Texas Commission on Environmental Quality

Permit For
Municipal Solid Waste (MSW) Management Facility
Issued under provisions of Texas
Health and Safety Code
Chapter 361

MSW Permit No.: 1149B

Name of Site Operator/Permittee: Galveston County Landfill TX, LP

Property Owner: Galveston County Landfill TX, LP

Facility Name: Galveston County Landfill

Facility Address: 3935 Avenue A, La Marque, Texas 77510

Classification of Site: Type I Municipal Solid Waste Management Facility

The permittee is authorized to store, process, and dispose of wastes in accordance with the limitations, requirements, and other conditions set forth herein. This permit is granted subject to the rules and orders of the Commission and laws of the State of Texas and it replaces any previously issued permit. Nothing in this permit exempts the permittee from compliance with other applicable rules and regulations of the Texas Commission on Environmental Quality. This permit will be valid until canceled, amended, or revoked by the Commission.

Approved, Issued and *Effective* in accordance with Title 30 Texas Administrative Code, Chapter 330.

Issued Date:

For the Commission

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I. Size and Location of Facility

A. The Galveston County Landfill is located at 3935 Avenue A in the cities of La Marque and Hitchcock, Galveston County, Texas. The facility contains 469.5 acres.

B. The legal description is contained in Parts I/II, Pages I/II-13-1 through I/II-13-4, which is incorporated by reference in Attachment A of this permit.

C. Coordinates and Elevation of Site Permanent Benchmark:

Latitude:	29° 23' 13.79" N
Longitude:	95° 03' 21.90" W
Elevation:	14.35 feet above mean sea level (msl)

II. Facilities and Operations Authorized

A. Days and Hours of Operation

The waste acceptance hours for the receipt and disposal of waste at this facility shall be 24 hours per day, seven days per week. The operating hours at this facility which include the use of heavy equipment shall be 24 hours per day, seven days per week.

The operator shall post the actual waste acceptance hours on the site sign.

B. Wastes Authorized at This Facility

The permittee is authorized to accept and to dispose of municipal solid waste as defined in 30 TAC Section (§)330.3(88), household waste, commercial waste, construction-demolition waste, yard waste, Class 1 industrial waste, Class 2 industrial waste, Class 3 industrial waste, and specific special wastes identified in Part IV in Attachment A to this permit. The acceptance of the special wastes is contingent upon such waste being handled in accordance with 30 TAC §330.171, and in accordance with the procedures in Part IV in Attachment A of this permit, subject to the limitations and any special provisions provided herein.

C. Wastes Prohibited at This Facility

The permittee shall comply with the waste disposal restrictions set forth in 30 TAC §330.15(e). The permittee shall not accept industrial hazardous waste and any other waste not identified in Parts I/II, Section II.B. in Attachment A to this permit.

D. Waste Acceptance Rate

Solid waste may be accepted for disposal at this facility at the initial rate of approximately 344,097 tons per year (approximately 1203 tons per day based on 286 days-per-year of operation) and increasing over time to a maximum acceptance rate of approximately 604,411 tons per year (approximately 2113 tons per day based on 286 days per year of operation). These estimated waste acceptance rates are not a limiting parameter of this permit; however, if the actual annual waste disposal acceptance rate exceeds the rate estimated in the landfill permit application and the waste increase is not due to a temporary occurrence, the owner or operator shall file an application to modify the permit application pursuant to 30 TAC §330.125(h). The actual yearly waste disposal acceptance rate is a rolling quantity based on the sum of the previous four quarters of waste acceptance. Authorized liquid waste may be accepted for processing at this facility at a maximum rate of 646,250 gallons per day, and may be stored at a maximum volume of 258,500 gallons. Grit trap, grease trap, and septage shall be stored prior to processing not longer than 72 hours after

receipt. Maximum storage times for other liquids prior to processing are specified in Part IV, Section 5.1 in Attachment A to this permit.

E. Waste Volume Available for Disposal

The total waste disposal capacity of the landfill (including waste, daily cover, and intermediate cover) is 56,140,000 million cubic yards.

F. Facilities Authorized

The permittee is authorized to operate a Type I municipal solid waste landfill consisting of a total permit boundary of 469.5 acres and a waste disposal footprint of 333.9 acres. The permittee is also authorized to operate a liquid waste solidification unit, white goods storage area, leachate tanks, citizens' collection station, and a clean wood waste processing unit.

All waste disposal activities authorized by this permit are to be confined to the Type I landfill which shall include access roads, scales, gatehouse, dikes, berms and temporary drainage channels, permanent drainage structures, detention ponds, landfill gas management system, contaminated water management system, leachate management system, final cover, groundwater monitoring system, a liner system, and other improvements.

All liquid waste processing activities authorized by this permit are to be confined to the processing unit location depicted on Drawing 1 in Part IV, Appendix IV-C in Attachment A to this permit.

All clean wood waste processing activities authorized by this permit are to be confined to the processing unit location depicted on Drawings I/IIA.1 and I/IIA1a in Parts I/II, Appendix I/IIA in Attachment A to this permit.

G. Changes, Additions, or Expansions

Any proposed facility changes must be authorized in accordance with the rules in 30 TAC Chapters 305 and 330.

III. Facility Design, Construction, and Operation

A. Facility design, construction, and operation and maintenance must comply with the provisions of this permit; Commission Rules, including but not limited to 30 TAC Chapter 330; special provisions contained in this permit; Parts I through IV in Attachment A to this permit; and amendments, corrections, and modifications incorporated by reference in Attachment B to this permit. The facility construction and operation shall be managed in a manner that protects human health and the environment.

B. The entire waste management facility shall be designed, constructed, operated, and maintained to prevent the release and migration of any waste, contaminant, or pollutant beyond the point of compliance as defined in 30 TAC §330.3 and to prevent inundation or discharge from the areas surrounding the facility components. Each receiving, storage, processing, and disposal area shall have a containment system that will collect spills and incidental precipitation in such a manner as to:

1. Preclude the release of any contaminated runoff, spills, or precipitation;
2. Prevent washout of any waste by a 100-year frequency flood; and

3. Prevent run-on into the disposal areas from off-site areas.

C. The site shall be designed and operated so as not to cause a violation of:

1. The requirements of §26.121 of the Texas Water Code;

2. Any requirements of the Federal Clean Water Act, including, but not limited to, the National Pollutant Discharge Elimination System (NPDES) requirements of §402, as amended, and/or the Texas Pollutant Discharge Elimination System (TPDES), as amended;

3. The requirements under §404 of the Federal Clean Water Act, as amended; and

4. Any requirement of an area wide or statewide water quality management plan that has been approved under §208 or §319 of the Federal Clean Water Act, as amended.

D. Management of Contaminated Water, Leachate, and Gas Condensate

1. All contaminated water shall be handled, stored, treated, disposed of, and managed in accordance with 30 TAC §§330.65(c), 330.177, 330.207, 330.305(g), 330.333, and Part III, Appendix IIIC in Attachment A to this permit.

2. Contaminated surface water and groundwater (with the exception of monitoring well purge water) shall not be placed in or on the landfill.

E. Liner System

1. A liner system pursuant to 30 TAC §330.331 must be installed in all cells. The liner system shall be installed over the entire bottom and sidewalls as described in Part III, Appendix IIIA in Attachment A to this permit. The liner system shall be constructed in accordance with the rules and with the specifications in Part III in Attachment A to this permit, and must consist of one of the following approved alternatives as applicable:

a. Non-Class 1 industrial waste areas (top to bottom):
- 24 inches of protective cover soil
- Drainage geocomposite/leachate collection system
- 60-mil HDPE geomembrane
- Either 24 inches of compacted clay (permeability $\leq 10^{-7}$ cm/sec) or a geosynthetic clay liner

b. Class 1 industrial waste areas (top to bottom):
- 24 inches of protective soil cover
- Drainage geocomposite/leachate collection system
- 60-mil HDPE geomembrane
- 36 inches of compacted clay (permeability $\leq 10^{-7}$ cm/sec)

c. Overliner System for Pre-Subtitle D areas (top to bottom):
- 24 inches of protective cover soil
- Drainage geocomposite/leachate collection system
- 40-mil LLDPE geomembrane
- Geosynthetic clay liner

2. The elevation of deepest excavation at the landfill disposal area is 38.0 feet below msl, and is located at the leachate collection sump within Sector 3E of the landfill.

3. The elevations of the top of liner within the waste disposal areas shall be as shown in Drawing A.1 of Part III, Appendix III-A in Attachment A to this permit.

F. Final Cover System

1. A final cover system pursuant to 30 TAC Chapter 330 Subchapter K must be installed over all waste placed in landfill cells. The final cover system shall be constructed in accordance with the rules and with the specifications in Part III, Appendix IIIA in Attachment A to this permit, and must consist of:

   a. Class 1 industrial waste areas:
      - 24-inch erosion layer with the top 6-inch layer capable of sustaining native plant growth
      - Drainage geocomposite
      - 40-mil LLDPE geomembrane
      - 48-inch compacted clay infiltration layer (permeability $\leq 1 \times 10^{-7}$ cm/s)

   b. Non-Class 1 industrial waste areas (Alternative 1):
      - 24-inch erosion layer with the top 6-inch layer capable of sustaining native plant growth
      - Drainage geocomposite
      - 40-mil LLDPE geomembrane
      - 18-inch infiltration layer (permeability $\leq 1 \times 10^{-5}$ cm/s)

   c. Non-Class 1 industrial waste areas (Alternative 2):
      - 24-inch erosion layer with the top 6-inch layer capable of sustaining native plant growth
      - Drainage geocomposite
      - 40-mil LLDPE geomembrane
      - Geosynthetic clay liner

2. The maximum elevation of the final cover shall not exceed 202.5 feet above msl for the North Unit and 186 feet above msl for the South Unit.

3. Best management practices for temporary erosion and sedimentation control shall remain in place until sufficient vegetative cover has been established to control and mitigate erosion on areas having final cover. Vegetative cover will be monitored and maintained throughout the post-closure care period in accordance with Part III, Appendix III-K in Attachment A to this permit.

G. Waste Placement

1. The lowest elevation of waste placement will be approximately 30.0 feet below msl.

2. The maximum final elevation of waste placement will be 199.5 feet above msl for the North Unit and 183.0 feet above msl for the South Unit.

H. Landfill Gas Management System

1. A landfill gas management system to monitor and control methane gas pursuant to 30 TAC Chapter 330, Subchapter I shall be installed and operated at the landfill. The landfill gas monitoring system shall consist of a perimeter network of landfill gas monitoring probes and land fill gas monitoring equipment for facility structures. The landfill gas monitoring probes and landfill gas control system shall be located as described in Part III, Appendix III-I in Attachment A to this permit. The landfill gas monitoring and control systems shall be designed, installed, and operated as described in Part III, Appendix III-I in Attachment A to this permit and in accordance with applicable rules. At a minimum, landfill gas monitoring shall be conducted on a quarterly basis.

2. The landfill gas management system shall ensure that the concentration of methane gas generated by the facility does not exceed 5% by volume in monitoring points, probes, subsurface soils, or other matrices at the facility boundary defined by the legal description in the permit or permit by rule, and does not exceed 1.25% by volume in facility structures (excluding gas control or recovery system components). If methane gas levels exceeding the limits specified herein are detected, the owner or operator shall follow and implement the notification and mitigation provision described under 30 TAC §330.371(c) to ensure continuous protection of human health and the environment.

I. Groundwater Monitoring System

1. The groundwater monitoring system shall be installed and shall consist of a sufficient number of monitoring wells to monitor the quality of groundwater in the uppermost aquifer in accordance with 30 TAC §330.403. The system shall be designed, constructed, and operated as described in Part III, Appendix III-H of Attachment A to this permit and in accordance with applicable rules.

2. Monitoring wells shall be sampled in accordance with 30 TAC §330.407. The frequency of groundwater sampling and reporting of data collected for each sampling event shall be in accordance with 30 TAC §330.405 and Part III, Appendix III-H of Attachment A to this permit.

J. Landfill Markers

Landfill markers shall be installed and maintained as described in Part IV, Section 4.7 of Attachment A to this permit and in accordance with 30 TAC §330.143.

K. Storm water runoff from the active portion(s) of the landfill shall be managed as described in Part III, Appendix III-F of Attachment A to this permit and in accordance with 30 TAC §§330.63(c), 330.301 through 330.307, and 330.165(c),.

L. The permittee shall comply with 30 TAC §330.59(f) (3) regarding employment of a licensed solid waste facility supervisor. The permittee shall ensure that landfill personnel are familiar with safety procedures, contingency plans, the requirements of the Commission's rules and this permit, commensurate with their levels and

positions of responsibility as described in Part IV, Section 2 of Attachment A to this permit. All facility employees and other persons involved in facility operations shall obtain the appropriate level of training or certification as required by applicable regulations.

M. The facility shall be properly supervised to assure that bird populations will not increase and that appropriate control procedures will be followed. Any increase in bird activity that might be hazardous to safe aircraft operations will require prompt mitigation actions.

IV. Financial Assurance

A. Authorization to operate the facility is contingent upon compliance with provisions contained within this permit and maintenance of financial assurance in accordance with 30 TAC Chapter 330 Subchapter L and 30 TAC Chapter 37.

B. Within 60 days after the date of issuance of this permit, the permittee shall provide financial assurance instrument(s) for demonstration of closure in an amount not less than $10,611,206.00 (2012 dollars).

C. Within 60 days after the date of issuance of this permit, the permittee shall provide financial assurance instrument(s) for demonstration of post-closure care of the landfill in an amount not less than $6,855,693.00 (2012 dollars).

D. The permittee shall annually adjust the closure and/or post-closure care cost estimates for inflation within 60 days prior to the anniversary date of the establishment of the financial assurance instrument pursuant to 30 TAC §§330.503 and 330.507, as applicable.

E. If the facility's closure and/or post-closure care plan is modified, the permittee shall provide new cost estimates in current dollars in accordance with 30 TAC §§330.503, 330.463(b)(3)(D), and 330.507, as applicable. The amount of the financial assurance mechanism shall be adjusted within 45 days after the modification is approved. Adjustments to the cost estimates and/or the financial assurance instrument to comply with any financial assurance regulation that is adopted by the TCEQ subsequent to the issuance of this permit shall be initiated as a modification within 30 days after the effective date of the new regulation.

V. Facility Closure

Closure of the facility shall commence:

A. Upon the landfill being filled to its permitted waste disposal capacity or upon the landfill reaching its permitted maximum waste elevation;

B. Upon direction by the Executive Director of the TCEQ for failure to comply with the terms and conditions of this permit or violation of State or Federal regulations. The Executive Director is authorized to issue emergency orders to the permittee in accordance with §§5.501 and 5.512 of the Water Code regarding this matter after considering whether an emergency requiring immediate action to protect the public health and safety exists;

C. Upon abandonment of the site by the permittee;

D. Upon direction by the Executive Director of the TCEQ for failure to secure and maintain an adequate bond or other acceptable financial assurance instrument as required; or

E. Upon the permittee's notification to the TCEQ that the landfill will cease to accept waste and no longer operate.

VI. Facility Post-Closure Care

A. Upon completion and closure of the landfill, post-closure care shall be conducted in accordance with 30 TAC §330.463 and as described in Part III, Appendix III-K of Attachment A to this permit for a period of 30 years following written acceptance of the certification of final closure by the Executive Director of the TCEQ.

B. The vegetation on the final cover must be monitored and maintained throughout the post-closure care period.

C. Following completion of the post-closure care period, the owner or operator shall submit to the Executive Director for review and approval a documented certification prepared by an independent professional engineer licensed in the State of Texas in accordance with 30 TAC §330.465.

D. Upon written acceptance of the certification of completion of post closure care by the Executive Director of the TCEQ, the permittee shall submit to the Executive Director a request for voluntary revocation of this permit.

VII. Standard Permit Conditions

A. This permit is based on and the permittee shall follow the permit application submittal dated June 25, 2012 and revisions dated June 13, 2013 and August 28, 2013. These application submittals are hereby approved subject to the terms of this permit, the rules and regulations, and any orders of the TCEQ. These application materials are incorporated into this permit by reference in Attachment A as if fully set out herein. Any and all revisions to these elements shall become conditions of this permit upon the date of approval by the Commission. The permittee shall maintain the application and all supporting documentation at the facility and make them available for inspection by TCEQ personnel. The contents of Part III of Attachment A of this permit shall be known as the "Approved Site Development Plan" in accordance with 30 TAC §330.63. The contents of Part IV of Attachment A to this permit shall be known as the "Approved Site Operating Plan" in accordance with 30 TAC §330.65 and 30 TAC Chapter 330, Subchapters D and E.

B. Attachment B, consisting of amendments, modifications, and corrections to this permit, is hereby made a part of this permit.

C. The permittee shall comply with all conditions of this permit. Failure to comply with any permit condition may constitute a violation of the permit, the rules of the Commission, and the Texas Solid Waste Disposal Act, and is grounds for an enforcement action, revocation, or suspension.

D. A pre-construction conference shall be held pursuant to 30 TAC §330.73(c) prior to beginning physical construction of the facility to ensure that all aspects of this permit, construction activities, and inspections are met.

E. A pre-opening inspection shall be held pursuant to 30 TAC §330.73(e). The facility shall not accept solid waste in the expansion areas until the executive director has

confirmed in writing that all applicable submissions required by the permit and applicable rules have been received and found to be acceptable and that construction is in compliance with the permit and the approved site development plan.

F. The permittee shall monitor sediment accumulation in ditches and culverts on a quarterly basis, and remove sedimentation to re-establish the design flow grades on an annual basis or more frequently if necessary to maintain design flow. The roads within the facility shall be designed so as to minimize the tracking of mud onto the public access road.

G. In accordance with 30 TAC §330.19(a), the permittee shall record in the deed records of Galveston County, a metes and bounds description of all portions within the permit boundary on which disposal of solid waste has and/or will take place. A certified copy of the recorded document(s) shall be provided to the Executive Director in accordance with 30 TAC §330.19(b).

H. Daily cover of the waste fill areas shall be performed with well-compacted clean earthen material that has not been in contact with garbage, rubbish, or other solid waste, or with an alternate daily cover which has been approved in accordance with 30 TAC §§330.165(d) and 305.70(k). Intermediate cover, run-on, and run-off controls shall not be constructed from soil that has been scraped up from prior daily cover or which contains waste.

I. During construction and operation of the facility, measures shall be taken to control runoff, erosion, and sedimentation from disturbed areas. Erosion and sedimentation control measures shall be inspected and maintained at least monthly and after each storm event that meets or exceeds the design storm event. Erosion and sedimentation controls shall remain functional until disturbed areas are stabilized with established permanent vegetation. The permittee shall maintain the on-site access road and speed bumps/mud control devices in such a manner as to minimize the buildup of mud on the access road and to maintain a safe road surface.

J. Erosion stability measures shall be maintained on top dome surfaces and external embankment side slopes during all phases of landfill operation, closure, and post-closure care in accordance with 30 TAC §330.305(d).

K. In compliance with the requirements of 30 TAC §330.145, the permittee shall consult with the local District Office of the Texas Department of Transportation or other authority responsible for road maintenance, as applicable, to determine standards and frequencies for litter and mud cleanup on state, county, or city maintained roads serving the site. Documentation of this consultation shall be submitted within 30 days after the permit has been issued.

L. The permittee shall retain the right of entry onto the site until the end of the post-closure care period as required by 30 TAC §330.67(b).

M. Inspection and entry onto the site by authorized personnel shall be allowed during the site operating life and until the end of the post-closure care period as required by §361.032 of the Texas Health and Safety Code.

N. The provisions of this permit are severable. If any permit provision or the application of any permit provision to any circumstance is held invalid, the remainder of this permit shall not be affected.

O. Regardless of the specific design contained in the application or adopted by reference in Attachments A and B of this permit, the permittee shall be required to meet all performance standards required by the permit, the Texas Administrative Code, and local, state, and federal laws or ordinances.

P. The permittee shall comply with the requirements of the air permit exemption in 30 TAC §106.534, if applicable, and the applicable requirements of 30 TAC Chapters 106 and 116 and 30 TAC Chapter 330, Subchapter U.

Q. All discharge of storm water will be in accordance with the U.S. Environmental Protection Agency NPDES requirements and/or the State of Texas TPDES requirements, as applicable.

VIII. Incorporated Regulatory Requirements

A. The permittee shall comply with all applicable federal, state, and local regulations and shall obtain any and all other required permits prior to the beginning of any on-site improvements or construction approved by this permit.

B. To the extent applicable, the requirements of 30 TAC Chapters 37, 281, 305, and 330 are adopted by reference and are hereby made provisions and conditions of this permit.

IX. Special Provisions

None

Attachment A

Parts I through IV of the permit application.

Attachment B

Amendments, corrections, and modifications issued for MSW Permit No. 1149B.

Technical Summary
of the
Galveston County Landfill
MSW Permit Amendment Application
No. 1149B

Type I
Municipal Solid Waste Facility
Galveston County, Texas

Applicant:
Galveston County Landfill TX, LP

Date Prepared: December 9, 2013

By the
Municipal Solid Waste Permits Section
Office of Waste, Waste Permits Division
Texas Commission on Environmental Quality

This summary was prepared in accordance with Title 30 Texas Administrative Code Section 281.21(c). The information contained in this summary is based upon the permit application and has not been independently verified.

Name of Applicant:	Galveston County Landfill TX, LP 3935 Avenue A La Marque, TX 77510
Name of Facility:	Galveston County Landfill
Contact Person:	Scott Trebus, P.E. 13630 Fondren Road Houston, Texas 77085 (713)726-7506
Consulting Engineer:	Jeffrey P. Young, P.E. Weaver Boos Consultants 6420 Southwest Boulevard, Suite 206 Fort Worth, Texas 76109 (817)735-9770

1.0 GENERAL

1.1 Purpose:

The applicant has submitted this application requesting authorization for a major amendment to authorize the horizontal and vertical expansion of the municipal solid waste (MSW) landfill for the acceptance and disposal of authorized waste. The total permitted facility will include 469.5 acres of which approximately 333.9 acres will be used for waste disposal. The final elevation of the waste fill and final cover material will be 202.5 feet above mean sea level (msl).

1.2 Wastes to be Accepted:

Solid waste to be accepted will consist of MSW resulting from, or incidental to, municipal, community, commercial, institutional, recreational, and industrial activities, including garbage, putrescible wastes, rubbish, ashes, brush, street cleanings, dead animals, construction-demolition waste, and yard waste; Class 1 non-hazardous industrial waste; Class 2 non-hazardous industrial solid waste; Class 3 non-hazardous industrial solid waste; special waste; and other waste as approved by the executive director. The landfill will not be authorized to accept wastes other than the wastes mentioned above, and those waste streams that are expressly prohibited by 30 Texas Administrative Code (TAC) Chapter 330.

1.3 Waste Acceptance Rate and Site Life:

Authorized wastes will be accepted at an anticipated initial rate of approximately 1,203 tons per day and may increase to a maximum of approximately 2,113 tons per day. The estimated site life is approximately 49 years.

2.0 TECHNICAL REVIEW

This application has been technically reviewed by the MSW Permits Section to determine its compliance with the applicable requirements of 30 TAC Chapters 305 and 330. Chapter 330 contains the minimum regulatory criteria for municipal solid waste facilities. It has been determined that the information in the permit amendment application demonstrates compliance with these regulatory requirements. A draft permit has been prepared, and the application has been declared technically complete.

3.0 LOCATION AND SIZE

3.1 Location:

The Galveston County Landfill is located in Galveston County, Texas at 3935 Avenue A, in the cities of La Marque and Hitchcock, Texas.

3.2 Elevation and Coordinates of Permanent Benchmark:

Latitude:	N 29° 23' 13.79"
Longitude:	W 95° 03' 21.90"
Elevation:	14.35 feet above msl

3.3 Size:

The total permitted area of 397.5 acres is proposed to be increased by approximately 72 acres for a total permitted area of 469.5 acres. The disposal area is proposed to be increased by 31.3 acres for a total disposal area of 333.9 acres.

4.0 FACILITY DESIGN, CONSTRUCTION, AND OPERATION

4.1 Facilities Authorized:

The permit amendment will authorize the operation of a Type I municipal solid waste landfill with a total net disposal volume (waste, daily cover, and intermediate cover) of approximately 56.14 million cubic yards in addition to support structures and facilities as described in the permit amendment application and subject to the limitations contained in the permit and Commission rules.

The facility consists of the solid waste disposal area, liquid waste processing area, clean wood waste processing area, a site entrance with security fencing, a gatehouse, scales, a paved entrance road to the site, all-weather access roads, soil stockpiles, landfill gas monitoring and collection system, leachate collection system, and groundwater monitoring system. Structures for surface drainage and stormwater run-on/runoff control include a perimeter drainage system to convey stormwater runoff around the site, berms, ditches, detention ponds, and associated drainage structures.

4.2 Waste Placement:

The maximum elevation of waste placement will be approximately 199.5 feet above msl. The minimum elevation of waste placement will be approximately 30 feet below msl. The deepest excavation elevation for the liner and sumps is approximately 38 feet below msl.

4.3 Liner System

A liner system meeting the requirements of 30 TAC Chapter 330, Subchapter H will be constructed. It will consist of the following components (listed in order from top to bottom of liner system):

a. Class 1 industrial waste area:
- 24-inch protective cover soil layer
- Drainage geocomposite/leachate collection system
- 60-mil HDPE geomembrane
- 36-inch compacted clay layer (permeability $\leq 1 \times 10^{-7}$ cm/s)

b. Non-Class 1 industrial waste area:

- 24-inch protective cover soil layer
- Drainage geocomposite/leachate collection system
- 60-mil HDPE geomembrane
- Either 24-inch compacted clay layer (permeability $\leq 1 \times 10^{-7}$ cm/s) or a geosynthetic clay liner

A liner system will also be installed over the Pre-Subtitle D landfill area which will consist of:

- 24-inch protective cover soil layer
- Drainage geocomposite/leachate collection system
- 40-mil LLDPE geomembrane
- Geosynthetic clay liner

4.4 Final Cover System

The final cover system is designed to meet the requirements of 30 TAC Chapter 330, Subchapter K and will be placed on the above-grade waste. Two alternative designs are proposed for the Non-Class 1 waste areas, and one design is proposed for the Class 1 waste areas. Each cell or phase will be covered with a composite final cover consisting of the following components (listed in order from top to bottom):

a. Class 1 industrial waste area:

- 24-inch erosion layer with the top 6-inch layer capable of sustaining native plant growth
- Drainage geocomposite
- 40-mil LLDPE geomembrane
- 48-inch compacted clay infiltration layer (permeability $\leq 1 \times 10^{-7}$ cm/s)

b. Non-Class 1 industrial waste area (Alternative 1):

- 24-inch erosion layer with the top 6-inch layer capable of sustaining native plant growth
- Drainage geocomposite
- 40-mil LLDPE geomembrane
- 18-inch infiltration layer (permeability $\leq 1 \times 10^{-5}$ cm/s)

c. Non-Class 1 industrial waste area (Alternative 2):

- 24-inch erosion layer with the top 6-inch layer capable of sustaining native plant growth
- Drainage geocomposite
- 40-mil LLDPE geomembrane
- Geosynthetic clay liner

4.5 Leachate Collection System

The leachate collection system consists of a leachate collection layer (geocomposite drainage layer), leachate collection trenches, pipes, sumps, risers, and pumps. Leachate will be stored in six aboveground tanks with a combined capacity of 260,000 gallons, and will either be discharged to the sanitary sewer system for disposal, or recirculated at the landfill working face. The leachate collection system is designed to meet the requirements of 30 TAC Section (§) 330.333 and will be

placed on top of the liner system.

5.0 LAND USE

Land use in the vicinity of the site was evaluated in accordance with 30 TAC §330.61(h).

5.1 Zoning - The facility is located at 3935 Avenue A, in the Cities of La Marque and Hitchcock, Texas. The majority of the property within the City of La Marque is zoned I-2 (Industrial) with some property having no zoning. The property within the City of Hitchcock is zoned AR (Agricultural Residential). Because the landfill existed at the time zoning was established, both cities have issued letters that the landfill status is a legal non-conforming use.

5.2 Surrounding land uses - The surrounding land is used for commercial, residential, parks, school, churches, public utilities, and undeveloped property.

5.3 Residences and Businesses – Within one mile of the facility are 38 commercial establishments and 939 residences.

5.4 Schools, Churches, and Historical Sites - There are four churches, one school, and one cemetery within one mile of the permit boundary. There are three historical markers within one mile of the permit boundary. No historical sites were identified within the permit boundary.

5.5 Growth Trends – The facility is located within the incorporated limits of the City of La Marque and the City of Hitchcock, and continued growth of these municipalities can be anticipated.

6.0 LOCATION RESTRICTIONS

Location restrictions for municipal solid waste landfills are set forth in 30 TAC Chapter 330, Subchapter M.

6.1 Airport Safety:

The landfill is not located within a six-mile radius of any small general service airport runway end used by turbojet or piston-type aircraft or within a five-mile radius of any large general public commercial airport runway end used by turbojet or piston-type aircraft. The landfill is not located within 10,000 feet of any airport runway end used by turbojet aircraft or within 5,000 feet of any airport runway end used by only piston-type aircraft. The facility is considered to be in compliance with 30 TAC §330.545.

6.2 Floodplains:

The permit boundary is not located within a 100-year floodplain. The facility is considered to be in compliance with 30 TAC §330.547.

6.3 Wetlands:

There are no jurisdictional wetland areas within the permit boundary. The facility is considered to be in compliance with 30 TAC §330.553.

6.4 Fault Areas and Seismic Impact Zones:

There are no known faults within 200 feet of the site in accordance with 30 TAC §330.555. The facility is not located within a seismic impact zone as defined in 30 TAC §330.557. Therefore, the facility is considered to be in compliance with 30 TAC §330.555 and §330.557.

6.5 Unstable Areas:

Three potentially unstable areas, as defined in 30 TAC §330.559, were identified at the site. These areas are the natural soils below the landfill, the Pre-Subtitle D overliner foundation, and the final landfill cover soils. The application contains demonstrations that none of the above conditions will have an adverse effect on the integrity of the landfill liners and cover. The facility is considered to be in compliance with 30 TAC §330.559.

6.6 Protection of Endangered Species:

Correspondence with the United States Fish and Wildlife Service and the Texas Parks and Wildlife Department indicates that no impacts to threatened or endangered plant or animal species are expected from the proposed expansion and operation of this facility.

7.0 TRANSPORTATION AND ACCESS

The main public roadways providing access to the site are Avenue A and FM 1764. Avenue A is a two-lane asphalt paved road, and FM 1764 is a four-lane concrete paved road. There are no weight restrictions on these roads other than the legal limit of 80,000 pounds. Current landfill traffic volume is estimated at 365 trips per day. Projected landfill traffic volume is estimated at 427 trips per day in 2020, 543 trips per day in 2040, and 657 trips per day in 2058. This information is contained in the application and indicates that the access roads can sufficiently handle the current and anticipated future traffic volumes associated with this facility.

8.0 SURFACE WATER PROTECTION

As defined in 30 TAC §330.3, contaminated water is leachate, gas condensate, and water which has come into contact with waste. Stormwater which comes into contact with solid waste will be considered contaminated water. Temporary berms will be constructed to minimize the amount of surface water that comes in contact with the waste. Contaminated stormwater at the working face will be contained by run-on/run-off berms. Contaminated surface water will be collected and transported to a permitted wastewater treatment facility. Groundwater generated from monitor well purging will be managed as either leachate or contaminated water.

9.0 GROUNDWATER PROTECTION

9.1 Liner and Leachate Collection System:

The liner system and leachate collection system will provide protection of groundwater from contamination.

9.2 Monitoring Wells:

The groundwater monitoring system will consist of 16 wells which will provide for early detection of potential releases from the facility. The groundwater monitoring network will be sampled, analyzed, and monitored in accordance with the procedures in the Groundwater Sampling and Analysis Plan (Appendix IIIH of the Permit Amendment Application), which is part of the facility permit.

10.0 LANDFILL GAS MANAGEMENT

Landfill gas migration will be monitored around the perimeter of the facility utilizing permanent landfill gas monitoring probes. TCEQ regulations require that gas monitoring be conducted quarterly to detect any possible migration of methane gas beyond the facility property boundary and in enclosed structures within the facility property boundary. In addition, the facility operates an active landfill gas collection system to extract landfill gas from the waste disposal area.

11.0 SITE DEVELOPMENT PLAN AND SITE OPERATING PLAN

The Site Development Plan (SDP) is Part III of the permit application and sets forth the engineering design and other technical aspects of the facility. The Site Operating Plan (SOP) is Part IV of the permit application. The SOP provides operating procedures for the site management and the site operating personnel for the daily operation of the facility to maintain the facility in compliance with the engineering design and applicable regulatory requirements. These documents become part of the permit.

12.0 FINANCIAL ASSURANCE

Authorization to operate this facility is contingent upon the maintenance of financial assurance in accordance with 30 TAC Chapter 330, Subchapter L and Chapter 37 (Financial Assurance) for closure and post-closure care.

13.0 PUBLIC PARTICIPATION PROCESS

The public can participate in the final decision on the issuance of a permit as follows:

13.1 The TCEQ will hold a public meeting if the executive director determines that there is substantial public interest in the application or if requested by a local legislator. During this meeting the commission accepts formal comments on the application. There is also an informal question and answer period.

13.2 Technical review of the application is completed, a final draft permit is prepared, and the application is declared technically complete. Information for the application, the draft permit, the notice, and summaries are sent to the chief clerk's office for processing.

13.3 The "Notice of Application" is sent to the applicant and published in the newspaper. This notice provides a 30-day period, from the date of publication, for the public to make comment(s) about the application or draft permit. The notice also allows the public to request a public meeting for the proposed facility.

13.4 After the 30-day comment period has ended, a "Response to Comments" (RTC) is prepared for all comments received through the mail and at a public meeting. The RTC is then sent to all persons who commented on the application. Persons who receive the comments have a 30-day period after the RTC is mailed in which to request a public hearing.

13.5 After the 30-day period to request a hearing is complete, the matter is placed on an agenda meeting for the TCEQ commissioners to make a determination to grant any of the hearing requests and refer the matter to the State Office of Administrative Hearings for a public hearing.

13.6 A public hearing is a formal process in front of an Administrative Law Judge (ALJ) who conducts the hearing. The applicant and protestant party(ies) present witnesses and testimony to support or dispute information contained in the

application. When all of this is complete, the ALJ will issue a Proposal for Decision (PFD). This PFD is placed on an agenda meeting of the TCEQ commissioners for consideration of issuance or denial of a permit.

13.7 After the commission has approved or denied an application, a motion for rehearing may be made by a party that does not agree with the decision. Any motion for rehearing must be filed no later than 20 days after the party or the party's attorney of record is notified of the decision. The matter could be set on another agenda for consideration by the commission, or allowed to expire by operation of law.

13.8 Applications for which no one requests a contested case hearing are considered uncontested matters after the 30-day comment period. The application is placed on the executive director's signature docket and a permit is issued. Any motion to overturn the executive director's decision must be filed no later than 23 days after the agency mails notice of the signed permit.

14.0 ADDITIONAL INFORMATION

For information concerning the regulations covering this application, contact the MSW Permits Section:

Mr. Dwight C. Russell, P.E.
MSW Permits Section, MC 124
Texas Commission on Environmental Quality
P.O. Box 13087
Austin, TX 78711
(512) 239-5282

For more detailed technical information concerning any aspect of this application or to request a copy of the Site Development Plan, please contact the Consulting Engineer or the Applicant at the address provided at the beginning of this summary.

The application can be viewed on the internet at the following website address: http://www.tceq.texas.gov/permitting/waste_permits/msw_permits/msw_posted_apps.html

For information concerning the legal aspects of the hearing process, agency rules, and submitting public comments, please contact the Texas Commission on Environmental Quality's Office of the Public Interest Counsel at (512) 239-6363.