I, per 30 TAC §330.635(A)(2)(A).*

**Table III.L.I Regional Goals and Objectives**

<p><b>Goal #1</b> Promote the planning for adequate municipal solid waste disposal, handling, processing, transfer, and management facilities while providing recommendations to limit adverse impacts</p>	<p><b>Objective 1.A</b> Encourage site development strategies and operating procedures that limit adverse impacts from municipal solid waste facilities</p> <p><b>Objective 1.B</b> Encourage the development of facilities that reduce, reuse, and recycle waste materials</p> <p><b>Objective 1.C</b> Encourage appropriate distribution of facilities to minimize transportation costs</p> <p><b>Objective 1.D</b> Encourage the development of larger regional facilities to the extent practical and where such facilities would be the best alternative</p> <p><b>Objective 1.E</b> Encourage expansion and redevelopment of existing municipal solid waste facilities, where feasible, over siting of new facilities</p> <p><b>Objective 1.F</b> Encourage development of transfer stations and citizen collection stations, where appropriate</p> <p><b>Objective 1.G</b> Encourage long-range land use planning at the county level</p> <p><b>Objective 1.H</b> Identify future disposal capacity needs and disposal options</p>
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<p><b>Goal #2</b> Educate on all aspects of materials management</p>	<p><b>Objective 2.A</b> Provide information to the public to encourage and enable behavior change</p> <p><b>Objective 2.B</b> Educate local governments, nonprofits, and other groups responsible for materials management</p> <p><b>Objective 2.C</b> Educate parties on new and emerging innovations, technologies, and regulations</p>
<p><b>Goal #3</b> Act as a vehicle for coordination to take advantage of opportunities for economies of scale and partnerships</p>	<p><b>Objective 3.A</b> Develop and maintain regional cooperative service contracts</p> <p><b>Objective 3.B</b> Encourage cooperative outreach campaigns</p> <p><b>Objective 3.C</b> Support partnerships and interjurisdictional cooperation on a full range of materials management activities</p>
<p><b>Goal #4</b> Support programs that encourage environmental protections and minimize safety risks</p>	<p><b>Objective 4.A</b> Support the development and utilization of collection programs for components of the waste stream that may pose a special risk or problem</p> <p><b>Objective 4.B</b> Target waste reduction activities to components of the waste stream that may pose a special risk or problem</p> <p><b>Objective 4.C</b> Support planning efforts to abate illegal dumping and litter</p> <p><b>Objective 4.D</b> Support disaster debris management planning efforts</p>

	<b>Objective 4.E</b> Support the enforcement of illegal dumping/disposal of solid waste
<b>Goal #5</b> Encourage and promote market development for composted, reused, and recycled goods with a focus on the economic impact of sustainable materials management	<b>Objective 5.A</b> Focus outreach efforts to stimulate market development  <b>Objective 5.B</b> Facilitate opportunities for networking for public and private entities to help create a sustainable market  <b>Objective 5.C</b> Raise awareness of the economic impact of various aspects of sustainable materials management
<b>Goal #6</b> Facilitate and support the creation and expansion of materials management programs	<b>Objective 6.A</b> Target waste reduction activities to the major components of the waste stream  <b>Objective 6.B</b> Provide resources to help local governments evaluate and implement materials management programs and practices  <b>Objective 6.C</b> Promote funding opportunities for materials management programs  <b>Objective 6.D</b> Support the development of materials management facilities and infrastructure
<b>Goal #7</b> Support research and data collection efforts related to materials management	<b>Objective 7.A</b> Maintain a regional clearinghouse on materials management practices and activities of H-GAC local governments  <b>Objective 7.B</b> Support efforts to more effectively collect useful data

	<b>Objective 7.C</b> Encourage efforts that increase knowledge regarding materials management strategies and needs
<b>Goal #8</b> Develop, support, and maintain partnerships with private industry and nonprofit organizations	<b>Objective 8.A</b> Encourage coordination of public and private interests in addressing solid waste problems  <b>Objective 8.B</b> Support the collection and dissemination of information on materials management facilities and organizations in the region  <b>Objective 8.C</b> Promote best management practices from subject matter experts

### III.M. Advantages and Disadvantages of Alternative Actions

[Ref. 30 TAC §330.643(a)(3)(M)]

<b>Are alternative actions being considered in this plan for the regional area?</b>	<input type="checkbox"/> <b>Yes.</b> Provide details in <i>Attachment III.M.</i>  <input checked="" type="checkbox"/> <b>No.</b> No further action required.
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### III.N. Recommended Plan of Action and Associated Timetable for Achieving Specific Goals and Objectives

[Ref. 30 TAC §330.643(a)(3)(N)]

*In the table, provide the plan of action and anticipated timetable for achieving the goals and objectives identified in Section III.L. Identify and describe action plans, the corresponding timetables and, where available, implementation milestones. Include brief descriptions of action plans, timetables, and milestones. Milestone dates may include specific years or planning periods; short-term planning period (1-5 years), intermediate planning period (6-10 years), and/or long-range planning period (11-20 years or longer). Refer to Regional Plan Instructions for more information on III.N. Recommended Plan of Action and Timetable for Achieving Regional Goals and Objectives, Including Specified Goals and Objectives.*

**Table III.N.I Plan of Action and Timetable for Achieving Specific Goals and Objectives**

Goal/Objective	Plan of Action	Milestone Dates
Waste Reduction	Recommended actions focus on supporting the development of new facilities or programs, funding, educating the public,	Ongoing

Goal/Objective	Plan of Action	Milestone Dates
	educating local government staff, maintaining information on solid waste facilities, supporting partnerships, and commodity markets.	
Composting Programs for Yard Wastes and Related Organic Wastes	Recommended actions focus on funding, educating the public, educating local government staff, maintaining information on solid waste facilities, and supporting partnerships.	Ongoing
Household Hazardous Waste Collection and Disposal Programs	Recommended actions focus on educating the public, educating local government staff, funding, supporting the development of new facilities, continuing the use of regional contracts, supporting partnerships, maintaining information on solid waste facilities, and promoting reuse when appropriate.	Ongoing
Public Education Programs	Recommended actions focus on maintaining information on solid waste facilities, developing education materials and messages, regional campaigns, and using a variety of formats to reach out to people.	Ongoing
The Need for New or Expanded Facilities and Practices	Recommended actions focus on maintaining information on solid waste facilities, funding, educating local government staff, commodity markets, and supporting partnerships.	Ongoing
<input checked="" type="checkbox"/> Check box if additional details are provided in <i>Attachment III.N.</i>		

### **III.O. Identification of the Process that Will be Used to Evaluate Whether a Proposed Municipal Solid Waste Facility Application Will be in Conformance with the Regional Plan**

[Ref. 30 TAC §330.643(a)(3)(O)]

- ☒ The process that will be used to evaluate whether a proposed municipal solid waste facility application will be in conformance with the regional plan is identified in ***Attachment III.O.***

## **Section IV. Required Approvals**

**Table IV.I Required Approvals**

<b>Solid Waste Advisory Committee</b>	Enter approval date by the Solid Waste Advisory Committee.
<b>Public Meeting Dates</b>	Enter dates of public meetings.
<b>Executive Committee</b>	Enter approval date by the Executive Committee.

- ☐ Check box if local government and jurisdiction resolutions, and letters of support are included in **Attachment IV.A.**
- ☐ Public notice, agenda, public comments, and the transcript of the required public meeting are included as **Attachment IV.B.**

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## **Facility Adequacy**

### **Resource Recovery**

Electronics recycling opportunities are not equal across the region with those living in urban areas having much better access to electronics recycling than those in rural areas due to a lack of stores or government run drop off facilities that accept them. The issue can be particularly challenging for the larger, older televisions which are not accepted through some recycling programs.

Around 60% of the region's population has access to some type of recycling, either curbside or drop off for materials such as paper, plastic, metal, and cardboard. It is important that access continues to grow if the region is to meet its recycling rate goal.

### **Disposal**

The Houston-Galveston Area Council (H-GAC) region has sufficient capacity for disposal. According to the TCEQ's 2020 Report, *Municipal Solid Waste in Texas: A Year in Review*, the region has 35 years of landfill capacity. The problem is in the distribution of the landfills across the region. Of the 13 counties in the region only six counties have at least one landfill. Additionally, the six counties with landfills are all geographically grouped in the central and eastern portions of the region. The western part of the region is particularly lacking in disposal options.

### **Household Hazardous Waste Collection**

With a population of over 7 million people and only seven permanent locations collecting household hazardous waste (HHW) and one collecting just batteries, oil, latex paint, and antifreeze the number of facilities providing collection is inadequate. These facilities are spread among four of the region's counties. This leaves nine counties without a permanent facility collection option.

### **Household Hazardous Waste Disposal**

There is a landfill in the region that accepts HHW for disposal. Since landfilling is rarely used for HHW disposal, the current capacity is adequate for the region. Fuel blending and recycling are preferred methods for handling HHW. There is also an incinerator for HHW in the region. Prior to the pandemic in 2020, there was adequate capacity for the region's needs. Following the start of the pandemic, labor and supply shortages created capacity issues for the incinerator. However, in time, the situation will eventually correct itself.

## **Practices Adequacy**

### **Resource Recovery**

Residents in the areas without a permanent electronics recycling option rely on occasional one-day events. Often the communities rely on grant funds to host these one-day events. This is not a sustainable solution.

Around 60% of the region's population has access to some type of recycling, either curbside or drop off for materials such as paper, plastic, metal, and cardboard. It is important that access continues to grow if the region is to meet its recycling rate goal.

### **Household Hazardous Waste Collection**

Four counties in the region have a permanent facility for collecting HHW. Nine counties do not have a permanent facility collection option. Some cities and municipal utility districts offer curbside pickup of HHW, but this service is not widespread. Residents in the nine counties without a permanent HHW collection option rely on occasional one-day events. Often the counties rely on TCEQ grant funds to host these one-day events. This is not a sustainable solution. There are not always enough TCEQ grant funds to fund all requests and also fund other types of needed solid waste projects.

## Recycling and Composting

During the development of the Regional Solid Waste Management Plan, Houston-Galveston Area Council (H-GAC) staff sent a survey to all cities and counties to determine the services provided regarding waste and recycling. If a response was not received, staff reviewed the city or county's website to find information on the services provided. If nothing was found on a website, staff assumed services were not provided. As a result, it is likely that the results below may not represent the full extent of services provided in the region.

Service Provided	Population Served*	Percent of the Region's Population*
Curbside Recycling Collection	3,608,732	49.4%
Drop Off Recycling Collection	3,512,258	48.0%
Curbside Yard Waste Collection	3,423,812	46.8%
Drop Off Yard Waste Collection	600,818	8.2%
Curbside Tire Collection	53,996	0.7%
Drop Off Tire Collection	3,029,702	41.4%

\* Some communities have both curbside and drop off options available to residents; therefore, curbside and drop off numbers and percentages must remain separate.

## Reuse

In 2013, H-GAC staff conducted a study on the economic contribution of the recycling industry for the region. At the time there were 368 establishments that fell under the category of reuse and remanufacturing. Types of businesses that were included in this category were tire retreading, electronics refurbishing and reuse, thrift stores, antique stores, and others. These 368 establishments were responsible for more than 3,700 jobs in the region. Although these numbers will have changed slightly since then, this represents a good baseline.

There are additionally some instances where local governments are involved in reuse, such as:

- The Montgomery County household hazardous waste (HHW) facility sells rebleded latex paint.
- The Fort Bend County and City of Houston HHW facilities set aside items brought in that are in good condition that others can take home to use.
- The City of Houston also accepts other materials at some of its facilities that are then made available for reuse. One facility accepts craft materials, books, and post-consumer and industrial scrap to be given out, and another accepts construction materials that are made available for reuse by nonprofit organizations.

## Sludge

Throughout the H-GAC region there are several ways sludge is handled such as:

- Land application of biosolids

### Attachment III.E

- Use of sludge in composting operations
- Heat pelletizing of sludge
- Landfilling

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## **Federal Agencies**

### **Environmental Protection Agency**

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

Generally, 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.

EPA has focused on infrastructure to manage hazardous waste, implementing effective framework for municipal solid waste management programs, effectively restored contaminated lands for productive reuse, and partnered with companies to change practices to generate less waste. The RCRA strengthened and increased the recycling infrastructure for recycling and composting rate from 7% to 32% as of 2018.

EPA has developed procurement policies for recycled goods. Guidelines are in place for the purchase of products falling under the following categories paper, non-paper office products, construction, vehicular, parks and recreation, transportation, landscaping, and others.

### **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 U.S. Department of Agriculture (USDA) Rural Development does not play a policy role in solid waste, USDA Rural Development provides grant programs for projects related to solid waste and the elimination of water pollution.

## **State Agencies**

### **Texas Commission on Environmental Quality**

The Texas Commission on Environmental Quality (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.

TCEQ 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. TCEQ also develops regulations that must meet or exceed EPA standards to maintain the state's delegated regulatory authority.

The Waste Permits Division serves as the lead for solid waste planning. As part of its waste planning efforts, the TCEQ administers the Regional Solid Waste Grants Program. The grants program supports regional solid waste management planning by the state's 24 regional Councils of Governments (COGs), and 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 maintain Inventories of Closed Municipal Solid Waste Landfills. The TCEQ Waste Permits 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 including ones for emergency response that can assist following a debris generating event and for small businesses and local governments to help make sure they are in compliance with all regulations.

The TCEQ Resource Exchange Network for Eliminating Waste (RENEW) Program maintains a cross-reference of industrial byproducts 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).

## **Other State Agencies**

### **Texas Economic Development and Tourism Office**

The Texas Economic Development and Tourism Office (EDT) partnered with TCEQ to develop the *Recycling Market Development Plan*. EDT links companies and establishes partnerships with recycling-related representatives, businesses, and stakeholders. The EDT identifies financial incentives for businesses that consume more recycled content and encourages the consumption of Texas-generated recyclable materials.

### **Texas Parks and Wildlife Department**

In addition to handling enforcement of hunting and fishing laws, the Texas Parks and Wildlife Department trains some of its officers in environmental enforcement. Environmental cases they primarily respond to include hazardous waste and water pollution calls, but if called about illegal dumping they will respond, investigate, and issue enforcement actions.



### **Texas Department of Transportation**

The Texas Department of Transportation (TxDOT) promotes the use of non-hazardous recycled materials in construction and maintenance projects through workshops, demonstrations and specifications. TxDOT's litter policy includes pick up and disposal of litter from right of ways. Striving to find new and innovative ways to recycle, TxDOT often uses baled tires for highway slope repair.

### **Railroad Commission of Texas (RRC)**

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

## **Regional**

### **Houston-Galveston Area Council**

The 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. H-GAC distributes funds and oversees pass-through grants through funds received from TCEQ; conducts regional outreach on all topics of solid waste; and hosts training/informational events for local governments and other organizations on recycling, food waste, household hazardous waste, illegal dumping enforcement, disaster debris, and other solid waste topics.

### **Gulf Coast Authority**

The Gulf Coast Authority (GCA) was established by the State Legislature to provide regional industrial and municipal wastewater treatment, solid waste management, and drinking water services statewide. GCA operates 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. GCA owns and operates its own non-commercial industrial solid waste landfill.

## **Local Governments**

### **Cities and Counties**

State 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, Texas Legislation 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.

## **Other Local Government and Private Entities**

### **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.

### **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 in school districts would have a significant impact on the overall waste stream. Also, with their combined purchasing power, school districts' procurement policies can help 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.

### **Nonprofit 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 Texas Beautiful affiliates in the H-GAC region, all of whom are active in promoting recycling and litter abatement. Keep Texas Recycling, a program of Keep Texas Beautiful, works with communities across the state to increase recycling opportunities and improve existing recycling operations. Civic clubs and nonprofits also play an active role. When not already managed by another group, Homeowner Associations are sometimes involved in contracting with private waste and recycling haulers on behalf of the subdivisions they serve.

The State of Texas Alliance for Recycling (STAR) is an organization that offers recycling education and advocates for recycling changes in the State. They partner with local and national companies and with regional and statewide government entities. STAR offers webinars, summits, and workshops to educate its members on new recycling trends and updates to the industry.

### **Private Sector**

Solid waste management is a highly privatized operation in the H-GAC region. Some local governments operate recycling drop off facilities or collect materials from the curb, but most of the region's landfills, composting facilities, and collection services are operated by private industry.

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## Attachment III.N

The table below includes the goals, objectives, and recommended actions. There are eight goals included in this plan. Goals are numbered one through eight and are indicated by the green color for the rows. Each goal has objectives that fall under it. Objectives are labeled 1.A, 1.B, 2.A, 2.B, etc. and are indicated by the yellow color for the rows. The recommended actions fall under each of the objectives. These are the white rows and have a numbering system that follows the pattern 1.A.1, 1.A.2, etc. Milestone dates (timeframes) are only given for the recommended actions.

#	GOALS, OBJECTIVES, & RECOMMENDED ACTIONS	MILESTONE DATES
1	Promote the planning for adequate municipal solid waste disposal, handling, processing, transfer, and management facilities while providing recommendations to limit adverse impacts	
1.A	Encourage site development strategies and operating procedures that limit adverse impacts from municipal solid waste facilities	
1.A.1	Develop a best practices library related to limiting adverse impacts	Intermediate-Range
1.A.2	Develop a system to allow for public comment as a part of solid waste facility permit reviews	Short-Range
1.B	Encourage the development of facilities that reduce, reuse, or recycle waste materials	
1.B.1	Explore non-traditional funding sources	Short-Range
1.B.2	Develop a clearinghouse/method for sharing of funding opportunities	Short-Range
1.C	Encourage appropriate distribution of facilities to minimize transportation costs	
1.C.1	Maintain databases and GIS maps of all solid waste facilities in the region	Ongoing
1.C.2	Conduct research on the distances people are willing to travel for various solid waste services	Intermediate-Range
1.D	Encourage the development of larger regional facilities to the extent practical and where such facilities would be the best alternative	
1.D.1	Conduct research on the distances people are willing to travel for various solid waste services	Intermediate-Range
1.E	Encourage expansion and redevelopment of existing municipal solid waste facilities, where feasible, over siting of new facilities	
1.E.1	Conduct research on the distances people are willing to travel for various solid waste services	Intermediate-Range
1.F	Encourage development of transfer stations and citizen collection stations, where appropriate	
1.F.1	Identify collection gaps based on the research from Recommended Actions 1.C.2, 1.D.1, and 1.E.1	Intermediate-Range
1.G	Encourage long-range land use planning at the county level	
1.G.1	Encourage local governments to address solid waste facility siting in their comprehensive plans and zoning ordinances	Ongoing
1.G.2	Educate local governments on landfill siting ordinance requirements and restrictions	Ongoing

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1.G.3	Encourage the adoption of county landfill siting ordinances	Ongoing
1.H	Identify future disposal capacity needs and disposal options	
1.H.1	Track trends related to capacity, population growth, recycling options, etc.	Ongoing
1.H.2	Compile and distribute information to assist solid waste planning efforts	Ongoing
2	Educate on all aspects of materials management	
2.A	Provide information to the public to encourage and enable behavior change	
2.A.1	Develop new materials and continue to make available existing materials that can be used throughout the region	Ongoing
2.A.2	Ensure accurate information is available online regarding recycling, composting, and disposal	Ongoing
2.A.3	Provide information to the public as requested	Ongoing
2.B	Educate local governments, nonprofits, and other groups responsible for materials management	
2.B.1	Host workshops and webinars	Ongoing
2.B.2	Explore training options beyond in-person workshops and webinars	Ongoing
2.B.3	Explore opportunities to partner with other organizations	Ongoing
2.B.4	Establish a peer exchange structure for sharing ideas/strategies	Intermediate-Range
2.C	Educate parties on new and emerging innovations, technologies, and regulations	
2.C.1	Host workshops and webinars	Ongoing
2.C.2	Maintain subscriptions to industry publications and keep abreast of current topics/events in materials management	Ongoing
2.C.3	Share information using a variety of methods	Ongoing
3	Act as a vehicle for coordination to take advantage of opportunities for economies of scale and partnerships	
3.A	Develop and maintain regional cooperative service contracts	
3.A.1	Maintain regional contracts for electronics recycling and household hazardous waste collection	Ongoing
3.A.2	Promote the use of the regional contracts	Ongoing
3.A.3	Collect data from the use of the regional contracts (i.e. number of entities using, number of times used, volumes collected, etc.)	Ongoing
3.A.4	Explore opportunities for additional regional contracts	Short-Range
3.B	Encourage cooperative outreach campaigns	
3.B.1	Collect input on the outreach needs of those in the region	Ongoing
3.B.2	Facilitate the planning and development of regional or multijurisdictional campaigns	Ongoing
3.B.3	Provide technical assistance to local governments	Ongoing
3.C	Support partnerships and interjurisdictional cooperation on a full range of materials management activities	
3.C.1	Provide materials and information to make partnerships and cooperation more feasible	Intermediate-Range

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3.C.2	Maintain databases and GIS maps of all solid waste facilities in the region	Ongoing
4	Support programs that encourage environmental protections and minimize safety risks	
4.A	Support the development and utilization of collection programs for components of the waste stream that may pose a special risk or problem	
4.A.1	Conduct waste generation model to classify types and quantities of waste (tires, electronics, HHW)	Intermediate-Range
4.A.2	Develop and disseminate outreach messages	Ongoing
4.A.3	Encourage and support mentorships and peer exchanges	Ongoing
4.A.4	Promote best management practices and innovative ideas	Ongoing
4.A.5	Encourage partnerships between local governments, nonprofits, and private industry to establish and maintain permanent HHW facilities or regularly occurring collection events	Ongoing
4.B	Target waste reduction activities to components of the waste stream that may pose a special risk or problem	
4.B.1	Host workshops and webinars	Ongoing
4.B.2	Develop and maintain educational materials that can be used throughout the region	Ongoing
4.B.3	Promote the use of reuse opportunities for items that are still of good quality	Ongoing
4.C	Support planning efforts to abate illegal dumping and litter	
4.C.1	Host workshops and webinars allowing for sharing of information and new ideas	Ongoing
4.C.2	Develop and maintain educational materials that can be used throughout the region	Ongoing
4.C.3	Maintain and promote information on solid waste facilities	Ongoing
4.C.4	Promote programs and strategies that have the ability to impact litter and illegal dumping	Ongoing
4.D	Support disaster debris management planning efforts	
4.D.1	Host workshops and webinars	Ongoing
4.D.2	Develop and maintain educational materials, tools for local governments, and other resources that can be used throughout the region	Ongoing
4.D.3	Promote the use of best management practices for different debris streams	Ongoing
4.E	Support the enforcement of illegal dumping/disposal of solid waste	
4.E.1	Host workshops and webinars	Ongoing
4.E.2	Develop and maintain educational materials that can be used throughout the region	Ongoing
4.E.3	Maintain and promote information on solid waste facilities	Ongoing
5	Encourage and promote market development for composted, reused, and recycled goods with a focus on the economic impact of sustainable materials management	
5.A	Focus outreach efforts to stimulate market development	

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5.A.1	Host workshops and webinars with a focus on topics such as construction and demolition materials, commercial landscaping, and food waste	Ongoing
5.A.2	Conduct studies or research to develop a clearinghouse of best management practices	Intermediate-Range and Long-Range
5.A.3	Develop and maintain educational materials that can be used throughout the region	Ongoing
5.A.4	Share information with the public using a variety of methods	Ongoing
5.B	Facilitate opportunities for networking for public and private entities to help create a sustainable market	
5.B.1	Explore opportunities to partner with other organizations to host events	Ongoing
5.B.2	Identify groups or individuals with commonalities	Ongoing
5.B.3	Incorporate opportunities for networking during regular events	Ongoing
5.C	Raise awareness of the economic impact of various aspects of sustainable materials management	
5.C.1	Encourage sustainable materials management where it is economically feasible	Ongoing
5.C.2	Support the redesign of procurement programs to stimulate recycling markets	Short-Range
5.C.3	Conduct analyses to continue the economic impact conversation and promote sustainable materials management	Intermediate-Range
6	Facilitate and support the creation and expansion of materials management programs	
6.A	Target waste reduction activities to the major components of the waste stream	
6.A.1	Encourage existing facilities to expand the services offered	Ongoing
6.A.2	Promote backyard composting and the "Don't Bag It" program	Ongoing
6.A.3	Identify service gaps and encourage the development of new facilities or programs	Intermediate-Range
6.B	Provide resources to help local governments evaluate and implement materials management programs and practices	
6.B.1	Explore, develop, and aggregate model policies and best practices on all aspects of materials management	Intermediate-Range
6.B.2	Share information through a variety of methods such as events, print, and online materials	Ongoing
6.B.3	Maintain information on commodity prices and available markets and services	Ongoing
6.C	Support the development and of materials management facilities and infrastructure	
6.C.1	Maintain and promote an accessible list of current grant opportunities for all types of solid waste programs	Ongoing
6.C.2	Maintain and promote information on funding best practices	Ongoing
6.C.3	Facilitate the use of mentors for those looking to start or expand a program	Ongoing
6.C.4	Provide technical assistance during the Regional Solid Waste Management Grant Program application process	Ongoing
7	Support research and data collection efforts related to materials management	

7.A	Maintain a regional clearinghouse on materials management practices and activities of H-GAC local governments	
7.A.1	Conduct regular surveys of local governments through direct contact and online research	Ongoing
7.A.2	Improve and maintain the information available online	Ongoing
7.B	Support efforts to more effectively collect useful data	
7.B.1	Develop and promote regional standards for data collection and measurement	Intermediate-Range
7.B.2	Support the efforts of local government or nonprofit groups to collect data	Ongoing
7.C	Encourage efforts that increase knowledge regarding materials management strategies and needs	
7.C.1	Encourage implementation of innovative ideas regarding materials management	Ongoing
7.C.2	Support research efforts	Ongoing
7.C.3	Host knowledge sharing events with a focus on innovation and best practices	Ongoing
7.C.4	Gather information on the greatest areas of need of local governments in the region	Ongoing
8	Develop, support, and maintain partnerships with private industry and nonprofit organizations	
8.A	Encourage coordination of public and private interests in addressing solid waste problems	
8.A.1	Identify gaps in materials management services across the region	Intermediate-Range
8.A.2	Collect and maintain information on best practices involving partnerships	Ongoing
8.B	Support the collection and dissemination of information on materials management facilities and organizations in the region	
8.B.1	Maintain the closed landfill inventory	Ongoing
8.B.2	Set up the closed landfill inventory website to track downloads	Short-Range
8.B.3	Maintain information on the services and service providers present in the region	Ongoing
8.C	Promote best management practices from subject matter experts	
8.C.1	Plan and host workshops and webinars on all topics related to materials management	Ongoing
8.C.2	Explore opportunities to share information on best practices through other avenues	Ongoing

### **Plan Conformance/Permit Review**

The Texas Commission on Environmental Quality (TCEQ) requires that all municipal solid waste (MSW) facilities proposed for siting in the H-GAC region must conform with the Regional Solid Waste Management Plan (RSWMP), 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 with the RSWMP. The Board's findings will be submitted to the TCEQ for consideration of 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 RSWMP, 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 RSWMP. Applicants may request a conformance review of their registration or permit application by submitting the following information to H-GAC:

- One (1) copy of the Application to the TCEQ for Permit or Registration, Parts 1 and 2 or registration materials.
- Web address of where the full application can be found online.
- 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.
- A map showing the physical location of proposed or existing facility.
- 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 Manager  
3555 Timmons Lane, Suite 120  
Houston, Texas 77027

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

### **Review Considerations**

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

- Conformance with the goals and objectives of the RSWMP; and
- Compliance history.

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;
- Measures that will be taken, if necessary, to blend the appearance and operation of the proposed facility 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, 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 Board will determine whether the proposed facility conforms with the RSWMP and recommend a course of action to the TCEQ. Under certain conditions, the Board will issue technical comments only. 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.

- The permit or registration conforms with the RSWMP.
  - The Board recommends approval of the permit or registration.
  - The Board recommends approval with specific conditions attached.
- The permit or registration does not conform to the RSWMP.
  - The Board recommends the permit or registration be found inconsistent with the regional plan.

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- The Board recommends withholding approval until specified deficiencies are corrected.
- The Board recommends additional action by the TCEQ before making a determination on the permit or registration.
- The permit or registration warrants technical comments only.
- 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 communication to the TCEQ, relating the Board's finding, recommendation, and concerns. H-GAC will send copies of the communication to the applicant.