TEXAS COMMISSION ON ENVIRONMENTAL QUALITY

AN ORDER GRANTING THE APPLICATION BY POST OAK CLEAN GREEN, INC. FOR A NEW TYPE I MUNICIPAL SOLID WASTE LANDFILL IN GUADALUPE COUNTY, TEXAS; TCEQ Docket No. 2012-0905-MSW; SOAH Docket No. 582-15-2498

On _____, the Texas Commission on Environmental Quality (Commission or TCEQ) considered an application by Post Oak Clean Green, Inc. (Post Oak) for a new Type I Municipal Solid Waste Landfill in Guadalupe County, Texas. A proposal for decision (PFD) was presented by Sarah Ramos and Craig R. Bennett, Administrative Law Judges (ALJs) with the State Office of Administrative Hearings (SOAH), who conducted an evidentiary hearing concerning the application on January 5-14, 2016, in Austin, Texas.

After considering the ALJs' PFD, the Commission adopts the following Findings of Fact and Conclusions of Law:

I. FINDINGS OF FACT

Introduction and Procedural History

1. On December 28, 2011, Post Oak filed an application with the TCEQ seeking a land use compatibility determination on proposed Municipal Solid Waste (MSW) Permit No. 2378 (Parts I and II).

2. The proposed facility (Facility) is located at 7787 Farm to Market (FM) Road 1150, Guadalupe County, Texas 78155 (the Landfill).

3. On January 6, 2012, the Executive Director declared Parts I and II of the application administratively complete.

4. On January 18, 2012, the Notice of Receipt of Application for Land Use Compatibility Determination for a New Municipal Solid Waste Permit was published in the *Seguin Gazette*.

5. On April 4, 2012; April 11, 2012; and April 18, 2012, the Notice of Public Meeting regarding the application was published in the *Seguin Gazette*.

6. On April 24, 2012, the TCEQ conducted a public meeting on the permit application in Seguin, Texas.

7. On June 4, 2013, the Notice of Application and Preliminary Decision on Land Use Compatibility Determination for a Municipal Solid Waste Permit was published in English and Spanish in the *Seguin Gazette*.

8. On October 14, 2013, Post Oak filed Parts III and IV of the application for a permit to authorize a new Type I MSW Landfill that will accept MSW and certain special waste.

9. The Executive Director declared Parts III and IV administratively complete on October 23, 2013.

10. Per Post Oak's request, the TCEQ consolidated Parts I-IV into a single application (the Application).

11. On November 13, 2013, Post Oak filed an updated copy of the consolidated Application.

12. A Notice of Public Meeting was published in English and Spanish in the *Seguin Gazette* on February 12, 2014; February 19, 2014; and February 26, 2014.

13. A second public meeting was held on March 6, 2014, at the Seguin-Guadalupe County Coliseum in Seguin, Texas.

14. The Executive Director declared the Application technically complete and issued a Draft Permit (proposed Permit No. MSW-2378) on January 12, 2015.

15. The TCEQ held public meetings on the Application on April 24, 2012 (Parts I and II) and March 6, 2014 (Parts I-IV).

16. The TCEQ's Chief Clerk received public comments and hearing requests regarding the Application.

17. The Executive Director filed his Response to Comments (RTC) on June 30, 2015. The RTC was admitted into evidence at the contested case hearing held in this matter as ED Ex. SO-4.

18. On January 23, 2015, Post Oak requested that the matter be referred by the TCEQ directly to the State Office of Administrative Hearings (SOAH) for a contested case hearing.

19. On March 25, 2015, SOAH received the administrative record for this matter from the TCEQ.

20. Notice of the preliminary hearing was sent to interested parties, and then published in the *Seguin Gazette* on April 3, 2015. The notice included the time, date and place of the hearing, as well as the matters asserted, in accordance with the applicable statutes and rules.

21. On April 6, 2015, Administrative Law Judges (ALJs) Craig R. Bennett and Sarah Ramos held a preliminary hearing in this matter in Austin, Texas. The following appeared, were admitted as parties, and participated in the preliminary hearing: (1) Post Oak; (2) the Executive Director; (3) the Office of Public Interest Counsel (OPIC); (4) Guadalupe County, Texas; (5) the City of Schertz, Texas (Schertz); (6) the City of Seguin, Texas (Seguin); (7) the Schertz/Seguin Local Government Corporation (SSLGC); (8) Guadalupe County Groundwater Conservation District (GCGCD); (9) Stop Post Oak Dump (SPOD); and (10) Kathryn Brady, individually (collectively, the Parties).

22. At the preliminary hearing, the ALJs found that notice had been adequately provided and that both the TCEQ and SOAH have proper jurisdiction over this matter.

23. The ALJs convened the hearing on the merits on January 5, 2016, at SOAH offices at 300 W. 15th Street, Austin, Texas. The hearing continued from day to day at SOAH. The hearing concluded on January 14, 2016. The record closed on April 29, 2016, but was reopened for receipt of additional evidence and finally closed on July 26, 2016.

24. The Facility would include a new Type I MSW landfill; a recyclables, used oil, and lead battery storage area, a scrap tire storage area; a large items and white goods storage area; a reusable materials staging area; and a citizens convenience area.

25. The Facility would serve a population equivalent of approximately 156,000 people in Guadalupe and Gonzales Counties, and surrounding areas.

26. The Facility would be located approximately 12 miles east of Seguin and 3.1 miles east-southeast of the intersection of Interstate Highway 10 (IH 10) and FM 1104 in Guadalupe County, Texas.

27. The Facility's proposed site would consist of approximately 1,003 acres, with a landfill footprint of approximately 331 acres.

28. Post Oak engaged in a site selection process.

29. The Facility would accept waste generated from both public and private entities. The primary classification of solid waste to be accepted at the Facility is MSW. Categories of waste will include household waste, vegetative waste, commercial waste, non-hazardous industrial waste, construction-demolition waste, and special wastes.

30. Post Oak estimates that the Facility will receive an estimated 300,000 tons of waste during the first year of operation. This rate is estimated to increase at 5.9% annually for the first 15 years and then remain at that level for the remaining life of the Facility.

31. Post Oak estimates that the operating life of the Facility will be 128 years.

32. Except as noted otherwise in this Order, the Application contains the information required of applicants under 30 Tex. Admin. Code ch. 330 and other regulations that apply to MSW applications in Texas.

33. The site is generally suited to the design, construction, operation, and, ultimately, closure and post-closure of a MSW landfill.

34. It is not unusual for an MSW landfill to be sited on the outcrop area of major or minor aquifers.

35. Post Oak (or consultants on its behalf) coordinated the Application with the Texas Parks and Wildlife Department (TPWD), the Federal Aviation Administration (FAA), the Texas Historical Commission (THC), the Texas Department of Transportation (TXDOT), and the US Army Corps of Engineers (USACE).

36. Post Oak's representations made in the Application are enforceable permit conditions.

Facility Design and Construction

37. The General Design Report addresses the following issues under the following sections of 30 Tex. Admin. Code ch. 30: Facility access in accordance with § 330.63(b)(1); waste movement in accordance with § 330.63(b)(2)(A) and (B); ventilation and odor control in accordance with § 330.63(b)(2)(C); the landfill support area, landfill support area layout, and, citizen convenience area equipment, in accordance with § 330.63(b)(2)(D) and (E); sanitation and water pollution control in accordance with § 330.63(b)(3) and (4); and endangered species in accordance with § 330.63(b)(5).

38. Section 3 of the General Design Report depicts the location and characteristics of the Facility, including: the outline of the units; general locations of main interior Facility roadways and the general locations of main interior Facility roadway access to fill areas; locations of monitoring wells; locations of buildings; representations of the proposed construction sequence of the Facility; fencing; provisions for the maintenance of any natural windbreaks, such as greenbelts or appropriate screening; all site entrance roads from public access roads; sectors with appropriate notations to communicate the types of wastes to be disposed of in individual sectors; the general sequence of filling operations; the sequence of excavations and filling; dimensions of cells or trenches; and maximum waste elevations and final cover.

39. Post Oak's compliance with the requirements of 30 Tex. Admin. Code § 330.63(d)(4) is summarized in Section 4.0 of the Site Development Plan and each of the requirements is addressed in the Waste Management Unit Design Report.

40. Commission rule 30 Tex. Admin. Code § 330.63(b) requires information regarding generalized design and construction information. While this is addressed in detail in Attachment 3, Waste Management Unit Design, Attachment 1 provides an overview of the Site Plan.

41. The general operational and construction aspects of the Facility that must be considered in the design of a landfill are detailed in the Landfill Waste Management Unit Design, Part III, Attachment 3.

42. Attachment 3 contains the plans for the design and construction of the Facility, including: (1) general operational and construction aspects of the Facility that must be considered in the design of the Facility; (2) geotechnical analyses to demonstrate that the soils at the site are suitable for the proposed construction of the Facility; (3) plans for the design and construction of the Facility's liner and final cover systems; and (4) plans for the design and construction of the Facility's leachate and contaminated water management systems.

43. The Facility will provide for all-weather operation with either an asphalt or concrete site entrance road.

44. The Facility will utilize area fill methods, and when completed, the filled areas will range between a minimum elevation of 420 feet and maximum elevation of completed landfill 691.8 feet above mean sea level (msl).

45. A Cross-Section Location Map is provided, as are Cross Sections A-A' through D-D', found in Part III, Figures 3-3 through 3-7.

46. These cross sections represent a sufficient number of cross sections to depict the existing and proposed depths of all fill areas and show information from soil boring logs in profile.

47. The construction and design details of the perimeter of the waste disposal areas at the Facility are included on the Landfill Completion Plan and a Landfill Typical Perimeter Cross Section, found in Part III, Figures 3-1 and 3-8.

48. The specification for a liner quality control plan is in the Soils and Geosynthetics Construction Quality Assurance Plan (Quality Assurance Plan), found at Part III, Appendix 3D-1.

49. The Geotechnical Analysis in Part III, Appendix 3B relies upon the Geology Report in Part III, Attachment 4, which discusses the subsurface investigations, subsurface testing and sampling procedures, laboratory testing, and geotechnical test results in order to characterize the subsurface at the Facility in terms of soil water content, unit weight, classification, gradation, moisture/density relationship, permeability, consistency, shear strength, and compressibility.

50. Based on the information provided by the field investigations that were conducted at the Facility, and the laboratory testing of samples taken during those investigations, as reflected in the Geology Report, the Geotechnical Analysis analyzes the suitability of the area subsoils to support the foundation of the landfill and to be utilized in the construction of the compacted soil liner that will underlie the Facility and the infiltration layer component of the final cover system.

51. The engineering tests were conducted pursuant to standards developed and promulgated by the American Society for Testing and Materials (ASTM) and other recognized industry practices and procedures, as appropriate.

52. ASTM standards are internationally recognized and accepted and are the standards required by TCEQ for MSW geotechnical reports.

53. The subsurface soil samples were tested in independent soils laboratories including Burge-Martinez Consulting, Arias & Associates, and TRI Environmental, Inc.

54. The laboratory testing is provided in Boring Logs and Geophysical Logs; BMC-Arias Hydraulic Conductivity Reports; and CJI Geotechnical Laboratory Results, included in Part III, Appendices 4B, 4C and 4D.

55. The laboratory tests of the strata underneath the Facility are described in Section 4.3, Site Stratigraphy of the Geology Report, and laboratory reports are provided in Appendices 4B, 4C and 4D.

56. The strata and soil borings are illustrated in Cross Sections A-A' through G-G', and the soil stratum from which each soil sample was collected is identified, along with a cross-section location map, in Part III, Figures 4-9 through 4-16.

57. At least one sample from each non-sand or non-silt soil that will form the sidewalls and base of the landfill was tested in the laboratory to evaluate its soil characteristics.

58. The laboratory reports of each soil layer that is less than 30 feet below the lowest elevation of the Facility are described in Boring Logs and Geophysical Logs; BMC-Arias Hydraulic Conductivity Reports; and CJI Geotechnical Laboratory Results, found at Part III, Appendices 4B, 4C, and 4D.

59. Cross Sections A-A' through G-G' identify the soil stratum from which each soil sample was collected.

60. The results of testing performed on subsoil samples taken from beneath the area are generally consistent with the strata, soil classifications, and soil properties determined from the subsurface investigations. Except as otherwise noted in this order, these findings were sufficient to characterize the geotechnical site conditions and properties of the soils beneath the area.

61. Tests were performed on clay samples obtained by Shelby tubes to characterize the in-situ conditions, and remolded samples were tested to identify suitability of the cohesive soils for use as compacted clay barrier layers in the liner and final cover.

62. Permeability tests were performed in accordance with ASTM D, Method F, where tap water is used as the permeant.

63. The Application contains a geotechnical report that describes and summarizes the geotechnical properties of the subsurface and discussed the suitability of the soils for the uses for which they are intended.

64. The geotechnical conclusions are discussed in Section 5.2 of the Geology Report.

65. Plans for the design and construction of the Facility's liner systems are provided in Landfill Liner System and Final Cover System Design and Construction, found in Part III, Appendix 3D.

66. Landfill cells will be lined with a compacted clay liner (CCL) or a geosynthetic clay liner (GCL) and overlain by a 60-mil high-density polyethylene (HDPE) geomembrane. The compacted soil liner will be a minimum of two-feet thick with a hydraulic conductivity no greater than 1×10^{-7} centimeters per second.

67. As designed, over 99% of the landfill is underlain by the composite drainage layer.

68. The sensitivity analysis conducted on Post Oak's behalf, demonstrated that the dilution factors remained high across the set of parameters.

69. A typical cross-section of the constructed liner is provided in Figures 3-9 through 3-12.

70. The liners are constructed on slopes designed to promote positive leachate drainage to perforated collection pipes, then to the cell sumps for removal.

71. The Application's Quality Assurance Plan, Part III, Exhibit 3d-1, includes soil and liner quality control testing procedures and sampling frequencies.

72. The Application's Quality Assurance Plan, Part III, Exhibit 3d-1, provides guidance on liner evaluation reporting in Section 14.0 Documentation of Liner and Final Cover System.

73. The Application's Quality Assurance Plan, Part III, Exhibit 3d-1, specifies the materials, equipment, and construction methods to be used for the construction of the Facility's compacted soil liner in Section 5.0.

74. The Application's Quality Assurance Plan, Part III, Exhibit 3d-1, specifies the installation methods and quality control testing and reporting for placement of the Facility's geomembrane liner in Section 7.0.

75. Seasonal High Water Levels (SHWL) are discussed in Exhibit 3D-2 to Attachment 3, which was prepared to address the requirements of 30 Tex. Admin. Code § 330.337. Exhibit 3D-2 to Attachment 3 discusses the construction of liners at depths below the SHWL or in areas otherwise subject to hydrostatic head levels.

76. In the unexpected event that groundwater contact with the liner occurs, the analyses determined that the groundwater can be as much as 6.2 feet above the clay liner excavation and still maintain a factor of safety of 1.2.

77. The purpose, function, and engineering details of the leachate collection system are discussed in Leachate and Contaminated Water Management in Part III, Appendix 3C.

78. The material and construction specifications and construction quality assurance/quality control requirements for the leachate collection system components of the liner are included in Section 3.0 of the Leachate and Contaminated Water Management, and Sections 8.0, 9.0, and 10.0 of the Quality Assurance Plan. Further details are provided in Leachate Collection System Details in Part III, Figures 3-1.

Characterization of Subsurface Geology and Hydrology

79. The Application's General Geology and Soils Statement addresses the geology of the site of the Facility.

80. The Geology Report required by 30 Tex. Admin. Code § 330.63(e) is included in Part III of the Application as Attachment 4.

81. The regional geology of the area where the Facility is located is discussed the Geology Report, including the regional physiography and topography of the area, and the stratigraphy and lithology of the subsurface in the vicinity of the Facility.

82. A regional geologic map is included in the Geology Report.

83. The Geology Report discusses regional structure influenced by the two major fault zones located in Guadalupe County, and whether there are any active geologic processes in the vicinity of the Facility, such as faulting, seismic impact zones, or unstable areas.

84. The requirements in 30 Tex. Admin. Code § 330.63(f), concerning the characterization and monitoring of groundwater below the Facility, are specifically addressed in the Groundwater Characterization and Monitoring Report, which is in Part III of the Application, Attachment 5.

85. Post Oak's Groundwater Sampling and Analysis plan includes information about the following subjects: relevant groundwater monitoring data from on-site wells, the subsurface hydrogeology beneath the site, the groundwater monitoring system, identification of any contamination that has entered the groundwater from the site, the proposed groundwater monitoring program, and detection and identification of hazardous constituents in the groundwater.

86. Post Oak's subsurface investigation followed a soil boring plan consistent with the requirements of 30 Tex. Admin. Code § 330.63(e)(4).

87. Post Oak conducted 90 borings, with 41 of them being at least 30 feet below the elevation of the deepest proposed excavation at the site.

88. The borings were generally conducted by Post Oak before the record drought of 2011.

89. Groundwater analytical data from groundwater sampling at the Facility is included in the Application in Appendix G to the Geology Report.

90. Borings B-6 and B-15 from Post Oak's groundwater sampling had notations showing groundwater at levels higher than found in monitoring wells installed at those locations and measuring groundwater during and after the record drought year of 2011.

91. Piezometer PZ-45 had a measured seasonal high water level of 434.09 feet msl, which was six inches above the lowest possible excavation of the landfill at that point. However, this low level of intrusion does not present hydrostatic uplift concerns.

92. There is no existing MSW management unit at the site, thus no historic groundwater monitoring data exists for a groundwater monitoring system.

93. The location of the landfill is on the outcrop of the Upper Muddy Wilcox geologic structure, which is an aquitard.

94. Underlying the site are varying layers of clay and sandy soils. The clay layers are of low permeability generally and act as a buffer between the sandy layers, which are more permeable and allow groundwater movement.

95. There are three identified layers of relatively high permeability at the site, which have been characterized as the 425 Sand, the 395 Sand, and the 325 Sand. For the eastern part of the landfill site, the 425 Sand is the uppermost aquifer, as it is the highest water-bearing stratum.

96. There is a dry line generally running diagonally across the middle of the landfill site, and to the west side of that dry line, no water was found in the 425 Sand. Thus, on the western side of the site, the uppermost aquifer is the 395 Sand, as that is the highest water-bearing stratum.

97. The Geology Report contains information on the regional groundwater quality of the Carrizo-Wilcox Aquifer.

98. Groundwater samples were analyzed for general water quality parameters, total metals, and volatile organic compounds. The results of those sample events are tabulated in Table 4-11 of the Geology Report in Attachment 4 to Part III of the Application, and corresponding analytical reports are provided in Appendix G of the Geology Report.

99. The Groundwater Sampling and Analysis Plan provides an analysis of the most likely pathway for pollutant migration from the landfill in the event that the primary barrier liner underlying the landfill is penetrated.

100. In conducting site characterization, Post Oak considered all available and relevant information, including geologic and hydrogeologic information, as well as information obtained from geophysical methods, including geophysical logs and bore holes.

101. Under TCEQ's rules, the SHWL is the highest measured water level in an aquifer.

102. An aquifer is defined in TCEQ's rules as a geological formation, group of formations, or portion of a formation capable of yielding significant quantities of groundwater to wells or springs.

103. Based on the site-specific geological, geotechnical, and hydrogeological data obtained from the subsurface investigations conducted at the site, the primary pollutant pathway in the north and northeastern part of the site would be a slow downward migration into the 425 Sand. Once in groundwater of the 425 Sand, the pollutant would move laterally above the 425 Clay, in the direction of groundwater flow of that subunit, generally to the south.

104. In the south and southwestern part of the proposed landfill area, any leaking contaminants would move through the unsaturated zone into the groundwater in the 395 Sand. Once in the groundwater of the 395 Sand, a pollutant would move laterally above the 395 Lower Clay in the direction of groundwater flow, nominally to the west.

105. In each case, because the Lower Clay stratum is less permeable than the Sand stratum, in the event that contaminants penetrate the liner system, the pathway for pollutant migration would be laterally above the relevant Lower Clay unit.

106. If there is contamination in the groundwater below the Facility, it will be detected by Post Oak's monitoring wells before it would travel vertically to a lower stratum.

107. The groundwater gradient in the 425 Sand is primarily south; the groundwater gradient in the 395 Sand is primarily west; and the groundwater gradient in the 325 Sand is primarily north.

108. The direction of groundwater in the 425 Sand, the 395 Sand, and the 325 Sand is different from the regional groundwater flow direction.

109. The geology in the area of the Facility is suitable for the siting and operation of an MSW landfill, based on the physiography and topography of the area, and the stratigraphy and lithology of the subsurface in the vicinity of the Facility.

110. The geology and soil conditions are examined in the Geotechnical Analysis, including Appendix 3B. Drainage is examined in Sections 2.0 and 3.0 of Surface Water Drainage, including Attachment 2.

111. The Application includes the required information regarding soils at and beneath the Facility.

112. The Application adequately describes the regional geology and hydrology in the vicinity of the Facility.

Evaluation of Faults

113. The Faulting Study included a detailed survey of the area within a 1.25-mile radius of the permit boundary of roads and other geographic features for signs of damage, repairs to damage, visible depressions, surface lineations, and other such signs of active faulting or subsidence.

114. Site visits were made to search for similar signs of faulting or subsidence.

115. No signs of faulting or subsidence were observed.

116. TXDOT reported that based on its maintenance records for the last four years, there was no indication of any structural damage to any TXDOT roads, bridges or facilities due to faulting or creep within a 2 to 3-mile radius of the crossroads of FM 1104 and FM 1150.

117. There are no faults or surface expressions of faults within a mile of the Facility.

118. The lack of faults or surface expressions of faults is supported by published geologic maps and information on the structural and seismic history of the area in the vicinity of the Facility.

119. No evidence of displacement of surficial deposits was found during the field investigations or in the review of boring logs from the subsurface investigations that have been conducted for the Facility.

120. The aerial photographs and topographic maps of the area do not show lineaments or other surface expressions indicating the presence of a potential fault.

121. The Holocene Epoch extends from the end of the Pleistocene Epoch to the present and represents the most recent 10,000 years of the Quaternary Period.

122. No faults occurring during the Holocene Epoch have been found to exist within 200 feet of the Facility.

123. The Facility is not located within a seismic impact zone.

Existing Water and Oil and Gas Wells

124. Sections 5.0 through 5.3 of the Application provide information pertaining to existing and abandoned water wells and oil wells, which relates to 30 Tex. Admin. Code § 330.61(c)(2), (h)(5), and (l).

125. Subsection 5.1 identifies known water wells within 500 feet of the permit boundary, with the state well numbering system designation for Texas Water Development Board "located wells." It includes a GeoSource report prepared in November 2011, as well as Banks Environmental Data report prepared in September 2013, which is attached as Attachment 4, Appendix 4A to Part III of the Application. It also includes a field

investigation by RRW Consulting LLC and Cook-Joyce. Figure 8 displays the location of known water wells.

126. Subsection 5.2 provides the location of plugged, existing or abandoned oil wells within the permit boundary and in the 500-foot perimeter area, according to the Railroad Commission of Texas (RRC) database. Subsection 5.2 further identifies oil and gas wells under the jurisdiction of the RRC, and provides that the RRC has committed to plug any open oil and gas wells on site in accordance with RRC rules and guidelines. Figure 8 displays the location of oil wells.

127. Subsection 5.3 identifies the abandoned oil and water wells that are situated within the footprint of the proposed landfill. Figure 8 displays the location of abandoned oil and water wells.

128. The Application describes known water wells and oil and gas wells within the permit boundary, or within the limits of the waste disposal boundary, of the Facility, the locations of which are shown on Part II, Figure 8.

129. The Application does not include written certification that the on-site oil and gas wells under the jurisdiction of the RRC have been properly capped, plugged, and closed in accordance with all applicable RRC rules and regulations.

130. The Application addresses capping, plugging or closing any such wells in accordance with applicable rules and regulations, as necessary.

131. The area around the Post Oak property is replete with oil-related activities, including both documented and undocumented abandoned oil wells.

132. Improperly plugged oil and gas wells could serve as a conduit for the contamination of groundwater.

133. Post Oak identified 11 existing and abandoned water wells and 70 oil and gas wells under the RRC's jurisdiction that are within 500 feet of the proposed permit boundary and within the proposed permit boundary itself.

134. Of the 70 oil and gas wells, 42 are within the proposed permit boundary and two of the wells are within the proposed limit of waste.

135. Six oil and gas wells on the property have not been plugged, including one well within the proposed waste disposal area.

136. An abandoned oil pipeline on the Post Oak property was not identified in the Application.

137. Special Provision 2 in the Draft Permit requires wells under the jurisdiction of the RRC that are within the permit boundary to be plugged and abandoned. A written certification that these wells were properly capped, plugged, and closed in accordance with applicable rules and regulations of the RRC must be approved by the ED before physical construction may commence.

138. The proposed landfill may impact many plugged wells, and any wells that have not been plugged.

139. For wells that must be plugged, the casings may have to be cut at deeper depths and the top cement plugs re-spotted or the wells may have to be re-plugged.

140. Any undocumented wells discovered on the Post Oak property must be properly plugged.

141. All well work must be performed by an RRC-approved plugger.

142. Oil and gas well work conducted under this permit must be coordinated through the RRC's San Antonio District Office.

143. The RRC's San Antonio District Office must certify that these wells were properly plugged, capped, and closed in accordance with applicable rules and regulations of the RRC.

144. The RRC's certification must also be approved by the ED before physical construction may commence.

145. If identified in the permit for the Facility, producing oil or natural gas wells that do not affect or hamper landfill operations may remain in their current state.

Transportation

146. In 2012, Post Oak gathered data on roadways that Post Oak intends to use to access the Facility.

147. The study analyzed traffic on two two-lane, asphalt-surfaced roads maintained by TXDOT: FM 1104 and FM 1150.

148. Local traffic is expected to increase 3% per year through 2080, and site-generated traffic is expected to increase at the same rate as waste projections, 5.9% per year.

149. By 2029, when Post Oak reaches its ultimate waste acceptance volume of 2,500 tons per day, Post Oak will have approximately 1,528 total trips per day.

150. Vehicles making trips to and from the landfill will include 87 compactor trucks, 26 transfer trucks, 230 small trucks, and 20 other vehicles per day.

151. Post Oak provided documentation establishing coordination with TXDOT regarding all designs of proposed public roadway improvements such as turning lanes, storage lanes, traffic and location restrictions, etc., associated with the proposed landfill.

152. Because traffic will increase significantly because of the landfill, TXDOT requires the following improvements to maintain adequacy of the roadways:

    a. place an asphalt overlay at the intersection of IH 10 and FM 1104;

b. place an asphalt overlay at the intersection of FM 1104 and FM 1150;
c. construct acceleration and deceleration lanes on FM 1150 at the entrance of the Facility;
d. construct a right-turn deceleration lane at the intersection of U.S. Highway 80 (US 80) and FM 1150; and
e. place an asphalt overlay at the existing intersection.

153. TXDOT determined that once planned roadway improvements were made, access to the Facility should be adequate for expected traffic volumes for the expected life of the Facility.

154. All the improvements required by TXDOT must be completed before construction begins.

155. Post Oak made no study of intended travel on county roads, and those roads should not be used for travel to and from the Facility, except to provide waste disposal services to persons who live along those roads.

Airport Safety

156. Post Oak has included in its Application an analysis of public use airports in the area and has provided airport and FAA coordination letters.

157. The Facility 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.

158. One public-use airport is within six miles of the site, the Old Kingsbury Aerodrome Airport.

159. The Federal Aviation Administration (FAA) issued its final revised determinations on June 29, 2016. In those last determinations, the FAA found that the proposed landfill does not exceed obstruction standards and would not be a hazard to air navigation provided certain conditions are met.

160. The conditions in the FAA determinations requires that:

a. obstructions will be marked and lighted;
b. the operator will give written notice of actual construction or alteration five days after construction reaches its greatest height; and
c. Post Oak will contact the commander of the United States' Randolph Air Force Base to address potential issues the landfill may pose to pilots using the Seguin Auxiliary Airfield (the airfield) for military flying training.

161. The proposed landfill will likely create an environment that attracts birds and other wildlife which raise potential airport hazards to pilots using the airfield for military flying training.

162. Although the landfill will be 12 miles from the airfield, it will be located in an area where the attraction of birds can cause a significant bird hazard to low-flying aircraft.

163. Vultures, gulls, and starlings are a significant threat to United State Air Force (USAF) pilots and aircraft at the airfield, particularly the T-38 aircraft.

164. Vultures and gulls will be attracted to this new landfill and are the two most hazardous bird types to aircraft.

165. Gull exploitation of the landfill may be primarily in the winter months, but vultures will access the landfill year-round.

166. Both turkey vultures and black vultures, which can weigh up to four pounds, are present at landfills in Texas year round, and they forage on landfills and loaf either directly at a site or within a ten-mile radius where they know they can return to feed.

167. With sufficient lift during summer days, the vultures may form kettles of more than a dozen birds, which will fly up to 3,000 feet above ground level (AGL).

168. From 1995 to the present, vultures accounted for 3,967 aircraft strikes, which caused damages of approximately $113 million worldwide. In Texas alone, from 1995 to the present, the USAF reported 528 vulture strikes, with approximately $14 million in damages.

169. The altitude of current USAF aircraft operating out of the airfield in established routes over the proposed landfill will be in the high-threat zone for soaring vultures (1,000-2,000 feet AGL) because vultures have the ability to reach altitudes well above 3,000 feet AGL.

170. Vulture strikes tend to be at much higher altitudes than for most other bird species, and vultures are a serious strike risk.

171. Ring-billed gulls are also quite common on landfills in this region of Texas from November through early April. These birds weigh about 1.5 pounds and will often form large flocks when moving from roosting areas to a landfill facility.

172. The gulls roost during the winter months at Lake Calaveras, 20 miles south of San Antonio, and will be attracted from the lake to the proposed landfill.

173. Gulls are known to ride thermals in areas on or near landfills.

174. Starling flocks pose a serious threat to both military and commercial aircraft worldwide, and the European starling is a common visitor to landfills.

175. Although starlings are not large birds (each weighs less than 3 ounces), they form very dense flocks, especially during winter months in Texas.

176. From 1995 through 2015, 97% of bird strikes occurred below 3,000 feet AGL.

177. Bird strikes occur at heights commonly used at the Seguin airfield. Only about 6% of strikes occur on landing and take-off, 60% occur on low-level phases of flight, and the remaining 34% occur in the traffic pattern (climb outs, missed approaches, and approaches).

178. The proposed height of the landfill structure, 700 feet above msl, will produce an orographic, or ridge-lift, feature that will support soaring birds, such as hawks and vultures.

179. The proposed landfill will attract a great number of vultures, gulls, and other birds due to the availability of food, the smell of decaying waste, and the visual association of this type of facility with similar land uses across the geographic range of the birds.

180. Open face landfills with putrescible waste provide a variety of bird species with food and loafing areas.

181. Birds may roost several miles away and daily movements to and from the landfill may place birds in the approach and departure corridors and flight patterns around the airfield.

182. After striking a single bird, a T-38 aircraft can suffer catastrophic damage necessitating pilot ejection.

183. The FAA recommends that landfills be located more than five miles from any public use airport to reduce the threat of bird strikes.

184. The T-38 pattern extends well beyond five miles from the airfield because of the large number of flights at the airfield and the congested air space in the Houston, San Antonio, and Austin areas.

185. The airfield's current flight tracks were changed in 2015 to ensure the safety of other air traffic operating on federal airways in and around the San Antonio and Austin areas and into and from the New Braunfels Regional Airport.

186. All USAF aircraft enter the parallel-to-the runway, downwind leg of the airfield's pattern from the east to minimize low level overflight of the City of Seguin.

187. The airfield distance patterns are much farther than at a typical public airfield because of the speeds required for safe flight in the T-38 aircraft and the resulting longer turn radius.

188. Every USAF aircraft that enters the airfield's pattern will fly within five miles of the proposed landfill site at altitudes between 1,000-2,000 feet AGL, and the majority of the time (95% in the summer and 60% in the winter), aircraft will fly within one mile of, if not directly over, the proposed site.

189. Even though the proposed landfill does not constitute an obstruction hazard to air navigation, it will create a risk to flight safety for military aircrews operating at the airfield.

190. Even with operational controls, the landfill could force the USAF to change its flight patterns, which may or may not be possible or practicable, or move operations entirely from the airfield.

191. The proposed landfill will increase the probability of a bird strike to aircraft operating on and in the vicinity of the airfield, placing mission readiness, pilots, and the surrounding population at increased risk.

192. FAA's guidance may not take into account the restrictions placed upon military aircraft in order to coordinate with proximate airfields (in New Braunfels, Austin, and San Antonio) and the surrounding terrestrial environment (human habitation, wildlife refuges, etc.).

193. Mitigation procedures may decrease, but not eliminate, the probability of a bird strike to aircraft.

194. The T-38 aircraft, which is the predominant aircraft used at the airfield, has extremely fragile engine components when it comes to engine ingestions.

195. Due to weight restrictions, military aircraft operate at much higher speeds than commercial aircraft and often do not have the heavy components necessary to resist bird strikes.

196. While some military installations simply launch and recover operational aircraft with minimal take-offs and landings, the Seguin airfield is used for training, which requires a great deal of instruction and practice in take-offs and landings.

197. Unlike commercial or general aviation "straight-in approaches," military aircraft fly overhead approaches at higher speeds and fly "touch and goes." As a result, those aircraft operate not just in the immediate traffic pattern but in holding areas nearby.

198. The airfield's training missions may include pilots who are relatively new to the aircraft and not yet well equipped to handle in-flight emergencies.

199. The type of aircraft and the mission of the airfield increase the likelihood of a damaging or catastrophic bird strike.

200. The increased risk will result in a decrease in the availability of safe airspace for training at the Seguin airfield and may force military operations to move to a new, safer location.

Endangered and Threatened Species

201. Post Oak investigated whether the Facility was located in the range of threatened or endangered species.

202. TPWD is responsible for "providing recommendations about protections for fish and wildlife resources to state agencies that approve permits or licenses. Texas Parks and Wildlife Code § 12.0011.

203. Post Oak submitted, as part of the Application, a species assessment prepared by qualified biologists in accordance with standard procedures of the United States Fish and Wildlife Services (USFWS) and TPWD.

204. The biological assessment was based on three site visits, including one site visit in November 2010 and two site visits in June 2012.

205. As part of the assessment, Post Oak considered both federal and state regulations regarding endangered and threatened species and habitat, as applicable, and coordinated with the TPWD.

206. No threatened or endangered species were observed during site visits on the 1003-acre area of the Facility.

207. No federally-designated critical habitat occurs at the Facility.

208. The area of the Facility has low potential to provide any suitable habitat for any state-listed species occurring in Guadalupe County.

209. To implement TPWD's recommendations to address endangered or threatened species in relation to the construction and operation of the Facility, Post Oak will:

    a. avoid clearing mature, native trees, but where clearing cannot be avoided, replace the trees at a ratio of three to one, and maintain a survival rate of 85%;
    b. use native plant species for mitigation and for landscaped areas;
    c. minimize loss of vegetation;
    d. not clear vegetation, trample, or maintain trees or vegetation between April 1 and July 15 of any year;
    e. reseed disturbed soils with a mixture of grasses and forbs native to Guadalupe County;
    f. avoid the use of Bermuda grass to the extent possible in reseeding efforts, except as required to control erosion;
    g. survey for migratory bird nest sites prior to construction or future maintenance activities;
    h. prohibit construction activities from a minimum zone of 100 meters around any raptor nest from February 1-July 15;
    i. mitigate for any wetland and stream impacts;
    j. prepare a wetland mitigation plan in consultation with TPWD;

k. coordinate all impacts to aquatic resources with TPWD's Inland Fisheries Program;
l. coordinate with TPWD on proposed mitigation activities associated with Post Oak's proposed mitigation plan that has been submitted to the USACE;
m. coordinate with TPWD and USFWS, as appropriate, to determine avoidance, minimization and mitigation strategies;
n. train its construction crews on the rare species that have potential to occur in Guadalupe County and avoid disturbance of species; and
o. consult with TPWD should any Texas listed rare, threatened, or endangered species be encountered at the site.

210. Post Oak will provide annual training to all on-site employees that covers the possible species that may be found on the site, including not only the Texas horned lizard, the Texas tortoise, and the timber/canebrake rattlesnake, but also whooping cranes and other endangered or threatened migratory birds that travel through Guadalupe County.

Wetlands and Floodplains

211. Post Oak provided a wetlands delineation survey.

212. The Commission has delegated the decision-making authority for wetlands in federal jurisdictional waters to the USACE—even those determinations that pertain to state water quality. 30 Tex. Admin. Code § 330.61(m)(2).

213. Post Oak identified wetlands and other jurisdictional waters of the United States located within the Facility boundary per applicable federal, state, and local laws and requirements.

214. Because the survey concluded that some impacts to wetlands/jurisdictional waters would occur, Post Oak applied to the USACE in December 2011 for an individual permit and is awaiting permit approval.

215. Post Oak has certified that the identified impacts to wetlands are to be mitigated with a USACE Individual Permit currently being pursued.

216. The Permit requires that Post Oak obtain the individual permit from USACE before construction of the Facility begins.

217. The Facility will result in destruction of 0.34 acre of wetlands and 11,628 linear feet of stream channel) of wetlands/jurisdictional waters in the landfill operations area.

218. Because Post Oak has an application pending with USACE under Clean Water Act, § 404, it was not required to provide any of the demonstrations mentioned in 30 Tex. Admin. Code § 330.553(b) for those wetlands, such as whether wetland degradation could be avoided or whether ecological resources will be adequately protected.

219. A later survey identified additional wetland areas totaling 3.0 acres in the total 1,003-acre tract beyond the landfill operations area.

220. The landfill site is on a topographic ridge, and it slopes from 510 above msl near the northwest corner to approximately 450 above msl on the southwest side.

221. At least five intermittent tributaries connect to one tributary on the southwest side near County Road 215C.

222. That tributary connects with another unnamed tributary on the southwest before connecting with Nash Creek near the intersection of Nash Creek Road and County Road 215B.

223. Three ponded areas are in the northern part of the property, and one of them is located at the beginning of one of the tributaries.

224. These water features are most likely jurisdictional waters of the United States because they connect to Nash Creek, which drains into the Guadalupe River.

225. The Post Oak property contains at least two potential ephemeral drainage areas, indicated by slight topographic draws on the southwestern part of the property.

226. The § 404 permit application includes an "Alternatives Analysis," explaining why the landfill cannot be constructed without the destruction of wetlands, and asking for approval of alternatives to their destruction.

227. After a USACE permit is issued, Post Oak will be required to implement a mitigation plan.

228. Post Oak has asked USACE to approve its mitigation multiplier of 10, by which Post Oak intends to replace the destroyed wetlands with 3.4 acres of wetlands, 12,024 liner feet of constructed ephemeral stream channel, and 5,876 liner feet of stream channel preservation enhancement, resulting in a net increase of 3.0 acres of wetlands and 6,000 linear feet of stream channel at the site.

229. Post Oak did not consider possible impacts to off-site wetlands, even though runoff from the property drains to the Guadalupe River. Instead, Post Oak chose to design the Facility to prevent the release and migration of any waste, contaminant, or pollutant beyond the point of compliance.

230. The Facility must be designed and operated so that it will not violate Texas Water Code § 26.121, the federal Clean Water Act, or the requirements of the § 404 permit.

231. Each receiving, storage, processing and disposal area must have a containment system to collect spills and thereby prevent the release of any contamination, runoff, spills, or precipitation.

232. Post Oak identified 3.0 acres of wetlands that were not included in its § 404 permit application. However, these acres are in the landfill's mitigation area, thus indicating that they will not be destroyed during the landfill's construction and operation.

233. Post Oak must have stable disposal units. Each receiving, storage, processing, and disposal area will have a containment system to collect spills and thereby prevent the release of any contamination, runoff, spills, or precipitation. The containment units will prevent the release and migration of any waste, contaminant, or pollutant beyond the point of compliance; therefore, they will adequately protect the wetlands.

234. Post Oak did not present any evidence about the potential effects of catastrophic release of waste to the wetlands; however, there was no evidence that the engineering calculations are incorrect. Furthermore, water that comes in contact with waste will not be discharged into waters in the state or nation, including wetlands, in violation of any requirements of the Texas Water Code, the Clean Water Act or Texas Pollutant Discharge Elimination System (TPDES) requirements. 30 Tex. Admin. Code § 330.553(b)(1).

235. Post Oak will not violate state water quality standards or the Clean Water Act or jeopardize the continued existence of endangered or threatened species in the non-jurisdictional wetlands. 30 Tex. Admin. Code § 330.553(b)(2).

236. The Facility has been designed to avoid disturbing wetlands and jurisdictional waters, to the extent possible.

237. The Application includes adequate provisions to show that the Facility will not cause or contribute to significant degradation of wetlands, in compliance with TCEQ's rules.

238. The Application complies with TCEQ's requirements regarding wetlands, including 30 Tex. Admin. Code §§ 330.61(m) and 330.553.

239. No portion of the Facility will be constructed within the 100-year floodplains delineated in the Federal Emergency Management Agency (FEMA) floodplain map included as Figure 16 of the Application.

240. Construction and operation of the Facility will not cause a restriction of the flow of the 100-year flood, a reduction of the temporary water storage capacity of the floodplain, or a washout of solid waste.

241. The Facility will not require any levees or other improvements to provide protection from a 100-year flood.

242. No part of the waste disposal areas are within the 500-year floodplain delineated on the FEMA Floodplain Map.

Land Use–Zoning, Surrounding Uses, and Growth Trends

243. Sections 4.0 through 4.3 of Part II of the Application pertain to impact on surrounding area, which relates to 30 Tex. Admin. Code § 330.61(c), (g), and (h).

244. Land surrounding the Post Oak property is used for industrial (oil production) and agricultural purposes.

245. Use of any land for a municipal solid waste Facility should not adversely impact human health or the environment. 30 Tex. Admin. Code § 330.61(h).

246. The site is not located within the city limits or extraterritorial jurisdiction of any local government, and there is no zoned area within two miles.

247. Within a one-mile radius of the site, 1.6% of the land is used for residences, and the rest of the land is used for rangeland or oil and gas exploration.

248. A small, unmarked cemetery is 3,600 feet southwest of the landfill boundary.

249. The only ponds within one mile of the site are brine ponds, associated with petroleum production, and small stock ponds.

250. The largest stock pond, 3.75 acres, is ½ mile east of the site.

251. No known schools, licensed day care facilities, churches, hospitals, lakes, commercial, recreational, industrial areas, historical structures, significant archeological sites, or sites with exceptional aesthetic quality are within one mile of the permit boundary.

252. Guadalupe County's population grew almost 50% from 2000-2010. The majority of growth in the future is expected to be around the metropolitan areas along the IH 35 corridor, particularly in the City of Schertz.

253. Eighteen residences or other structures are within one mile of the site, two of which are approximately 200 feet south of the permit boundary on Nixon Road (also referred to as County Road 215C). Two additional residences are approximately 1,200 feet farther southwest, and a cluster of five residences are located on Dix Road (also referred to as County Road 215C) beyond ½ mile south of the Facility. The other nine residences or structures are between ½ and one mile to the west, north, and east of the permit boundary.

254. The Facility's perimeter will have a buffer zone of at least 125 feet. The northwestern, southeastern, and southwestern perimeter will have a buffer zone of approximately ¼ mile along Nixon Road, Dix Road, and the northwest perimeter along FM 1150.

255. In the buffer zone, the Facility will use practices to preserve native species of flora, fauna, wooded canopy, and wetlands.

256. The northwestern portion of the site, adjacent to FM 1150, will have a 125-foot buffer.

257. At the waste disposal area, the Facility will have a buffer zone with a minimum six-foot high berm with additional screening provided by an eight-foot fence or vegetation.

Land Use–Water Wells

258. Eleven water wells are within 500 feet of the permit boundary.

Land Use–Groundwater Conservation District Rules

259. GCGCD Rule 8.1 states, "[i]n no event may waste or sludge be permitted to be applied in any manner in any outcrop area of any aquifer within [GCGCD]." GCGCD's rule was adopted before Post Oak's application was filed with TCEQ in October 2013.

260. Texas Health and Safety Code § 363.112(d) allows a municipality or county to adopt an ordinance or order that specifically designates an area in which municipal or industrial solid waste cannot be disposed.

261. GCGCD is not a municipality or the governing body of Guadalupe County.

Land Use–Operating Hours

262. Post Oak has not demonstrated a reason justifying operating 24 hours per day, seven days per week, or outside the hours of 7:00 a.m. to 7:00 p.m.

Land Use–Nuisance Conditions

263. Post Oak will cover waste fill areas every day with well-compacted, clean earthen materials or a TCEQ-approved alternative cover. In addition, Post Oak must avoid accumulating more solid waste than can be processed within an adequate time so as to preclude the creation of odors, insect breeding, or harborage of other vectors.

264. Construction and operation of the Facility in compliance with the Application and the Permit will not result in pollution of the surrounding land.

265. Construction and operation of the Facility in compliance with the Application and the Permit will not result in contamination of groundwater and surface water.

266. Construction and operation of the Facility in compliance with the Application and the Permit will not result in breeding of insects or rodents.

267. Construction and operation of the Facility in compliance with the Application and the Permit will not result in the creation of odors adverse to human health, safety, or welfare.

268. Noise is not a component of the Commission's definition of nuisance.

269. Noise from the Facility will not rise to a level that would constitute a nuisance.

270. The Application proposes sufficient provisions to avoid causing a nuisance.

271. Post Oak must control on-site populations of disease vectors using proper compaction and daily cover procedures, and the use of other approved methods when needed. 30 Tex. Admin. Code § 330.551.

272. Post Oak must maintain the integrity of the landfill's liner and protect the site from feral hogs, if they are attracted to the landfill.

273. Post Oak will clean up waste materials spilled along public access roads for at least two miles in either direction from the Facility entrance.

Competency and Compliance History

274. Post Oak has provided the information required in 30 Tex. Admin. Code § 330.59(f).

275. The Draft Permit requires Post Oak to employ a licensed solid waste facility supervisor and qualified equipment operators in compliance with TCEQ's rules before commencing operations.

276. Post Oak has an unclassified compliance history rating under TCEQ's rules because the Facility has not yet been constructed and operated.

277. Post Oak had approximately 400 deficiencies in its application, resulting in numerous notices of deficiencies from the Executive Director throughout the application review process.

Groundwater Protection and Groundwater Monitoring

278. The Geology Report describes the regional aquifers in the vicinity of the Facility, based upon published and open-file sources.

279. The Geology Report describes the regional aquifers beneath and in the vicinity of the Facility in terms of their associated geologic units, composition, hydrogeologic properties, confined or unconfined conditions, hydraulic connectivity with other units, potentiometric surfaces, groundwater flow rates and water quality, recharge zones, and general water quality.

280. The Geology Report provides information on the uses of groundwater and the locations of water wells in the vicinity of the Facility.

281. The regional aquifers in the vicinity of the Facility are isolated from each other.

282. A total of 90 borings were installed at the Facility.

283. Eleven of the deepest borings were geophysically logged to evaluate the stratigraphy of the deeper confining units.

284. Thirty-three borings were completed as site monitoring wells or piezometers to evaluate groundwater conditions.

285. Eighty-two borings extend at least five feet below the deepest proposed excavation.

286. Forty-one borings were installed deeper than 30 feet below the deepest proposed excavation.

287. Data obtained from soil borings and piezometers installed during all of these investigations were analyzed to determine the subsurface conditions.

288. A summary of site subsurface investigation activities is provided in Table 4-5 and discussed in Section 4.0 of the Geology Report.

289. Soil samples were collected from the borings for geotechnical testing and to characterize the soils and subsurface strata beneath the site.

290. Groundwater elevation data from the piezometers were used to determine the presence of groundwater and to characterize groundwater flow beneath the site.

291. A complete analysis of the site's stratigraphy is contained in Sections 4.2 and 4.3 of the Geology Report including the referenced tables and figures.

292. The lithology encountered during subsurface investigation of the site is typical of the Wilcox Group.

293. The Upper Muddy portion of the Wilcox Aquifer is approximately 500 feet thick at the location of the Facility.

294. The Upper Wilcox functions hydrogeologically as a low permeability aquitard.

295. Four sand units were encountered, each underlain by a corresponding confining clay unit.

296. Stratigraphic subunits encountered at the site from top to bottom were labeled: Upper Sand and Clay, the 425 Sand, the 425 Lower Clay, the 395 Sand, the 395 Lower Clay, the 325 Sand, and the 325 Lower Clay.

297. Correlations of stratigraphy were made based on lithologic descriptions on boring logs, interpretation of geophysical logs, and geotechnical laboratory data.

298. The interpretation of lithology from geophysical logs using natural gamma profiles is presented in Appendix 4H to Part III of the Application.

299. Once subunits were identified, analysis of site-specific groundwater gradient data established that the water-bearing sand units are isolated from each other.

300. The hydrogeologic isolation of the sands is discussed in detail in Section 4.3 of the Geology Report, including the referenced tables and figures, and Appendix 4I to Part III of the Application.

301. Waste disposed of in the landfill will be separated from groundwater at each location within the excavated footprint by a CCL or a GCL overlain by a 60-mil HDPE geomembrane.

302. The Application and Draft Permit include contingency plans in the event that the excavation encounters groundwater at any point in the excavated footprint.

303. The evidence sufficiently demonstrates that there are adequate provisions in the Application and the Draft Permit to protect groundwater in compliance with TCEQ's rules.

304. Section 2.0 of the Groundwater Sampling and Analysis Plan describes the groundwater monitoring system for the Facility.

305. The groundwater monitoring system has been designed for the Facility in accordance with the requirements of 30 Tex. Admin. Code § 330.403 based on site-specific technical information including identification of the uppermost aquifer and lower confining unit, and characterization of aquifer thickness and groundwater flow rate and direction. The design also considered thickness, stratigraphy, lithology, and hydraulic characteristics of the geologic units above the groundwater, the materials of the uppermost aquifer, and the materials and characteristics of the lower confining unit beneath the uppermost aquifer.

306. The groundwater monitoring system will consist of 96 monitoring wells in 38 well clusters that have been designed along a point of compliance on the site perimeter.

307. Monitoring wells are spaced every 600 feet around the perimeter of the landfill to monitor the up-gradient 425 Sand zone and both up-gradient and down-gradient 395 Sand and 325 Sand zones.

308. Down-gradient 425 Sand zone monitoring wells are spaced every 300 feet because of the higher groundwater velocity in that zone. At those nine locations, one well will be installed into the lower portion of the 425 Sand.

309. At all other proposed monitoring locations, three nested wells will be installed; one in the lower portion of the 425 Sand, one in the lower portion of the 395 Sand, and one in the lower portion of the 325 Sand.

310. Although the 395 Sand is the uppermost continuous water-bearing zone, Post Oak will monitor the 325 Sand as a conservative, extra, protective measure.

311. The wells associated with each cell will be installed prior to waste placement in those cells or prior to the placement of leachate in a leachate evaporation pond constructed in that cell's future location.

312. The Application includes adequate provisions for groundwater monitoring.

Waste Management Design–Leachate Recirculation

313. The Executive Director no longer supports Post Oak's use of leachate recirculation and Post Oak is no longer requesting approval of the use of leachate and methane gas condensate recirculation system as part of the Application.

Waste Management Design–Alternate Liner Demonstration

314. Post Oak's Alternate Liner Demonstration does not demonstrate the projected concentration levels of contaminants at the point of compliance, but simply provides dilution attenuation factors for the contaminants.

315. Post Oak has not demonstrated that the maximum contaminant levels will not be exceeded at the point of compliance.

Waste Management Design–Stability Evaluations

316. Analyses were performed to assess the performance of the proposed landfill design with respect to global slope stability, sidewall liner stability, final cover stability, anchor trench design, and consolidation/heave of the landfill floor. These analyses evaluated the stability of the proposed interim and final landfill slopes and cover system.

317. Stability analyses conducted on behalf of Post Oak were credible, reliable, and thorough.

318. The Application includes adequate analysis to ensure slope stability.

319. Post Oak's stability evaluations, specifically as related to shear strength needs, have not been adequately translated into design specifications that can be used by the contractors building the landfill.

Waste Management Design–Differential Settlement

320. Post Oak's preliminary foundation evaluation of the site concluded that, under the operation of the landfill, there could be differential settlement of 37 inches between the center point of the landfill and the edge of the landfill.

321. Even with a differential settlement of 37 inches, the leachate collection pipes in the landfill will still flow toward the sump.

322. A differential settlement of 37 inches will not compromise the integrity of the leachate collection system.

Waste Acceptance Plan

323. Section 2 of Part II of the Application pertains to the Waste Acceptance Plan required by 30 Tex. Admin. Code § 330.61(b).

324. Section 2 identifies the sources and characteristics of waste to be accepted, including a description of the general sources and generation areas contributing wastes, with respect to the Facility.

325. The Application provides that sufficient equipment will be available at the Facility to effectively manage and conduct operations in accordance with permit conditions and includes a table describing its minimum equipment requirements, equipment types, number of respective equipment units required per waste acceptance rate, typical sizes, and functions.

326. Except in regard to radioactive waste, Post Oak's Waste Acceptance Plan satisfies all requirements of the Commission's rules.

327. Post Oak's Site Operating Plan (SOP) does not specifically address the detection of radioactive waste and does not provide adequate measures for inspecting for radioactive waste.

328. Post Oak should be required to identify with specificity the equipment and procedures it will use to attempt to ensure that no radioactive materials are accepted at the site. Such procedures should include the use of proper equipment that can detect radioactive material and posted signs advising incoming waste disposers that: (1) disposal of radioactive waste is prohibited by law, (2) Post Oak uses equipment to detect unlawful radioactive waste, and (3) Post Oak will notify the appropriate authorities if a waste disposer is found attempting to dispose of radioactive waste.

Site Operating Plan–General

329. Post Oak submitted Part IV of the Application, which constitutes the proposed SOP for the Facility.

330. The Application provides that the initial opening, preconstruction conference, preopening inspection and information submittal activities will be conducted in accordance with 30 Tex. Admin. Code § 330.73(c)-(f).

331. The Application provides how an Operating Record will be maintained at the Facility, including a table describing the records to be maintained, the frequency of record maintenance, along with a reference to the specific rule that governs the maintenance of the particular record at issue.

332. The Application provides that the Facility will be staffed with qualified and experienced personnel and includes a table describing the key personnel, their respective qualifications, and their respective roles.

333. The Application addresses routine operational inspections and documentation, including a table describing routine site inspections to be conducted at the Facility, instructions for such inspections, and the frequency of them.

334. The Application describes the personnel training programs for the Facility, including a description of all minimum training requirements based on subject matter.

335. The Application describes which wastes will be prohibited and which wastes are not acceptable for disposal, but are acceptable for temporary storage at the Facility. It also provides the procedures for the detection and prevention of prohibited wastes.

336. The SOP includes provisions related to training employees, including training for record keeping, license requirements, detection, prevention of disposal of prohibited wastes, fire protection and response, site inspection, site safety, site access, and maintenance.

337. The landfill personnel would receive training through a combination of classroom instruction and on-the-job training in procedures relevant to the position for which they are employed.

338. The Application identifies the sources and characteristics of waste to be accepted, including a description of the general sources and generation areas contributing wastes, with respect to the Facility.

339. The landfill would have a program for the detection and prevention of the disposal of prohibited wastes, including regulated hazardous and PCB wastes.

340. Site personnel would receive site-specific safety training.

341. In order to enhance site safety, access to the active areas would be limited to authorized personnel and equipment would be kept well-maintained.

342. Except as otherwise noted herein, the SOP adequately provides for training of employees and guides the Facility's day-to-day operations.

343. The SOP outlined in the Application includes a screening program for the detection and prevention of the disposal of prohibited wastes.

344. All incoming loads would be visually monitored at the gatehouse and working face.

345. Site personnel would be properly trained to identify any prohibited wastes, perform random inspections, and know what to do in the event prohibited wastes are identified.

346. Detection of a prohibited waste would trigger an investigation and appropriate measures.

347. The SOP requires the maintenance of records of load inspection reports and regulated hazardous or PCB waste notifications.

348. Prohibited wastes would be properly segregated, protected against the elements, secured against unauthorized removal, isolated from other waste and activities, and returned to the hauler for proper disposition.

349. The SOP provides adequate controls for screening of prohibited wastes, except in regard to radioactive waste.

350. The Application describes the steps to be taken to prevent fires at the Facility, the procedures in the event of a fire, and the firefighting methods and procedures. It provides a description of earthen fire control, fire equipment, fire protection training and TCEQ notification. The Application describes how access will be controlled in terms of site security and traffic control procedures at the Facility.

351. The SOP would provide adequate controls for site access.

352. The only access point through the perimeter fence would be a gated entrance to the main property, and a gate attendant at the permit boundary.

353. Entry to the active portion of the site would be restricted to designated personnel, approved waste haulers, and properly identified persons whose entry is authorized by site management.

354. The Application describes procedures for unloading of wastes, including information on specific collection areas at the Facility, and the related procedures.

355. The Application describes signage for the Facility.

356. The Application describes any existing or abandoned drainage or pipeline easements within or adjacent to the Facility and any associated buffer zones.

357. The Application describes the landfill markers and the permanent benchmark to be established at the Facility.

358. Post Oak plans to confine the unloading areas to a minimum size.

359. The SOP has measures to control odors such as prompt landfilling of waste, daily covering of freshly landfilled waste, controlling ponded water, and properly managing leachate and contaminated water.

360. The Application describes procedures to minimize waste materials along the route to the Facility.

361. The Application describes procedures for the disposal of large items at the Facility.

362. The Application describes procedures for compliance with the federal Clean Air Act and 30 Tex. Admin. Code § 330.15(d) to comply with prohibitions against burning waste. It also identifies potential sources of odor and describes methods to be employed at the Facility to control odor.

363. The Application describes disease vector control procedures designed to effectively control animals capable of mechanically or biologically transferring a pathogen from one

organism to another, including daily cover, ponded water avoidance, and pest extermination alternatives, as appropriate.

364. The Application describes the nature of the access roads and internal roadways and explains the means by which tracking of materials and dust control will be managed at the Facility.

365. The Application describes how salvaging activities, if any, will be managed and how scavenging will be prohibited at the Facility.

366. The SOP provides adequate controls for vectors, salvaging, and scavenging.

367. The SOP adequately addresses the response to salvaging and scavenging.

368. The Application describes the mechanisms to be employed at the Facility to monitor and control methane gas emissions, including a detailed description of monitoring procedures in Attachment 6, the Landfill Gas Management Plan.

369. The Application describes means and methods of waste compaction at the Facility.

370. The Application addresses the daily cover that will be used at the Facility.

371. The SOP provides adequate controls for ponded water.

372. The Application describes how intermediate cover of soils. vegetative growth, or other suitable erosion control mechanisms will be used at the Facility for all areas that will receive additional waste but may be inactive for more than 180 days.

373. The Application explains that no alternative cover will be used absent temporary authorization and permit amendment or modification.

374. The Application describes the final cover for the landfill, including an explanation of the components of the final cover, slope range, and drainage control, with reference to Part III of the Application, Attachment 3, Figures 3-12; Part III of the Application, Attachment 2; and Part III of the Application, Attachment 3, Exhibit 3D-1.

375. The Application addresses erosion of the cover and explains the plan for repairs in the event of cover erosion.

376. The cover application record, with the required elements, will be maintained on site and available for appropriate inspection.

377. The Application includes adequate provisions for cover, in compliance with TCEQ's rules.

378. The Application describes surface water management procedures at the Facility designed to minimize water contact with waste through grading, containment berms, diversion and water pumping, if necessary, as well as other appropriate methods.

379. The Application describes how certain acceptable special wastes will be handled at the Facility and that no other special wastes will be accepted without written approval of the TCEQ.

380. The Application describes whether and how industrial solid wastes can be accepted at the Facility.

381. The Application describes that yard wastes, wood and brush not mixed with other waste may be diverted for recycling and mulch.

382. The Application describes collection, storage, and subsequent transport off-site of recyclables, used oil, and lead acid batteries by approved vendors.

383. The Application describes how a limited quantity of scrap tires will be accepted for subsequent transport off-site by approved vendors.

384. The Application describes the management of large items and white goods, which will be staged for off-site transport for recycling. It also describes that, if large/white goods are disposed of at the operating face of the landfill, placement will be protective of the liner protective cover and the chlorofluorocarbons will be managed in accordance with federal regulations.

385. The Application describes how inert materials such as asphalt, brick, and concrete will be utilized by the Facility for site operations such as road base and erosion control.

386. The Application describes how the Facility will manage containers located in the Citizen's Convenience Area (CCA), including a table summarizing waste stream processing in the CCA.

387. The Application describes how any contaminated water, incidental to waste and recyclable handling at the CCA, will be managed at the Facility to avoid water pollution.

Site Operating Plan–Windblown Waste

388. The Application describes how the Facility will be operated to minimize windblown material.

389. The Application describes the soil cover that will be used at the Facility at least once every 24 hours as a means to control disease vectors, fire, odor, windblown litter, and scavenging.

390. The SOP provides many details and means for how Post Oak will control windblown waste at the site.

391. The SOP does not specify how litter scattered throughout the site will be picked up once a day on days the Facility is in operation.

Closure/Post-Closure Plans

392. A Closure Plan is included in Part III, Attachment 7, of the Application.

393. The Closure Plan specifies the procedures that the Facility must follow for closure of any disposal unit of the landfill or final closure of the entire landfill.

394. Post Oak's Closure Plan includes a description of the steps that will be undertaken to close the disposal units, a general schedule for final closure, a description of the final cover system, and the methods used to install the final cover.

395. Section 2.0 of Attachment 7 sufficiently describes the design of the final cover.

396. A Post-Closure Plan concerning the ongoing monitoring and maintenance activities that will be conducted at the site following closure is also included as Attachment 8.

397. The Application includes adequate provisions for cover consistent with TCEQ's rules.

398. The Application provides adequate closure and post-closure plans consistent with TCEQ's rules.

Financial Assurance

399. Closure and post-closure costs are included in the Application's Cost Estimates as required by 30 Tex. Admin. Code § 330.63(j), including in Appendices 7A and 8A.

400. Post Oak submitted Appendix 7A as part of the Application to comply with the applicable regulatory requirements in 30 Tex. Admin. Code § 330.63(j) and the applicable landfill closure care cost estimate requirements in 30 Tex. Admin. Code ch. 330, subch. L.

401. Post Oak's closure cost estimates are based on the estimated cost of hiring a third party to close the largest waste fill area of the landfill that could potentially be open in the year to follow and those areas that have not received final cover.

402. Costs are estimated for performing the post-closure care maintenance requirements in 30 Tex. Admin. Code § 330.463 in accordance with the Facility's Post-Closure Plan in Attachment 8 to the Site Development Plan.

403. Post-closure care cost estimates in Attachment 8 of the Application are based on the estimated cost of hiring a third party to conduct post-closure care cost activities for the Facility during the 30-year post-closure care period.

404. Post Oak's post-closure cost estimates account for the total costs of conducting post-closure care for the largest area of the Facility that could possibly require post-closure care in the year to follow, including annual and periodic costs over the entire 30-year post-closure care period.

405. Post Oak has proposed adequate financial assurance.

Additional Findings

Unstable Areas

406. The Subsidence and Faulting Study was conducted in part because the Facility is located near the Darst Creek Field, an area of oil and gas extraction, which activities could potentially cause unstable areas.

407. There have been no induced seismic events at the Darst Creek Field, even during the years of the highest production there.

408. There are no indications of subsidence, and the literature indicates no reports of land subsidence issues in the footprint of the Carrizo-Wilcox Aquifer.

409. The Facility is not in the vicinity of an active fault.

410. Data from soil borings, field observations, and examination of aerial photographs also show no evidence of subsidence at the Facility.

411. An unstable area is an area susceptible to natural or human-induced events or forces that are capable of impairing the integrity the landfill.

412. No fill materials or other subsurface conditions that may cause significant differential settling of the base grades of the proposed landfill were identified in the subsurface analysis.

413. The Facility is not located in an unstable area and subsidence is not expected to occur.

Historic Preservation

414. Post Oak conducted an historic conservation survey and determined that no historic properties will be affected by the Facility.

415. The THC concurred that no historic properties will be affected by the Facility.

Council of Government

416. Post Oak provided Parts I and II of the Application to Alamo Area Council of Government (AACOG) for its review of the Application for compliance with AACOG's regional plan.

417. On January 5, 2011, the Resource Recovery Committee of the AACOG voted to grant Post Oak's request for a letter of approval.

418. Although it later revised its position, AACOG determined that the Facility was consistent with the regional plan, and advised that the AACOG's letter of approval could be submitted to TCEQ with the Application.

Easements and Buffer Zones

419. There are no existing drainage or pipeline easements within or adjacent to the Facility.

420. An abandoned and unused pipeline easement crosses the southwestern portion of the site, but the pipeline is disconnected and vacated in accordance with Guadalupe County Records.

421. To the extent any portion of abandoned pipeline is encountered in the construction of the Facility, the pipeline will be removed and disposed of properly.

422. An abandoned electrical easement is depicted on Figures 7 and 8 of the Application.

423. The Application describes buffer zones around the perimeter of the Facility, which will include berms, native flora and fauna, and a wooded canopy, with wetland preservation practices.

424. The Application addresses the buffer zones and earthen and vegetation screens implemented to screen the view of waste, which is more specifically described in Part III, Attachment 3, Figure 3-1.

Surface Water Protection/Prevention of Erosion and Soil Loss

425. Commission rule 30 Tex. Admin. Code § 330.63(c) requires the Site Development Plan to include a surface water drainage report addressing the requirements of Subchapter G of Chapter 330 of the Commission's rules, entitled "Surface Water Drainage."

426. Section 3.0 of the Site Development Plan summarizes the Application's compliance with the requirements of Subchapter G, and each of the requirements is addressed in detail in the Facility Surface Water Drainage Report, including Attachment 2.

427. The Facility Surface Water Drainage Report provides a detailed description of the hydrologic and hydraulic analyses performed for the Facility, including the results of those analyses.

428. The pre-development drainage areas, drainage area acreage, existing flow paths, and analysis points are depicted in Figure 2A-1.

429. Drainage calculations for the pre-development areas are presented in Exhibit 2A-1.

430. The post-development drainage areas, drainage area acreage, existing and developed flow paths, and analysis points are depicted in Figure 2A-2.

431. Drainage calculations for the post-development areas are presented in Exhibit 2A-2.

432. Additional drainage calculations for the proposed Facility drainage system design are presented in Appendix 2B.

433. Structural designs and hydraulic calculations for all proposed collection, drainage, and detention facilities are detailed in Part IV, Appendix 2B of the Application.

434. A plan for the inspection, maintenance, repair, and restoration of the proposed stormwater management system is included in Section 4.0 of Erosion, Sedimentation, and Drainage Control for Operating Areas of the Landfill, including Attachment 2C.

435. The pre- and post-development peak flow rates and runoff volumes are presented in Section 3.0 of Existing and Post Development Storm Water Runoff Comparison.

436. The hydrologic methods are discussed in Sections 1.0 and 2.0 of Existing and Post Development Storm Water Runoff Comparison. Drainage calculations, with a more detailed description of the hydrologic methods and assumptions employed, are also included in Appendix 2A.

437. The 25-year, 24-hour rainfall event used for design of the Facility is 8.16 inches, as indicated in Figure 6 of the Pre-Development Hydrologic Calculations.

438. The drainage system for the Facility is designed to collect and control runoff from a 24-hour, 25-year storm event.

439. The collection and diversion of stormwater run-on and the use of run-on diversion and containment berms to prevent flow onto the active portion of the landfill is discussed in Exhibit 3C-4, Working Face Containment and Berm Design.

440. An erosion and sedimentation control plan with interim controls for the phased development of the Facility is included in the portion of the Application, entitled Erosion, Sedimentation and Drainage Control for Operating Areas of the Landfill.

441. The top dome surfaces and external embankment slopes have been designed to minimize erosion and soil loss through the use of appropriate side slopes, vegetation, and other structural and nonstructural controls during operations and at closure.

442. The Application includes calculations of estimated peak velocities for top surfaces and external embankment slopes in Sheet Flow Velocities for Final Cover and for Intermediate Cover, found in Part III, Appendix 2B-1-B and Ex. 2C-2.

443. The proposed slopes and lengths of the top surfaces ensure that the velocity of stormwater flowing over these surfaces will not exceed the permissible non-erodible velocity.

444. For the external embankment slopes, diversion structures will be installed along the slopes to limit stormwater flow to velocities below the permissible non-erodible velocity.

445. The soil loss calculations for the Facility's top surfaces and external embankment slopes were calculated using the United States Department of Agriculture's Revised Universal Soil Loss Equation.

446. The analysis of pre- and post-development conditions is set forth and the resulting peak flow rates, maximum velocities, and volumes are presented in Existing and Post-Development Storm Water Runoff Comparison, Part III, Appendix 2A.

447. For all but one of the Facility's discharge points, post-development peak flow rates and maximum velocities will be maintained at or below the peak flow rates and maximum velocities for the pre-development conditions.

448. In the one instance in which the post-development 25-year storm total runoff volume is higher than the corresponding pre-development conditions, the volume is negligibly higher, at 0.01 inches, and will not significantly or adversely alter existing drainage patterns.

449. Stormwater runoff volumes from the Facility will be detained by the stormwater management system and released at rates that will not significantly or adversely alter existing drainage patterns.

450. The Application complies with TCEQ's rules regarding TPDES stormwater permitting requirements.

451. The Application includes a surface water protection and drainage plan that includes the location, details, and typical sections of the facilities that relate to the protection of surface water, and it shows the provisions for safe passage of all internal and externally adjacent floodwaters are adequate.

452. The Application accurately reflects the current drainage conditions and does not propose adverse alterations to the existing drainage patterns.

453. The erosion control methods identified in the Application are consistent with TCEQ's rules.

454. The Application proposes adequate protection of surface water.

Landfill Gas Management

455. Commission rule 30 Tex. Admin. Code § 330.63(g) concerns gas management requirements, and 30 Tex. Admin. Code § 330.371 requires routine methane monitoring. These requirements are addressed in detail in the Landfill Gas Management Plan (LGMP), which is in Part III, Attachment 6.

456. The LGMP describes how landfill gases will be managed and controlled and establishes a gas monitoring system and program to ensure that the methane limits in 30 Tex. Admin. Code § 330.371(a) are not exceeded.

457. The LGMP also prescribes the actions that the Facility must take if methane levels are detected in excess of the prescribed limits.

458. The Application includes adequate provisions to manage landfill gas, in compliance with TCEQ's rules.

Miscellaneous

459. The Facility is not located over a recharge zone of the Edwards Aquifer.

460. The Facility is not in a national forest.

Transcript Costs

461. The ALJs ordered Post Oak to arrange for and pay the costs of having a court reporter attend the hearing and prepare a transcript, subject to allocation of such costs at the end of the proceeding.

462. Post Oak provided no evidence as to the amount of transcript costs or what they include.

463. Post Oak is the only party that could benefit financially from having a transcript.

464. All of the Parties participated in the proceedings and benefitted from having a transcript for use in preparing their respective briefs.

II. CONCLUSIONS OF LAW

1. The Commission has jurisdiction over the disposal of municipal solid waste and the authority to issue this permit under Tex. Health & Safety Code § 361.061.

2. Notice was provided in accordance with Tex. Health & Safety Code § 361.0665, 30 Tex. Admin. Code §§ 39.405 and 39.501, and Tex. Gov. Code §§ 2001.051-.052.

3. SOAH has jurisdiction to conduct a hearing and to prepare a PFD in contested cases referred by TCEQ under Tex. Gov. Code § 2003.047.

4. The ED determined that Post Oak submitted an administratively and technically complete permit application, as required by Tex. Health & Safety Code §§ 361.066 and 361.068, that demonstrated that it will comply with all relevant aspects of the Application and design requirements as provided in 30 Tex. Admin. Code §§ 330.71(a) and 330.57(d).

5. The Application was processed and the proceedings described in this Order were conducted in accordance with applicable law and rules of the TCEQ, specifically 30 Tex. Admin. Code § 80.1 *et seq.*; the State Office of Administrative Hearings, specifically 1 Tex. Admin. Code § 155.1 *et seq.*; and Tex. Health & Safety Code ch. 361, subch. C.

6. The burden of proof was on Post Oak, in accordance with 30 Tex. Admin. Code § 80.17(a). Post Oak met its burden with respect to all issues, except as noted in this Order.

7. The evidence in the record is sufficient to meet the requirements of applicable law for issuance of the Draft Permit, as modified by this Order, including Tex. Health & Safety Code ch. 361 and 30 Tex. Admin. Code ch. 330.

8. The Post Oak Municipal Landfill, if constructed and operated in accordance with the Solid Waste Disposal Act, 30 Tex. Admin. Code ch. 330, and the Draft Permit required by this Order, will not adversely affect public health or welfare or the environment.

9. Except as noted by this Order, the Draft Permit No. MSW-2378, as prepared by the Executive Director, includes all matters required by law.

10. The approval of the Application and issuance of Permit No. MSW-2378, as modified by this Order, will not violate the policies of the State of Texas, as set forth in Texas Health and Safety Code § 361.002(a), to safeguard the health, welfare, and physical property of the people of Texas, and to protect the environment by controlling the management of solid waste.

11. The contents of the permit, as modified by this Order, to be issued to the Facility meet the requirements of the Texas Solid Waste Disposal Act, Tex. Health & Safety Code §§ 361.086(b) and 361.087.

12. Post Oak provided the information required under TCEQ's rules to demonstrate competency under 30 Tex. Admin. Code § 330.59(f).

13. Post Oak's compliance history ranking was properly classified as "unclassified" under 30 Tex. Admin. Code ch. 60.

14. The TCEQ is not prohibited by Tex. Health & Safety Code § 361.122 from issuing Permit No. MSW-2378.

15. The Application adequately demonstrates compliance with the TPDES program under the federal Clean Water Act Section 402, as amended, as required by 30 Tex. Admin. Code § 330.61(k)(3).

16. As required by 30 Tex. Admin. Code § 330.61(k)(3), (i)(4), and (i)(5), Post Oak has submitted documentation of coordination with TCEQ for compliance with the federal Clean Water Act Section 402, the FAA for compliance with airport location restricts, and TXDOT for traffic and location restrictions.

17. Post Oak has submitted wetland determinations required by applicable federal, state, and local laws as required by 30 Tex. Admin. Code § 330.61(m).

18. The Application conforms to the applicable requirements of the Texas Engineering Practice Act, Tex. Occ. Code ch. 1001, as provided in 30 Tex. Admin. Code § 330.57(f).

19. Part I of the Application meets the technical requirements of 30 Tex. Admin. Code §§ 281.5, 305.45, 305.57(c)(1) and 305.59.

20. Post Oak did not meet the requirements of 30 Tex. Admin. Code § 330.61(l)(2).

21. At the time of application, the owner or operator shall provide the Executive Director with written certification that any and all existing or abandoned on-site crude oil or natural gas wells, or other wells associated with mineral recovery that are under the jurisdiction of the RRC have been properly capped, plugged, and closed in accordance with applicable rules and regulations of the RRC. 30 Tex. Admin. Code § 330.61(l)(2).

22. Part II of the Application meets the technical requirements of 30 Tex. Admin. Code §§ 305.45, 330.57(c)(2), and 305.61, except for § 305.61(l)(2).

23. The Site Development Plan, which supports Parts I and II of the Application, meets the requirements of 30 Tex. Admin. Code §§ 330.63, .61, except for § 330.61(l)(2).

24. Except as otherwise noted in this Order, Part III of the Application meets the requirements of 30 Tex. Admin. Code §§ 330.57(c)(3), 330.63, 330.545, 330.547, 330.551 and 330.553.

25. Except as otherwise noted in this Order, Part IV of the Application, the SOP, meets the requirements of 30 Tex. Admin. Code §§ 330.57(c)(4), 330.65, and 330.121-330.179.

26. Post Oak has shown that it will comply with the operational prohibitions and requirements in 30 Tex. Admin. Code §§ 330.15 and 330.121-330.179.

27. The Application includes adequate provisions to prevent the ponding of water over waste in the landfill, in compliance with 30 Tex. Admin. Code § 330.167.

28. Post Oak submitted a geology report that complies with 30 Tex. Admin. Code § 330.63(e).

29. The Application contains the required information regarding the effect of Facility construction on groundwater flow required by 30 Tex. Admin. Code § 330.403(e)(1).

30. The Application adequately demonstrates that uplift forces will not compromise the integrity of the landfill and that the landfill can handle groundwater infiltration, in compliance with 30 Tex. Admin. Code § 330.337(b).

31. The Application does not adequately address the minimum requirements for approval of an alternate liner design, in compliance with 30 Tex. Admin. Code § 330.335, because Post Oak has not modeled the actual expected concentrations of contaminants at the point of compliance under operation of the landfill.

32. The Application meets the requirements of 30 Tex. Admin. Code §§ 330.63(f)(4), 330.401, 330.403, 330.405, and 330.407, concerning groundwater protection.

33. The groundwater sampling and analysis plan meets the requirements set forth in 30 Tex. Admin. Code § 330.63(f) and Subchapter J of Chapter 330.

34. Post Oak has demonstrated that existing drainage patterns will not be adversely altered as a result of the proposed landfill development, as required by 30 Tex. Admin. Code §§ 330.63(c)(1)(D)(iii) and 330.305(a).

35. The landfill gas monitoring system complies with 30 Tex. Admin. Code § 330.159.

36. Post Oak has demonstrated compliance with applicable TPDES stormwater permitting requirements.

37. Except as otherwise noted by this Order, Post Oak has demonstrated compliance with the location restrictions set forth in 30 Tex. Admin. Code §§ 330.545, 330.547, 330.553, 330.555, 330.557, and 330.559.

38. Post Oak has submitted information regarding closure and post-closure that demonstrates compliance with the requirements of 30 Tex. Admin. Code §§ 330.63(h),(i), 330.457, 330.461, 330.463, and 330.465.

39. Except as otherwise noted in this Order, the Soils and Liner Quality Control Plan complies with 30 Tex. Admin. Code §§ 330.63(d)(4)(G) and 330.339.

40. Post Oak is not proposing to site a new MSW landfill or lateral expansion within five miles of an airport serving turbojet or piston-type aircraft, as confirmed in correspondence with the FAA and in compliance with 30 Tex. Admin. Code §§ 330.61(i)(5) and 330.545.

41. As required by Tex. Health & Safety Code § 361.069, the Facility is compatible with surrounding land uses, except in regard to the use of the Seguin Auxiliary Airfield by the USAF for training purposes.

42. As currently planned, the Facility will present a significant bird hazard to low flying aircraft from the Seguin Auxiliary Airfield, in violation of 30 Tex. Admin. Code § 330.545(d).

43. To address existing bird hazard concerns, Post Oak should be required to submit a report to the Executive Director, who will determine whether construction should commence and whether additional precautions should be taken. Construction should not begin until the bird hazard concerns are adequately addressed and the appropriate USAF personnel have given approval that construction of the landfill will no longer cause a significant hazard to low-flying aircraft.

44. GCGCD does not have authority under the Comprehensive Municipal Solid Waste Management, Resource Recovery and Conservation Act, Tex. Health & Safety Code § 363.001, *et seq.*, to prohibit the siting of a MSW landfill in any area of Guadalupe County.

45. Section 363.066 of the Tex. Health & Safety Code does not affect the Solid Waste Disposal Act, under which the Commission may supersede any authority granted to or exercised by the council of governments.

46. TCEQ's jurisdiction under 30 Tex. Admin. Code ch. 361 does not extend to preventing any alleged interference with mineral rights.

47. Solid waste management activities at the Facility conform with the applicable regional solid waste management plan, pursuant to Tex. Health & Safety Code § 363.066.

48. The methods specified in the SOP comply with the MSW rules to prevent the creation of any nuisance, as defined by 30 Tex. Admin. Code § 330.3(95).

49. The buffer zones established by Post Oak between the edge of fill and the Facility boundary are compliant with the MSW rules, including 30 Tex. Admin. Code §§ 330.141(b) and 330.543(b).

50. Post Oak has provided sufficiently detailed information regarding the operational methods to be utilized at the Facility when using daily cover and its preventative effect on vectors, fires, odors, windblown waste and litter, and scavenging, as required by 30 Tex. Admin. Code § 330.165(a).

51. Except in regard to the failure to specify how litter will be picked up daily, the methods specified in the SOP for the control of windblown waste and litter comply with the MSW rules, including 30 Tex. Admin. Code §§ 330.127 and 330.139.

52. Post Oak has provided adequate information related to transportation in compliance with 30 Tex. Admin. Code § 330.61(i).

53. To be compatible with existing land uses, particularly the nearby residences, waste acceptance hours may be any time between the hours of 7:00 a.m. and 7:00 p.m., Monday through Friday, and transportation of materials and heavy equipment operation must not be conducted between the hours of 9:00 p.m. to 5:00 a.m., unless otherwise approved. Operating hours for other activities do not require specific approval. 30 Tex. Admin. Code § 330.135.

54. The operating hours proposed in the Application (24 hours per day, seven days per week) have not been shown to be appropriate; therefore, the operating hours specified in 30 Tex. Admin. Code § 330.135 (7:00 a.m. to 7:00 p.m., Monday through Friday) should be included in the Draft Permit.

55. The proposed groundwater monitoring system will adequately monitor the groundwater beneath the Facility and protect human health and the environment in compliance with 30 Tex. Admin. Code §§ 330.63(f)(4), 330.401, 330.403, 330.405, and 330.407.

56. Except as otherwise noted in this Order, Parts I and II of the Application comply with applicable regulatory requirements of 30 Tex. Admin. Code ch. 330.

57. Except as otherwise noted in this Order, Parts I and II of the Application comply with the requirements of 30 Tex. Admin. Code §§ 281.5, 330.59, and 330.61.

58. Except as noted by this Order, Section 2.0 of Part II of the Application complies with applicable requirements of 30 Tex. Admin. Code § 330.61(b).

59. Except in regard to radioactive waste, Post Oak's Waste Acceptance Plan satisfies all requirements of the Commission's rules.

60. Post Oak should be required to identify with specificity the equipment and procedures it will use to attempt to ensure that no radioactive materials are accepted at the site. Such procedures should include the use of proper equipment that can detect radioactive material and posted signs advising incoming waste disposers that: (1) disposal of radioactive waste is prohibited by law, (2) Post Oak uses equipment to detect unlawful radioactive waste, and (3) Post Oak will notify the appropriate authorities if a waste disposer is found attempting to dispose of radioactive waste.

61. Except as otherwise noted in this Order, Sections 3.0 through 3.3 of Part II of the Application comply with applicable regulatory requirements set forth in 30 Tex. Admin. Code § 330.61(c)-(f) and (l)(1).

62. Except as otherwise noted in this Order, Sections 4.0 through 4.3 of Part II of the Application comply with applicable regulatory requirements set forth in 30 Tex. Admin. Code § 330.61(c)-(h) and (1)(l).

63. Except as otherwise noted in this Order, the location, construction and operation of the Facility, as proposed in the Application, is compatible with the surrounding land uses, which are primarily agricultural and oil and gas exploration and development.

64. Except as otherwise noted in this Order, Sections 5.0 through 5.3 of Part II of the Application comply with applicable regulatory requirements set forth in 30 Tex. Admin. Code § 330.61(c)(2), (h)(5), and (l)(1).

65. Section 6.0 of Part II of the Application complies with applicable regulatory requirements set forth in 30 Tex. Admin. Code § 330.61(i).

66. Sections 7.0 through 7.8 of Part II of the Application comply with applicable regulatory requirements set forth in 30 Tex. Admin. Code § 330.61(j).

67. Sections 8.0 through 8.3 of Part II of the Application comply with applicable regulatory requirements set forth in 30 Tex. Admin. Code § 330.61(k).

68. Section 9.0 and Attachment 8 of Part II of the Application complies with applicable regulatory requirements set forth in 30 Tex. Admin. Code §§ 330.61(m) and 330.547 as they relate to floodplains.

69. Section 9.0 and Attachment 5 of Part II of the Application comply with applicable regulatory requirements set forth in 30 Tex. Admin. Code §§ 330.61(m) and 330.553 as they relate to wetlands.

70. Section 10.0 and Attachments 6 and 8 of Part II of the Application comply with applicable regulatory requirements set forth in 30 Tex. Admin. Code §§ 330.61(n) and 330.551 as they relate to endangered and threatened species.

71. Section 11.0 and Attachment 4 of Part II of the Application comply with applicable regulatory requirements set forth in 30 Tex. Admin. Code § 330.61(o).

72. Section 12.0 of Part II of the Application complies with applicable regulatory requirements set forth in 30 Tex. Admin. Code § 330.61(o).

73. Section 13.0 of Part II of the Application complies with applicable regulatory requirements set forth in 30 Tex. Admin. Code § 330.543.

74. Section 14.0 of Part II of the Application complies with applicable regulatory requirements set forth in 30 Tex. Admin. Code ch. 330.

75. Except as otherwise noted in this Order, Section 14.0 and Attachment 8 of Part II of the Application comply with applicable regulatory requirements set forth in 30 Tex. Admin. Code § 330.545.

76. Commission rules 30 Tex. Admin. Code §§ 330.549 and 330.563 are not applicable to the Facility, based on its location.

77. Attachment 1 of the Site Development Plan complies with 30 Tex. Admin. Code § 330.63(b).

78. The Overview and Attachment 2 to the Site Development Plan comply with applicable regulatory requirements in 30 Tex. Admin. Code § 330.63(c) and Subchapter G of Chapter 330.

79. Attachment 3 to the Site Development Plan complies with the applicable regulatory requirements in 30 Tex. Admin. Code §§ 330.63(d)(4) and 330.305(g).

80. Appendix 3D-1 complies with all of the applicable liner requirements in 30 Tex. Admin. Code ch. 330, subch. H.

81. Together with the back-up provided in the Geology Report in Attachment 4, Appendix 3B of Attachment 3 to the Site Development Plan complies with applicable geotechnical regulatory requirements in 30 Tex. Admin. Code §§ 330.63(e)(5)(a)-(b) and 330.339(a) and (e).

82. Attachment 5 to the Site Development Plan, regarding the Groundwater Sampling and Analysis Plan, complies with the applicable regulatory requirements in 30 Tex. Admin. Code § 330.63(f).

83. Attachment 6 to the Site Development Plan, regarding Post Oak's LGMP, complies with applicable regulatory requirements in Subchapter I of Chapter 330.

84. Attachment 7 to the Site Development Plan, regarding Post Oak's Closure Plan, complies with the applicable regulatory requirements in 30 Tex. Admin. Code § 330.63(h) and applicable closure requirements in Subchapter K of Chapter 330.

85. The Final Cover Systems proposed in Attachment 7 provide effective, long-term protection against infiltration and erosion.

86. The Final Cover designs proposed in Attachment 7 are protective of human health and the environment.

87. Appendix 7A to the Site Development Plan complies with applicable regulatory requirements in 30 Tex. Admin. Code § 330.63(j) and applicable landfill closure care cost estimate requirements in 30 Tex. Admin. Code ch. 330, subch. L.

88. Attachment 8 to the Site Development Plan complies with applicable post-closure requirements in 30 Tex. Admin. Code ch. 330, subch. K.

89. Attachment 8 to the Site Development Plan complies with applicable regulatory requirements in 30 Tex. Admin. Code § 330.63(j) and applicable landfill post-closure care cost estimate requirements in 30 Tex. Admin. Code ch. 330, subch. L.

90. Except as otherwise noted by this Order, the SOPs included in Part IV of the Application comply with applicable regulatory requirements in 30 Tex. Admin. Code § 330.65, as well as 30 Tex. Admin. Code ch. 330, subch. D.

91. The SOPs included in Part IV of the Application are designed to make the Facility protective of human health, welfare, property and the environment.

92. Section 2.0 of Part IV of the Application complies with applicable regulatory requirements of 30 Tex. Admin. Code § 330.123.

93. Sections 3.0 through 3.5 of Part IV of the Application complies with applicable regulatory requirements of 30 Tex. Admin. Code §§ 330.125-.127 and 335.586(a) and (c).

94. Section 4.0 of Part IV of the Application complies with applicable regulatory requirements of 30 Tex. Admin. Code § 330.129.

95. Sections 5.0 through 5.2 of Part IV of the Application comply with applicable regulatory requirements of 30 Tex. Admin. Code § 330.131.

96. Section 6.0 of Part IV of the Application complies with applicable regulatory requirements of 30 Tex. Admin. Code § 330.133.

97. Section 7.0 of Part IV of the Application complies with applicable regulatory requirements of 30 Tex. Admin. Code § 330.135.

98. Section 8.0 of Part IV of the Application complies with applicable regulatory requirements of 30 Tex. Admin. Code § 330.137.

99. Section 9.0 of Part IV of the Application complies with applicable regulatory requirements of 30 Tex. Admin. Code § 330.139.

100. Section 10.0 of Part IV of the Application complies with applicable regulatory requirements of 30 Tex. Admin. Code § 330.141.

101. Section 11.0 of Part IV of the Application complies with applicable regulatory requirements of 30 Tex. Admin. Code § 330.143.

102. Section 12.0 of Part IV of the Application complies with applicable regulatory requirements of 30 Tex. Admin. Code § 330.145.

103. Section 13.0 of Part IV of the Application complies with applicable regulatory requirements of 30 Tex. Admin. Code § 330.147.

104. Section 14.0 of Part IV of the Application complies with applicable regulatory requirements of 30 Tex. Admin. Code § 330.149.

105. Section 15.0 of Part IV of the Application complies with applicable regulatory requirements of 30 Tex. Admin. Code § 330.151.

106. Section 16.0 of Part IV of the Application complies with applicable regulatory requirements of 30 Tex. Admin. Code § 330.153.

107. Section 17.0 of Part IV of the Application complies with applicable regulatory requirements of 30 Tex. Admin. Code § 330.155.

108. Section 18.0 of Part IV of the Application complies with applicable regulatory requirements of 30 Tex. Admin. Code § 330.157.

109. Section 19.0 and Attachment 6 of Part IV of the Application comply with applicable regulatory requirements of 30 Tex. Admin. Code § 330.159.

110. Sections 20.0 through 20.3 of Part IV, Figure 8 of Part II of the Application comply with applicable regulatory requirements of 30 Tex. Admin. Code § 330.161.

111. Section 21.0 of Part IV of the Application complies with applicable regulatory requirements of 30 Tex. Admin. Code § 330.163.

112. Sections 22.0 through 22.6 of Part IV of the Application comply with applicable regulatory requirements of 30 Tex. Admin. Code § 330.165.

113. Section 23.0 of Part IV of the Application complies with applicable regulatory requirements of 30 Tex. Admin. Code § 330.167.

114. Section 24.0 of Part IV of the Application complies with applicable regulatory requirements of 30 Tex. Admin. Code § 330.171.

115. Section 25.0 of Part IV of the Application complies with applicable regulatory requirements of 30 Tex. Admin. Code § 330.173.

116. Section 26.0 of Part IV of the Application complies with applicable regulatory requirements of 30 Tex. Admin. Code § 330.175.

117. Special Conditions 6 and 7 regarding leachate recirculation should be removed from the Draft Permit, as the leachate recirculation system is no longer supported by the Executive Director, and Post Oak is no longer pursuing the use of this system at the Facility as part of this matter.

118. Sections 28.0 through 28.7 of Part IV of the Application comply with applicable regulatory requirements of 30 Tex. Admin. Code § 330.63(d)(1)(A)-(C).

119. Post Oak should be required to take its shear strength calculations and incorporate them into specific design specifications to be included in the Soils and Geosynthetics Construction Quality Assurance Plan prior to construction.

120. The engineering, design, and operational plans and drawings in the Application ensure that the Facility is designed and operated in a manner protective of human health, welfare, property, and the environment.

121. The subsurface investigations of the Facility were conducted to ensure that the site is suitable for construction and operation of a landfill that will not adversely impact human health, welfare, property, or the environment.

122. Pursuant to the authority of, and in accordance with, applicable laws and regulations, the requested permit should be granted, as modified by this Order.

123. No transcript costs may be assessed against the Executive Director or OPIC because the TCEQ's rules prohibit the assessment of any cost to a statutory party who is precluded by law from appealing any ruling, decision, or other act of the Commission. 30 Tex. Admin. Code § 80.23(d)(2).

124. Factors to be considered in assessing transcript costs include: the party who requested the transcript; the financial ability of the party to pay the costs; the extent to which the party participated in the hearing; the relative benefits to the various parties of having a transcript; the budgetary constraints of a state or federal administrative agency participating in the proceeding; and any other factor which is relevant to a just and reasonable assessment of the costs. 30 Tex. Admin. Code § 80.23(d)(2).

125. Post Oak should pay all the costs related to an expedited transcript and one-half of the remaining transcript costs. The protesting parties should pay half of the transcript costs, except for any expedited transcript costs, and determine among themselves how the costs should be apportioned.

NOW, THEREFORE, BE IT ORDERED BY THE TEXAS COMMISSION ON ENVIRONMENTAL QUALITY THAT:

1. Post Oak's application is granted and the Municipal Solid Waste Landfill Type I permit is hereby issued to Post Oak, as set out in the attached Draft Permit with the following modifications:

    a. Prior to commencing construction, Post Oak shall present additional updated monitoring data to the Executive Director to demonstrate that the groundwater conditions reflected in the Application accurately reflect the conditions at the site prior to construction. Further, consistent with 30 Tex. Admin. Code § 330.337(b), before Post Oak may begin construction, it must obtain explicit approval from the Executive Director that the updated groundwater water data does not present seasonal high water levels materially higher than reflected in the Application. This condition is consistent with the purposes and requirements of 30 Tex. Admin. Code § 330.337(i), which requires updating of the seasonal high water table as additional data becomes available.

    b. Before accepting waste, Post Oak shall place an asphalt overlay at the intersection of IH 10 and FM 1104; place an asphalt overlay at the intersection of FM 1104 and FM 1150; construct acceleration and deceleration lanes on FM 1150 at the entrance of the Facility; construct a right-turn deceleration lane at the intersection of US 80 and FM 1150 and place an asphalt overlay at the existing intersection.

    c. Before commencing construction, Post Oak shall certify to the Executive Director that on-site crude oil or natural gas wells, or other wells associated with mineral recovery that are under the RRC's jurisdiction have been plugged and abandoned, except that producing crude oil or natural gas wells that do not affect or hamper landfill operations may remain in their current state, if identified in the Permit for the Facility. Special Provision 2 of the Draft Permit shall be amended to read, "[w]ells under the Railroad Commission's (RRC's) jurisdiction that are within the permit boundary must be plugged and abandoned. The RRC's San Antonio District Office must certify that these wells were properly plugged, capped, and closed in accordance with all applicable rules and regulations of the RRC. The RRC's certification must also be approved by the Executive Director within 30 days prior to construction."

d. Waste acceptance hours may be any time between the hours of 7:00 a.m. and 7:00 p.m., Monday through Friday, and transportation of materials and heavy equipment operation must not be conducted between the hours of 9:00 p.m. to 5:00 a.m., unless otherwise approved. Operating hours for other activities do not require specific approval.

e. Post Oak may operate 24 hours for up to five days in a calendar-year period to accommodate special circumstances, and the Commission's regional offices may allow additional temporary waste acceptance or operating hours when emergency situations or other unforeseen circumstances could disrupt waste management services in the area.

f. Post Oak shall consult with the appropriate USAF commander at Randolph Air Force Base to address potential issues that the landfill will pose to the airfield, and construction may not begin until those concerns are adequately addressed and approved by the USAF commander.

g. Post Oak shall modify its SOP to identify with specificity the equipment and procedures it will use to attempt to ensure that no radioactive materials are accepted at the site. Such procedures shall include the use of proper equipment that can detect radioactive material and posted signs advising incoming waste disposers that: (1) disposal of radioactive waste is prohibited by law, (2) Post Oak uses equipment to detect unlawful radioactive waste, and (3) Post Oak will notify the appropriate authorities if a waste disposer is found attempting to dispose of radioactive waste.

h. Post Oak shall modify its SOP to specify the means it will use to comply with the requirement that litter scattered throughout the site will be picked up once a day on days the Facility is in operation.

i. Post Oak shall not be permitted to use an alternate liner.

2. Post Oak shall pay all the costs related to an expedited transcript and one-half of the remaining transcript costs. The protesting parties should pay half of the remaining transcript costs and determine among themselves how their cost should be apportioned.

3. The effective date of this Order is the date the Order is final.

4. All other motions, requests for entry of specific findings of fact or conclusions of law, and any other requests for general or specific relief not expressly granted herein, are hereby denied for want of merit.

5. If any provision, sentence, clause, or phrase of this Order is for any reason held to be invalid, the invalidity of any portion shall not affect the validity of the remaining portions of the Order.

6. The Chief Clerk of the Texas Commission on Environmental Quality shall forward a copy of this Order to the parties.

Issue Date:

TEXAS COMMISSION ON ENVIRONMENTAL QUALITY

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Bryan W. Shaw, Ph.D., P.E., Chairman
For the Commission