



**BRAZOS VALLEY DISPOSAL FACILITY
COLLEGE STATION, BRAZOS COUNTY, TEXAS**

PERMIT APPLICATION

PARTS I & II

Prepared for:

**CCAA, LLC
P.O. Box 5449
Bryan, Texas 77805**

Prepared by:

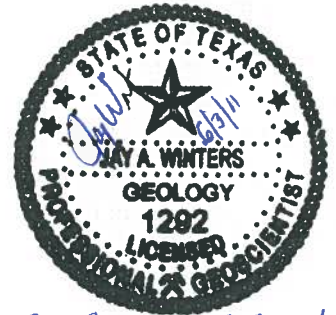


**500 Century Plaza Drive
Suite 190
Houston, Texas 77073
(281) 821-6868**

May 2011



**Golder Associates Inc.
F-2578**



*For SECTIONS 3.3 and 3.4
and FIGURES 3-5 and 3-6*

**INTENDED FOR PERMITTING
PURPOSES ONLY**

**BRAZOS VALLEY DISPOSAL FACILITY
COLLEGE STATION, BRAZOS COUNTY, TEXAS**

PERMIT APPLICATION

PARTS I & II

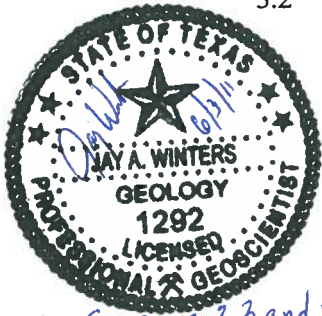
TABLE OF CONTENTS

**Golder Associates Inc.
F-2578**



1.0	PROPERTY AND OWNERSHIP SUMMARY	1
1.1	Facility Location and History	1
1.2	Property Description and Owner Information	1
1.3	Adjacent Land Ownership and Mineral Interest Ownership	1
1.4	Easements	2
1.5	Legal Authority	2
1.6	Evidence of Competency	2
1.7	Appointments	3
1.8	Application Fees	3
1.9	Application Posting Information	3
1.10	Existing Permits/Authorizations	4
2.0	WASTE ACCEPTANCE PLAN	6
2.1	Sources and Characteristics of Wastes	6
2.1.1	Nature of Business and Generation Areas	6
2.1.2	Projected Waste Acceptance Rate	6
2.1.3	Population Equivalent	7
2.2	Sequence of Site Development	7
2.2.1	Schedule of Development	8
2.2.2	Excavation, Backfill, and Bottom Liner Construction	9
2.2.3	General Filling Sequence	9
2.2.4	Closure and Post-Closure Care	9
3.0	EXISTING CONDITIONS SUMMARY	10
3.1	Land Use	10
3.1.1	Zoning	10
3.1.2	Character of Surrounding Land Use	10
3.1.3	Population Projections	11
3.1.4	Growth Trends	11

3.1.5	Proximity to Residences and Other Uses	11
3.1.5.1	Structures and Inhabitable Buildings Within 500 feet of the Site	12
3.1.5.2	Former Waste Disposal Units On the Facility.....	12
3.1.6	Oil/Gas and Water Wells	13
3.1.7	Prevailing Wind Direction	15
3.2	Transportation Analysis	15
3.2.1	Site Access	15
3.2.1.1	Access Road Availability.....	15
3.2.1.2	Access Road Adequacy	15
3.2.2	Existing and Future Traffic Volumes on Access Roads	15
3.2.3	Facility Generated Traffic.....	16
3.2.4	Airport Locations	16
3.2.5	TxDOT Correspondence.....	17
3.3	General Geology and Soils Statement.....	17
3.3.1	Geology.....	17
3.3.2	Topography and Soils	17
3.3.3	Fault Areas	18
3.3.4	Seismic Impact Zones	18
3.3.5	Unstable Areas.....	18
3.4	Ground and Surface Water Statement.....	19
3.4.1	Groundwater Conditions.....	19
3.4.2	Surface Water Features	19
3.4.3	Texas Pollutant Discharge Elimination System.....	20
3.5	Abandoned Oil and Water Wells	20
3.6	Floodplains and Wetlands Statement	20
3.6.1	Floodplains.....	20
3.6.2	Wetlands	21
3.7	Protection of Endangered or Threatened Species	21
3.8	Regional Solid Waste Management	21
3.9	Local Solid Waste Management	21
3.10	Site-Specific Conditions Requiring Special Design Considerations.....	21
4.0	SUPPLEMENTARY TECHNICAL REPORT.....	23



FOR SECTIONS 3.3 and 3.4



**INTENDED FOR PERMITTING
 PURPOSES ONLY**

**Golder Associates Inc.
 F-2578**

TABLES

- 1-1 On-Site and Adjacent Easements
- 1-2 Existing Permits/Authorizations
- 2-1 Schedule of Development
- 3-1 Land Use Within a One-Mile Radius
- 3-2 TSDC Population Projections
- 3-3 Recorded Oil/Gas Wells Within One-Mile of the Facility
- 3-4 Recorded Water Wells Within One-Mile of the Facility
- 3-5 Access Roadway Characteristics

APPLICATION FORM

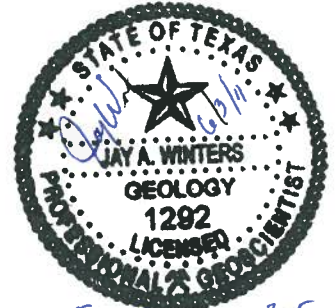
- Part I Application Form
- TCEQ Core Data Form

DOCUMENTATION

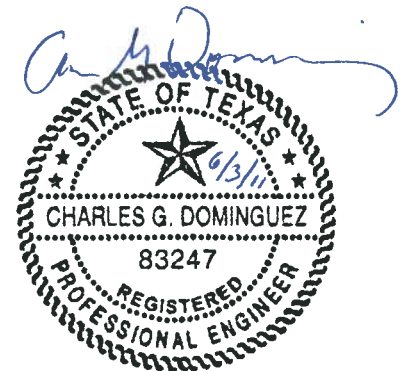
- Legal Description and Lease Agreement
- Legal Authority
- Evidence of Competency
- Appointment
- TPDES Certification Statement

FIGURES

- 1-1 General Location Map
- 1-2 Site Location Map
- 1-3 Aerial Photograph
- 1-4 Land and Mineral Interest Ownership Map and List
- 1-5 Drainage, Pipeline, Access, and Utility Easement Location Map
- 2-1 Facility Layout Maps
 - 2-1-1 Site Layout Plan
 - 2-1-2 Final Cover Grades
 - 2-1-3 Excavation Grades
 - 2-1-4 Operational Fill Sequence I
 - 2-1-5 Operational Fill Sequence II
 - 2-1-6 Operational Fill Sequence III
 - 2-1-7 Operational Fill Sequence IV
 - 2-1-8 Site Entrance Plan
- 3-1 Land Use Map
- 3-2 Water Well, Oil & Gas Well, and Structure Location Map
- 3-3 Wind Rose
- 3-4 Traffic Volumes – Existing and Future
- 3-5 Stratigraphic Cross Section
- 3-6 Geologic Map



For Figures 3-5 and 3-6



Golder Associates Inc.
F-2578

**INTENDED FOR PERMITTING
PURPOSES ONLY**

- 3-7 General Topographic Map
- 3-8 Soils Map

APPENDICES

A – Correspondence/Reports

- 1. Land Use Analysis
- 2. Archaeological/Historical Quality Review Correspondence
- 3. FAA Correspondence
- 4. TxDOT Correspondence
- 5. Endangered Species Assessment
- 6. BVCOG Correspondence

B – Location Restriction Information

- 1. Seismic Impact Zone Map
- 2. Floodplain Map
- 3. Wetlands Determination



Golder Associates Inc.
F-2578

**INTENDED FOR PERMITTING
PURPOSES ONLY**

1.0 PROPERTY AND OWNERSHIP SUMMARY

The property ownership information for the proposed Brazos Valley Disposal Facility is summarized in the following sections.

1.1 Facility Location and History

The proposed facility is located in Brazos County, Texas within the extraterritorial jurisdiction of the City of College Station, approximately 1,300 feet northwest of the intersection of Stewarts Meadow and FM 60 (Raymond Stotzer Parkway). The site location is shown on Part I/II, Figures 1-1, 1-2, and 1-3. By way of this application, the applicant, CCAA, LLC (CCAA), proposes to permit the ±42- acre property as a Type IV Municipal Solid Waste (MSW) Disposal Facility.

The property was vacant land until the early 1990's when it was utilized as a sand mining operation. The property is currently being used for a lay down area and storage for the concrete recycling and mulching activities, and portable toilet storage associated with the adjacent recycling center and the portable toilet businesses. The sand mining operation is also still active.

1.2 Property Description and Owner Information

The property that comprises the Brazos Valley Disposal Facility is depicted on the Permit Boundary Map, provided in the Legal Description and Lease Agreement portion of the Documentation section following this text. Also included is a metes and bounds description of the facility. The 42.24-acre property consists of two tracts; a 14.57-acre tract owned by the applicant, CCAA and a 27.67-acre tract which is owned by Kelly Burt Dozer, Inc. CCAA has a lease-to-own agreement with Kelly Burt Dozer, Inc. to purchase the property when the landfill permit has been issued. A copy of the lease agreement is included in the Legal Description and Lease Agreement portion of the Documentation section following this text.

The recording information for the property, including the county, book, and page number, is included on both the boundary map and the metes and bounds description and is summarized below.

The 42.24-acre property comprises parts of the following tracts in the J. H. Jones Survey, A-26, Brazos County, Texas:

- 27.67-acre tract: A portion of the Remainder of a called 74.77-acre tract as described by a deed to Kelly Burt Dozer, Inc. (recorded in Official Public Records of Brazos County, Texas, Volume 1225, Page 657).
- 14.57-acre tract: A portion of a called 10.00-acre tract as described by a deed to CCAA, LLC (recorded in Official Public Records of Brazos County, Texas, Volume 8858, Page 109).

Ownership information, indicating both CCAA and Kelly Burt Dozer, Inc. as current owners, is provided in the Property Owner Affidavit which is provided as pages 9A and 9B of the Part I form.

1.3 Adjacent Land Ownership and Mineral Interest Ownership

The Brazos County Appraisal District Real Property records were reviewed to determine adjacent landowners, mineral interest owners, and others potentially affected by the proposed Brazos Valley Disposal Facility. The information reviewed was dated March 24, 2011. The landowner list contains the name and mailing address of each owner within a ¼-mile radius of the facility and all owners of mineral interests under the facility. The Appraisal District records did not indicate any mineral interest owners

under the facility within the limits of the permit boundary. Reference numbers are used to correlate the owners shown on the list with the appropriate tract of land as shown on the Land and Mineral Interest Ownership Map and List, Part I/II, Figure 1-4.

1.4 Easements

In accordance with the location restriction criteria in 30 TAC §330.543, no solid waste unloading, storage, disposal, or processing operations will occur within any easement, buffer zone, or right-of-way that crosses the site. No solid waste disposal will occur within 25 feet of the centerline of any utility line or pipeline easement, unless otherwise authorized by the TCEQ. All pipeline and utility easements will be clearly marked with green colored posts that extend at least six feet above ground level, spaced at intervals of no greater than 300 feet. There is one electrical easement located adjacent to the site, as shown in Table 1-1. This easement is located along the southeastern permit boundary. The entirety of this easement is located outside of the proposed permit boundary.

There are two pipeline easements located within the site, as shown in Table 1-1. These easements are located along the northwestern and northeastern permit boundary. A portion of each of these easements lies within the proposed permit boundary.

There are no proposed appurtenances related to the landfill to impede the intended use of these easements.

There are no known drainage or access easements located within or adjacent to the site. A location map depicting all the easements is included as Part I/II, Figure 1-5.

In accordance with the location restriction criteria in 30 TAC §330.543, a minimum separation distance of 50 feet will be maintained between solid waste processing and disposal activities and the property boundary of the facility.

Table 1-1. On-Site and Adjacent Easements

Easement Type	Grantee	Record Location
Electrical Easement	City of Bryan	Official Public Records of Brazos County, Volume 208, Page 456
Pipeline Easement	Clajon Gas Company, L.P.	Official Public Records of Brazos County, Volume 1487, Page 338
Pipeline Easement	Union Pacific Texas Gather, Inc.	Official Public Records of Brazos County, Volume 1665, Page 272

1.5 Legal Authority

The Brazos Valley Disposal Facility will be owned and operated by CCAA. A certificate of incorporation issued by the Texas Secretary of State is provided in the Legal Authority portion of the Documentation section following this text. As previously explained above, due to the lease-to-own agreement in place between CCAA and Kelly Burt Dozer, Inc., no person or entity other than CCAA will have over a 20% ownership interest in the facility.

1.6 Evidence of Competency

The CCAA, LLC organization, its subsidiaries, and/or affiliates have owned, operated, or have a direct financial interest in several solid waste facilities in Texas, as well as other states in the U.S. A listing of

these sites is included in the Evidence of Competency portion of the Documentation section following this text.

The CCAA, LLC organization includes experienced and well-qualified principal and supervisor. Information regarding principal and supervisor of the organization is provided in the Evidence of Competency portion of the Documentation section following this text. Also included is a reference to the equipment that is planned to be utilized in the daily operation of the facility. It should be noted that personnel and equipment may vary throughout the life of the facility, as dictated by operational and other considerations, and that these lists are not intended to limit the personnel or equipment at the facility.

During the active life of the facility, at least one individual licensed as a solid waste facility supervisor shall be employed to supervise or manage the operations of the facility. Per 30 TAC §30.213, on or before September 1, 2009, and continuing through the active life of the facility, at least one individual holding a "Class A" license as a solid waste facility supervisor pursuant to 30 TAC Chapter 30, Subchapter F, shall be employed to supervise or manage the operations of the facility.

1.7 Appointments

Documentation evidencing that Mr. Charles Mancuso is the President of CCAA, LLC is included in the Appointments portion of the Documentation section following this text. According to 30 TAC §305.44, as President, Mr. Mancuso qualifies as a responsible corporate officer and has the required authority sign this application.

1.8 Application Fees

The required application fee of \$150 was paid by check to:

Texas Commission on Environmental Quality
Financial Administration Division, MC 214
P. O. Box 13087
Austin, Texas 78711-3087

A copy of the check is attached to the Part I Application Form in the Application Forms section following this text.

1.9 Application Posting Information

In accordance with 30 TAC §330.57(i)(1), a complete copy of this permit application is posted to the internet at the following address: <http://www.bvrpermitswebly.com>. All future revisions or supplements to this permit application will also be posted at the same location. This internet posting is for informational purposes only.

The TCEQ web site will also contain information on the filing of this permit application along with a link to the above-mentioned web address.

In accordance with 30 TAC §330.57(i)(3), the owner or operator will post notice signs at the site within 30 days of the executive director's receipt of this application. The sign posting is for informational purposes only. The signs will:

- Have a white background and be no smaller than four feet by four feet;

- Consist of dark lettering, with letters at least three inches in height and block printed capital lettering;
- Identify, as appropriate, that the application is for a proposed permitted facility;
- Include the words "For further information on how the public may participate in Texas Commission on Environmental Quality (TCEQ) permitting matters, contact TCEQ," the toll free telephone number for the Office of Public Assistance, and the agency's Web site address;
- Include the name and address of the owner or operator;
- Include the telephone number of the owner or operator;
- Remain in place and legible until the close of the final comment period; and
- Be posted in both English and Spanish, in accordance with the alternative language requirements in 30 TAC §39.405(h)(2).

As applicable, the signs will be located within ten feet of every property line bordering a public highway, street, or road (Stewarts Meadow and Lacy Well Road). The signs will be visible from the street and spaced at not more than 1,500-foot intervals. A minimum of one sign, but no more than three signs, will be placed along any property line parallel to a public highway, street, or road (Stewarts Meadow and Lacy Well Road).

1.10 Existing Permits/Authorizations

In accordance with 30 TAC §305.45(a)(7), the permits and authorizations to be applied for in respect to the anticipated activities to be performed at the facility have been reviewed. The list of permits and authorizations reviewed are summarized below in Table 1-2.

Table 1-2. Existing Permits/Authorizations

Permit/Authorization Status	Program
N/A ¹	Hazardous Waste Management program under the Texas Solid Waste Disposal Act
N/A ¹	Underground Injection Control (UIC) program under the Texas Injection Well Act
RQD ²	National Pollutant Discharge Elimination System (NPDES) program under the Federal Clean Water Act (CWA) and Waste Discharge program under the Texas Water Code, Chapter 26
N/A ¹	Prevention of Significant Deterioration (PSD) Program under the Federal Clean Air Act
N/A ¹	Nonattainment Program under the Federal Clean Air Act
N/A ¹	National Emission Standards for Hazardous Pollutants (NESHAPS) preconstruction approval under the Clean Air Act
N/A ¹	Ocean dumping permits under the Marine Protection Research and Sanctuaries Act
N/A ¹	Dredge or fill permits under of the Federal Clean Water Act
N/A ¹	Licenses under the Texas Radiation Control Act
RQD ²	NPDES Stormwater Pollution Control §402 Permit
N/A ¹	U. S. Army Corps of Engineers Dredge and Fill Permit §404
N/A ¹	TCEQ Air Quality Permit or Registration
N/A ¹	Other environmental permits (provide list)

Notes: ¹ N/A = Not Applicable
²RQD = Required (TPDES will be required at site opening)

2.0 WASTE ACCEPTANCE PLAN

By way of this application, CCAA proposes to permit the ±42- acre property as a Type IV Municipal Solid Waste (MSW) Disposal facility; the Brazos Valley Disposal Facility. The permitted maximum fill elevation of the facility is 399 feet above mean sea level (ft-msl) and the permitted capacity is approximately 4,243,800 cubic yards, with an approximated site life extending to the year 2018.

CCAA also owns and operates the Brazos Valley Recycling facility which is located adjacent to the southern-most corner of the proposed landfill permit boundary. The anticipated operation of the landfill will require that all incoming waste truck traffic pass through the recycling center to enter the landfill. The trucks will either deposit their loads at the recycling center for sorting or bypass the recycling operation entirely and be directed to the gatehouse at the landfill entrance.

2.1 Sources and Characteristics of Wastes

The nature of the facility business and generation areas, acceptable waste types, waste acceptance rates, population served, and the general sequence of site development and construction for the Brazos Valley Disposal Facility are summarized in the following sections.

2.1.1 Nature of Business and Generation Areas

The facility will accept waste for disposal from Brazos County, Texas and surrounding counties. The waste generation will be from public or private haulers in the area and the waste by-products of the adjacent Brazos Valley Recycling operations.

Waste accepted at the facility is limited to brush, construction-demolition waste, rubbish (trash) that is free of putrescible wastes and free of household waste, inert material, non-regulated asbestos-containing material (non-RACM), Class 3 industrial solid waste, Class 2 industrial solid waste consistent with the limitations established in 30 TAC §330.5(a)(2), man-made inert material, yard waste, scrap tires that have been split and quartered or shredded and do not come from a tire disposer/recycler who is reimbursed from the state Waste Tire Recycling Fund, and dredged material after it has been tested to determine that it is not a special waste. The design and operation of the facility considers the characteristics of these waste types. There are no known waste constituents or characteristics in the acceptable waste stream that could be a limiting parameter that may impact or influence the design and operation of the facility.

2.1.2 Projected Waste Acceptance Rate

Based on the current operations at the adjacent recycling center, approximately 200 tons per day (~500 cubic yards, assuming an in-place density of 0.4 tons per cubic yard per 30 TAC §330.675(a)(2)(B)(iii)) of waste by-product per day is generated. Based on the anticipated growth of the recycling facility and the addition of the public and private haulers, it is estimated that the waste disposal rate will range from 400 tons per day (~1,000 cubic yards per day) in the first year of operation to 800 tons per day (~2,000 cubic yards per day) projected for the fifth year of operation, therefore, the estimated maximum annual waste acceptance rate for the facility is 800 tons per day (~2,000 cubic yards per year), assuming 286 days of operation per year (5 ½ days per week). However, this estimated disposal rate may change during the life of the facility and should not be considered as a limit on the rate of waste that may be received by the facility. Detailed volume and site life calculations are included in Part III, Attachment 3, Appendix A.

2.1.3 Population Equivalent

Based on a disposal rate of 228,800 tons per year (~572,000 cubic yards per year) over the life of the site, the population equivalent is estimated assuming 1 ton per person per year per 30 TAC §330.675(a)(3), and assuming a landfill in-place density of 0.4 tons per cubic yard (800 pounds/cubic yard) per 30 TAC §330.675(a)(2)(B)(iii). The population equivalent (PE) is estimated as follows:

At one ton of waster per person per year, the cubic yards of waste per person generated in one year are:

$$\begin{aligned} &= 1 \text{ ton/person/year} \\ &= 228,800 \text{ tons per year} \\ \text{PE} &= 228,800 \text{ tons/year} \div 1 \text{ ton/person/year} \\ \text{PE} &= 228,800 \text{ persons} \end{aligned}$$

2.2 Sequence of Site Development

The pattern of waste disposal will be governed by the area fill disposal method. Landfilling will occur below-grade and above-grade, depending on the status of development. Initially, filling will occur below-grade in a new landfill cell.

The designed facility will consist of above-grade fill and three below-grade phases. Site layout and phasing plans are presented as Part I/II, Figures 2-1-1 and 2-1-4 through 2-1-7. The proposed waste filling will begin at the southern most corner of the site, nearest the gatehouse and extend throughout the entire Phase 1 area along the south and southwestern portion of the site. The phases will be developed in a clockwise direction, continuing into Phases 2 and 3. The above-grade filling will progress to intermediate grades to allow access to the active area in each subsequent phase. The final cover grades and the excavation grades are shown on Part I/II, Figures 2-1-2 and 2-1-3, respectively.

The facility infrastructure and buildings consist of a perimeter fence, a gatehouse, all-weather roads, soil stockpiles, gas monitoring probes, groundwater monitoring wells, and solid waste disposal areas. In addition, there are controls for stormwater run-off/run-on consisting of berms, channels, a detention pond, and other associated drainage structures.

Site personnel lock a gate located at the facility's entrance at the end of the day's operations. Part I/II, Figure 2-1-8 presents a drawing of the site entrance. A perimeter fence provides continuous security and access control around the permit boundary. One additional gate will be located on the eastern side of the site accessing Lacy Wells Road, as shown on Part I/II, Figure 2-1-1. This gate will remain locked at most times and will only be used for emergency vehicles or equipment used during the construction of the facility.

The Operational Fill Sequence drawings, Part I/II, Figures 2-1-4 through 2-1-7, present the basic sequence that will be followed. It is expected that the largest area to receive final cover at any given time during site operations will be approximately 21.8 acres, as shown on Operational Fill Sequence IV (Part I/II, Figure 2-1-7).

Groundwater and landfill gas monitoring will be on-going activities for the life of the site. The construction sequencing, including new construction of groundwater monitoring wells and gas monitoring probes is discussed in Table 2-1.

Add-on berms and swales placed on the cover of the landfill will collect accumulated stormwater on the top of the development landfill and will route it to downchutes. The downchutes will route the collected surface water to perimeter channels located at the base of the disposal area. The channels at the perimeter will route the collected surface water through a detention pond. The detention pond will attenuate discharges, facilitate sediment removal, and prevent significant increases in the peak flows leaving the site.

2.2.1 Schedule of Development

The proposed Schedule of Development for this site is presented in Table 2-1.

Table 2-1. Schedule of Development

1.0	Install the perimeter fencing, the locking access gates, the gatehouse, the entrance driveway, and the perimeter all-weather access road around the Phase 1 area, as shown on Part I/II, Figure 2-1-4. Install the permanent site benchmark near the gatehouse as noted on Part I/II, Figure 2-1-1.
1.1	Convert piezometers PZ-1, PZ-8, and PZ-10 to MW-1, MW-3, and MW-5, respectively, install groundwater monitoring well MW-2, and install gas monitoring probes GP-1 and GP-2, as identified on Part I/II, Figure 2-1-4. Plug and abandon piezometer PZ-3.
1.2	Complete construction of the permanent site perimeter channel and culvert around the Phase 1 area, as shown on Part I/II, Figure 2-1-4.
1.3	Construct Phase 1, as shown on Part I/II, Figure 2-1-4. Construction includes excavation, liner system, protective cover, temporary erosion controls, temporary stormwater storage, stormwater diversion, and markers. Begin waste fill activities to the approximated interim grades shown on Part I/II, Figure 2-1-5.
2.0	Install gas monitoring probes GP-3 and GP-4, as identified on Part I/II, Figure 2-1-5.
2.1	Complete construction of the permanent site perimeter channel around the Phase 2 area, the perimeter all-weather access road, and the second access driveway, as shown on Part I/II, Figure 2-1-5.
2.2	Construct Phase 2, as shown on Part I/II, Figure 2-1-5. Construction includes excavation, liner system, protective cover, temporary erosion controls, temporary stormwater storage, stormwater diversion, and markers. Continue waste fill activities to the approximated interim grades shown on Part I/II, Figure 2-1-6.
2.3	Complete construction of the permanent site perimeter channel around the Phase 3 area, the remaining perimeter all-weather access road, the detention pond, outlet control structure, and outfall channel, as shown on Part I/II, Figure 2-1-6.
3.0	Install gas monitoring probes GP-5 and GP-6, as identified on Part I/II, Figure 2-1-7. Install groundwater monitoring well MW-4.
3.1	Construct Phase 3, as shown on Part I/II, Figure 2-1-7. Construction includes excavation, liner system, protective cover, temporary erosion controls, temporary stormwater storage, stormwater diversion, and markers. Continue waste fill activities to the approximated interim grades shown on Part I/II, Figure 2-1-7. Install final cover on completed grades to minimize closure area, as shown on Part I/II, Figure 2-1-7.

4.0	Continue waste fill activities to the final grades and complete final cover construction over the entire waste footprint area. Install permanent stormwater and erosion controls in accordance with Part III, Attachment 7, Final Closure Plan.
Closure/post-closure care	
1.0	Post closure signs.
2.0	Notify TCEQ of intent to close.
3.0	Submit closure certification.
4.0	At completion of final cover for the entire facility, file Affidavit to Public to notify of complete closure of the facility.

2.2.2 Excavation, Backfill, and Bottom Liner Construction

Throughout the development of the site, the general excavation sequence will be as follows:

1. Construct temporary erosion controls, including diversion berms, channels, silt fences, and sediment basins.
2. Excavate or backfill to top of excavation grade elevations shown on Part I/II, Figure 2-1-3.
3. Construct a liner system in accordance with the Liner Quality Control Plan as provided in Part III, Attachment 3.

2.2.3 General Filling Sequence

The general filling sequence will be as follows:

1. Establish the location of the initial working face in a new cell. This will consist of filling the area with waste and constructing upgradient berms as necessary until the entire lined area has been covered with waste including weekly cover or an approved alternate.
2. Maintain a small working face, as indicated in Part III, Attachment 2. Place waste in lifts, as determined by the on-site operator. Construct stormwater run-on/run-off control berms in accordance with Part III, Attachment 2 (Active Face Berm Sizing).
3. Grade temporary waste slopes at a maximum slope of 3H:1V. The temporary waste slope stability analysis is presented in Appendix C of Part III, Attachment 3.

2.2.4 Closure and Post-Closure Care

Closure and Post-Closure care of the facility are discussed in Part III, Attachment 7 and Attachment 8, respectively.

3.0 EXISTING CONDITIONS SUMMARY

In accordance with 30 TAC §330.61, the following sections include the required portions of Part II of the permit application that summarize the existing conditions of both the proposed facility property and the surrounding area. The main topics include land use and zoning, population and community growth trends, locations of water and oil/gas wells, prevailing wind direction, transportation analysis, general geology, soils, groundwater and surface water information, and floodplain, wetlands, and endangered species data.

3.1 Land Use

A land use compatibility analysis was performed by John Worrall Consulting, LLC (JWC) for the proposed Brazos Valley Disposal Facility. The results of the analysis are summarized in the following sections. A complete copy of the JWC report is included in Part I/II, Appendix A.

3.1.1 Zoning

The Brazos Valley Disposal Facility is located within the extraterritorial jurisdiction of the City of College Station in an unincorporated area of Brazos County, Texas. According to the JWC report, since the property is located in an unincorporated area, there is no zoning. Approximately 85.5 percent of the property within a 2-mile radius of the facility boundary is also unzoned. A map showing the zoning is included in the JWC report in Part I/II, Appendix A.

The facility may be subject to a site development permit from the City of College Station for construction.

3.1.2 Character of Surrounding Land Use

Existing uses of the site and the surrounding area are shown on the Land Use Map, Part I/II, Figure 3-1. The map is a compilation of the map included in the JWC report and additional information in the JWC report regarding the nearest residences and businesses. The majority of the land within a one-mile radius of the site is "open". The next largest component of the land use consists of residential. The breakdown of overall land use within the one-mile radius is shown on Table 3-1.

Table 3-1. Land Use Within a One-Mile Radius

Land Use	Area (in acres)	Percentage of Total Area
Industrial	167	6
Commercial	19	1
Institutional	148	5
Residential	319	12
Open	2,057	76
Public	2	Less than 1%
Total	2,712	100

3.1.3 Population Projections

Population projections for Brazos County have been considered. Under the Population Estimates and Projections Program, the Texas State Data Center (TSDC), Office of the State Demographer has produced yearly population projections by county for the entire State of Texas. Table 3-2 summarizes the population projections for Brazos County taken from this program dated February 2009.

Table 3-2. TSDC Population Projections

Year	Brazos County	Annual Percentage Increase	Year	Brazos County	Annual Percentage Increase
2010	171,830	1.15%	2026	203,509	0.82%
2011	174,018	1.27%	2027	205,203	0.83%
2012	176,194	1.25%	2028	206,870	0.81%
2013	178,279	1.18%	2029	208,495	0.79%
2014	180,407	1.19%	2030	210,132	0.79%
2015	182,547	1.19%	2031	211,753	0.77%
2016	184,553	1.09%	2032	213,317	0.74%
2017	186,549	1.08%	2033	214,887	0.74%
2018	188,560	1.08%	2034	216,400	0.70%

3.1.4 Growth Trends

Major development projects within a five-mile radius of the facility include the Traditions subdivision, the Texas A&M Health Science Center, and multi-family residential development, approximately 4.5 miles east of the permit boundary, around the intersection of FM 2154 and FM 2818. The continued growth and development of Texas A&M University will influence the area within a 5-mile radius of the facility.

According to the JWC report, growth is occurring in and around the City of Bryan; however the community trends are dominated by the growth of the City of College Station. The metropolitan area of College Station is expanding to the south and east, beyond a five-mile radius of the facility. Additional discussions of growth trends are included in the JWC report in Part I/II, Appendix A.

3.1.5 Proximity to Residences and Other Uses

In accordance with 30 TAC §330.61(h)(4), the following paragraphs describe certain specific uses of the properties within a one-mile radius of the facility. The locations of ponds, residences, churches, cemeteries, other institutional areas, commercial, and industrial areas within a one-mile radius of the facility are shown on the Land Use Map, Part I/II, Figure 3-1 and are discussed in further detail in the following paragraphs. No known parks or recreational areas, schools, hospitals, historic sites, archeologically significant sites, or sites with exceptional aesthetic qualities were identified within one mile of the site.

Ponds and Lakes

There are numerous ponds or bodies of water located within the one-mile radius around the site. They are residential stock tanks, associated with small drainage gullies, or are associated with water ponding in the sand mining operations.

Residential

As of February 2011, there are 266 residences within a one-mile radius of the facility. The nearest existing residence is approximately 170 feet southwest of the permit boundary on Stewarts Meadow.

Churches

There are three churches within a one-mile radius of the facility. The churches' are located approximately 900 feet southeast, approximately 950 feet southeast, and approximately 3300 feet southwest of the permit boundary.

Licensed Day Care Facilities

There is a one licensed day care facility approximately 1300 feet southeast of the permit boundary across State Highway 60.

Parks and Recreational Areas

There are no known parks or recreational areas located within a one-mile radius of the facility.

Cemeteries

There is one cemetery located approximately 3300 feet southwest of the permit boundary.

Commercial and Industrial

As of February 2011, there are approximately 19 businesses within one mile of the site. The nearest existing business is the Brazos Valley Recycling center, which is located adjacent to the southern-most corner of the permit boundary.

Historic Site and Cultural Resources

In accordance with 30 TAC §330.61(o), a letter was sent to the Texas Historical Commission (THC) for concurrence that there are no historical, archeological, or sites with exceptional aesthetic quality on the facility property or in the surrounding area that would be affected by the proposed landfill. The THC responded that there are no historic properties affected and the project may proceed. The related correspondence is included in Part I/II, Appendix A.

3.1.5.1 Structures and Inhabitable Buildings Within 500 feet of the Site

In accordance with 30 TAC §330.61(c)(3), the structures and inhabitable buildings within a 500-foot radius of the property boundary have been identified on Part I/II, Figure 3-2. To the southwest of the site, there are two residences, one with an extra building. To the southeast of the site, there is fuel tank storage shed, a wood grinding shed, and office building/maintenance shop and a recycling center.

3.1.5.2 Former Waste Disposal Units On the Facility

There are no known waste disposal units on the site.

3.1.6 Oil/Gas and Water Wells

The locations of groundwater and oil/gas wells within one mile of the property boundaries of the facility were determined based on a database search performed by Banks Information Solutions, Inc. (Banks) of Austin, Texas. All wells identified are listed in Tables 3-3 and 3-4 and shown on Part I/II, Figure 3-2. Three water wells were identified within a 500-foot radius of the site, as shown on Part I/II, Figure 3-2. No oil/gas wells were identified within a 500-foot radius of the site.

Table 3-3. Recorded Oil/Gas Wells Within One-Mile of the Facility

Map ID	API #	Completion Date	Plug Date	Drilled Depth (ft)	Status / Comments
OGW-1	42-041-30713-00	2/9/1982	Unknown ¹	5,262	Injection / Disposal
OGW-2	42-041-30713-00	Unknown ¹	Unknown ¹	Unknown ¹	Injection / Disposal
OGW-3	42-041-31986-00	N/A	1/12/2007	Unknown ¹	Dry Hole
OGW-4	42-041-31519-00	1/14/1992	Unknown ¹	12,840	Horizontal Drainhole
OGW-5	42-041-30987-00	N/A	1/6/1984	Unknown ¹	Dry Hole
OGW-6	42-041-31992-00	N/A	1/19/2007	Unknown ¹	Dry Hole
OGW-7	42-041-31574-00	2/9/1992	6/27/1996	12,392	Horizontal Drainhole
OGW-8	42-041-31442-00	N/A	12/22/1988	Unknown ¹	Dry Hole
OGW-9	42-041-31534-00	12/14/1991	Unknown ¹	10,853	Horizontal Drainhole
OGW-10	42-041-31534-00	12/14/1991	Unknown ¹	10,853	Horizontal Drainhole

Notes:

N/A = Not Applicable

1. Information not provided by Banks has been noted with an Unknown entry.

Table 3-4. Recorded Water Wells Within One-Mile of the Facility

Well Number	Use	Water Source (Aquifer)	Owner	Well Depth (ft BGS)	Altitude of Land Surface (ft-msl)	Completion Date	Depth to Water ¹ (ft BGS)	Water Level Elev. (ft-msl)	ATT 4-20 ID
59-29-6U	Domestic	Yegua	Norman Godwin	246	274	12/3/1977	115	159	WW-1
59-29-6L	Domestic	Yegua	S.A. Nazi	287	280	7/21/1977	150	130	WW-2
59-29-6Z	Domestic	Yegua	N.J. Rowan	308	273	9/15/1982	102	171	WW-3
59-29-6L	N/A ²	Yegua	Louis Burkhalter	288	277	8/3/1973	80	197	WW-4
59-29-603	Public Supply ³	Sparta	Brushy WSC	1110 ³	291	7/26/1966	80	211	WW-5
G0210014A	Public Supply	Sparta	BRUSHY WSC	1110	290	8/31/1966 ³	80	210	WW-6
59-29-6S	Domestic	Yegua	Mike May	480	270	7/29/1978	98	172	WW-7
59-29-6S	Domestic	Yegua	Claude Martinez	490	281	7/6/1976	69	212	WW-8
WIID93797	Domestic	Yegua	Carlos Boillat	369 ³	267	9/12/2006	84	183	WW-9
WIID140122	Domestic	Yegua	Dr. Gene Hix	320	276	11/5/2004	118	158	WW-10
59-29-6	Domestic	Yegua	Dean Gage	593	260	3/25/1999	85	175	WW-11
59-29-6V	Domestic	Yegua	Arthur Lightsey	293	280	2/28/1978	90	190	WW-12

*Brazos Valley Disposal Facility
Permit Application
Parts I & II*

Well Number	Use	Water Source (Aquifer)	Owner	Well Depth (ft BGS)	Altitude of Land Surface (ft-msl)	Completion Date	Depth to Water ¹ (ft BGS)	Water Level Elev. (ft-msl)	ATT 4-20 ID
59-29-6Y	Domestic	Yegua	Jimmy Pletser	299	297	3/11/1980	99	198	WW-13
59-29-6E	Domestic	Yegua	Alan Payne	300	286	3/29/1972 ³	70	216	WW-14
59-29-6	Domestic	Yegua	Art Lightsey	362	291	2/15/2001	75	216	WW-15
59-29-5	Domestic	Yegua	Thomas Skrivanek	380	283	7/14/2000	123	160	WW-16
59-29-6X	Domestic	Yegua	Edd Baxter	360	302	10/4/1979	nr	-	WW-17
59-29-6	Domestic	Yegua	John Millhollon ³	332	284	2/10/2000	111	173	WW-18
59-29-605	Domestic	Yegua	N. J. Rowan	307	280	4/15/1969 ³	70	210	WW-19
59-29-602	Unused	Yegua	B. J. Varisco	50	270		48	222	WW-20
59-29-6	Domestic	Yegua	Tom Skrivanek	380	284	7/3/1986	101	183	WW-21
59-29-6W	Domestic	Yegua	George Green	270	312	10/4/1978	92	220	WW-22
59-29-6	Plugged ³	Yegua	Mary Marzette	320	314	nr	nr	-	WW-23
59-29-5B	Domestic	Yegua	W.H. Haley	505	230	9/23/1977	62	168	WW-24
59-29-5	Oilfield Supply	Yegua	Union Pacific Resources	470	251	12/6/1991	20	231	WW-25
59-29-5A	Domestic	Yegua	Larry Orsak	378	263	5/6/1976	89	174	WW-26
59-29-6C	Domestic	Yegua	Tom Carpenter	220	302	10/15/1976	105	197	WW-27
59-29-6C	Domestic	Yegua	W.C. McMullan	375	299	12/31/1971	90	209	WW-28
59-29-5	Oilfield Supply	Yegua	Sage Energy	270	261	10/28/1991	60	201	WW-29
59-29-6B	Domestic	Yegua	Marvin Byrd	276	301	12/23/1971	80	221	WW-30
59-30-1	Domestic	Yegua	Glenn Smith	335	290	11/21/1996	105	185	WW-31
59-29-6H	Domestic	Yegua	Kenneth Mack	504	289	5/17/1976	88	201	WW-32
59-29-6H	Domestic	Yegua	H. V. Jones	307	294	9/29/1973	90	204	WW-33
59-29-606	Domestic	Yegua	B. B. Holland	190	302	4/27/1963 ³	64	238	WW-34
59-29-6N	Domestic	Yegua	Gene Knox	182	285	6/15/1974	41	244	WW-35

Notes:

BGS = below ground surface

msl = mean sea level

nr = not reported

uwd = unknown well depth

1. Depth to Water obtained from the installation reports.

2. Not indicated on the installation report.

3. Revised data obtained from the installation report.

Altitude of Land Surface was determined based on the USGS Digital Elevation Model (DEM) file (DEM_10M_3096_29) that corresponds to the 7.5-minute quadrangle "Chancés Store, TX"

3.1.7 Prevailing Wind Direction

A wind rose is included as Part I/II, Figure 3-3 to illustrate the prevailing wind direction. This wind rose for Station #12960 – Houston/Intercontinental Airport, Texas for the year 2000 indicates that the prevailing wind is from the southeast.

3.2 Transportation Analysis

In accordance with 30 TAC §330.61(i), a transportation analysis was performed for the proposed Brazos Valley Disposal Facility. Results of the analysis are summarized in the following sections.

3.2.1 Site Access

Site access, including availability and adequacy of the access roads, is discussed in the following sections.

3.2.1.1 Access Road Availability

The proposed Brazos Valley Disposal Facility is located approximately one quarter mile north of Farm to Market Road 60 (FM 60, a.k.a. Raymond Stotzer Parkway), which is the only main public road within one mile of the facility. The proposed Brazos Valley Disposal Facility will share the existing entrance of the adjacent Brazos Valley Recycling operation. The existing entrance is located directly off of Old Jones Road, north of FM 60, and in between Stewarts Meadow and Lacy Well Road. Direct access to the proposed facility will be Old Jones Road which can be accessed via FM 60.

Site access roads within one mile of the facility are shown on Part I/II, Figure 3-4.

3.2.1.2 Access Road Adequacy

Access road characteristics for FM 60 are shown in Table 3-5, which is based on information provided by the Texas Department of Transportation (TxDOT). The entity responsible for maintaining the roadway is also listed in Table 3-5. According to TxDOT, there is no construction scheduled in the near future for portions of FM 60 within the one-mile radius of the facility. Routine maintenance of the roadway by TxDOT will keep these access roads in adequate condition over the life of the facility.

Old Jones Road, which is the direct access to the facility, is a Brazos County Road. Old Jones Road is a two-lane road, asphalt paved, and maintained by Brazos County. The weight limit on the road is 80,000 pounds.

Table 3-5. Access Roadway Characteristics

Roadway	Maximum Weight (pounds)	Number of Lanes ¹	Curb/Shoulders	Surface Type	Entity Responsible for Maintenance
Farm to Market Road 60	80,000	4	Shoulders and Center divider (also acting as a turn lane)	Asphalt	TxDOT

1. The number of lanes is the total in both directions.

3.2.2 Existing and Future Traffic Volumes on Access Roads

The latest traffic volumes on the access roads within a one-mile radius of the facility are provided by TxDOT. The annual average daily traffic (AADT) count is available about one mile east of the facility on

FM 60, and the 2009 AADT is approximately 9,700 vehicles per day (vpd). The traffic count represents vehicles on FM 60 and represents traffic in both directions. Traffic counts reported by TxDOT for locations within one mile of the site are shown on Part I/II, Figure 3-4. All traffic counts are for a 24-hour period and for both directions of travel.

Future traffic is projected through 2020; the actual site operating life for the facility may be affected by various future factors and cannot be accurately predicted. For future traffic projections, an average annual growth rate of 2% as recommended by TxDOT is used in this analysis although it is higher than the population growth projections for the area. The projected traffic volumes for 2020 on FM 60 approximately one mile east of the facility is 12,060 vpd.

3.2.3 Facility Generated Traffic

Traffic generated by the facility is estimated based on the incoming waste rate and current vehicle count information. As discussed in Section 3.2.1.1., the proposed facility will use the current entrance of the adjacent Brazos Valley Recycling facility. Materials that are deemed to be waste and require landfill disposal will be transported to the proposed disposal facility via onsite roads. As such, traffic generated by the recycling center is conservatively used to evaluate the impact of traffic generated by the proposed landfill.

Presently, the average daily traffic accessing the Brazos Valley Recycling facility is about 49 vehicles per day. Approximately 200 tons of waste by-product is generated per day based on the recycling center's data. The estimated maximum waste acceptance rate for the facility is 800 tons per day, i.e. four times the current waste volume. Correspondingly, the future estimated maximum average traffic is 196 vehicles per day. Conservatively assuming all traffic accessing the recycling center and the proposed facility will travel in both directions on FM 60 (i.e. leave along the same route used for access), the total traffic generated by the recycling center and the proposed disposal facility are 98 vpd for the present and 392 for the future, representing 1.0% and 3.2% of the total traffic on FM 60, for the present and for the future respectively.

Based on the findings of the traffic study, there are no existing or future restrictions on the main access roadways within one mile of the facility that would prevent safe and efficient operations for both the landfill-generated traffic as well as the other vehicles in the area.

3.2.4 Airport Locations

The northeast corner of the proposed permit boundary is located approximately 10,290 feet southwest of the nearest runway end of Easterwood Airport. Due to the proximity, Golder filed an electronic Notice of Proposed Construction or Alteration-Off Airport with the Obstruction Group through the Federal Aviation Administration (FAA) website for eight points that define the limits of the aerial fill for the proposed landfill. The study revealed that "...the structure does not exceed obstruction standards and would not be a hazard to air navigation...". Changes in the grades evaluated or the addition of large equipment on top of the maximum grades evaluated void this determination and additional notice will be required.

In accordance with 30 TAC §330.61(i)(5), the Airport Safety Programs Manager of the FAA was contacted for compliance with airport location restrictions. A copy of the correspondence with the Obstruction Group of the FAA was also transmitted with the request. The FAA responded that they did not object to the project; however, they requested that monitoring of bird activity, with control procedures, be implemented at the facility. A copy of the correspondence is included in Parts I/II, Appendix A. A bird management plan is included in Part IV, the Site Operating Plan.

In accordance with 30 TAC §330.545(b), if a new municipal solid waste landfill is located within 6 miles of any small general service airport runway end or within 5 miles of any large general public commercial airport runway end, the applicant is required to notify the affected airport and the FAA of the proposed project. A copy of all the FAA correspondence was forwarded to Easterwood Airport.

3.2.5 TxDOT Correspondence

In accordance with 30 TAC §330.61(i)(4), TxDOT was contacted for any traffic or location restrictions which may apply to the proposed facility. TxDOT has not yet responded to the request. A copy of the correspondence is included in Parts I/II, Appendix A.

3.3 General Geology and Soils Statement

In accordance with 30 TAC §330.61(j), a general discussion of the geology and soils at the Brazos Valley Disposal Facility is included in the following sections.

3.3.1 Geology

The following discussion summarizes a generalized stratigraphic column of the area beneath the facility to a depth of approximately 2,000 feet below ground surface (BGS). A regional stratigraphic cross section depicting the distribution of geologic units in the vicinity of the site is included as Part I/II, Figure 3-5. A detailed discussion of the regional and site geology is included in Part III, Attachment 4, the Geology Report. A geologic map of the area is included as Part I/II, Figure 3-6.

Unconformably underlying the Fluvial Terrace Deposits is the Tertiary age Yegua Formation. The Yegua Formation consists of sandstone, clay, and lignite. Underlying the Yegua Formation is the Tertiary age Cook Mountain Formation. The Cook Mountain Formation consists of mostly clay, but is sandy in some parts. Underlying the Cook Mountain Formation is the Tertiary age Sparta Sand. The Sparta Sand Formation contains quartz sand, which is very fine to fine grained, well sorted, and micaceous, with silty clay partings. Underlying the Sparta Sand Formation is the Tertiary age Weches Formation. The Weches Formation contains greensand, sand, and clay. Underlying the Weches Formation is the Tertiary age Queen City Sand. The Queen City Sand contains fine-grained quartz, which is locally carbonaceous, with thin interbeds of clay, sands, and silts. Underlying the Queen City Sand is the Tertiary age Reklaw Formation. The Reklaw Formation contains two parts. The upper part of the Reklaw Formation contains clay which is silty and carbonaceous. The lower part of the Reklaw Formation contains glauconitic, fine to medium grained quartz sand and clay. Underlying the Reklaw Formation is the Tertiary age Carrizo Sand. The Carrizo Sand contains fine to coarse grained, poorly sorted, friable, noncalcareous, thickly bedded sandstone.

3.3.2 Topography and Soils

The site is located in Brazos County, Texas. The topography of Brazos County is defined by parallel ridges (questas) and valleys with beds dipping toward the Gulf of Mexico. Physiographically, the site is located in the Interior Coastal Plains portion of the Gulf Coastal Plains physiographic province. The Interior Coastal Plains region contains alternating belts of uncemented sands among weaker shales. When the weaker shales erode, the sands form long, sandy ridges. Part I/II, Figure 3-7 shows the general site topography based on United States Geological Survey (USGS) maps, dated 1980.

The facility property is composed mainly of three soil types, according to the National Resource Conservation Service's Web Soil Survey: Silawa fine sandy loam, Tabor fine sandy loam, and Zack fine sandy loam. The majority of the site consists of Silawa series soils, with areas of Tabor series soil near the north and northwestern portion of the site, and Zack series soils along the northeastern site perimeter.

The Tabor fine sandy loam and Zack fine sandy loam, located in the northern portions of the site, are moderately erodible. The potential for rills and gullies can occur in this soil type. The Silawa fine sandy loam series soils are only slightly erodible. Provided erosion and sedimentation control measures are implemented, erosion is not expected to adversely affect facility operation. A soils map is included as Part I/II, Figure 3-8.

3.3.3 Fault Areas

The fault evaluation for the facility was performed utilizing the following methodology:

1. Review of geological literature on faults in Brazos County.
2. Examination of geologic and topographic maps of the area.
3. Examination of aerial photographs of the area.
4. Examination of both natural features and man-made structures that might show evidence of disturbance by active geologic faults. The evaluation consisted of observations of the existing walls of the excavation present at the site and a driving survey of public roads within an approximately 2 mile radius to evaluate the presence of faulting based on offsets of man-made features (roads, curbs, walls, etc.). No offsets were identified.

After performing the evaluation and site-specific reconnaissance described above, there was no evidence to suggest that an active geologic fault exists at the site, or in the immediate vicinity (one-half mile) of the site. Based on the evaluation of potential faulting in the area, the nearest surface fault to the site lies approximately 11 miles to the southeast. Additional information from the fault study is included in Part III, Attachment 4.

Based on a review of the aforementioned documentation, the site is not located within one-half mile of a fault that has experienced displacement during the Holocene Epoch extending from the end of the Pleistocene Epoch to the present (representing the most recent 10,000 years), and thus is not subject to the requirements of 30 TAC §330.555(a) and (b).

3.3.4 Seismic Impact Zones

The location restriction criterion in 30 TAC §330.557 requires that new disposal units and lateral expansions not be located in seismic impact zones unless the owner or operator can demonstrate that all containment structures, including liners, leachate collection systems, and surface water control systems are designed to resist the maximum horizontal acceleration in lithified earth material for the facility. A seismic impact zone is defined as an area with a 10 percent or greater probability that the maximum horizontal acceleration in lithified earth material, expressed as a percentage of the earth's gravitational pull (g), will exceed 0.10 g in 250 years. If the maximum horizontal acceleration is less than or equal to 0.10 g, then the design of the unit will not need to incorporate an evaluation of seismic effects.

Areas within the United States where seismic effects need to be evaluated, as determined by the USGS, are shown on Figure 1 located in Part I/II, Appendix B. As indicated on this figure, the facility is not located within a seismic impact zone.

3.3.5 Unstable Areas

The location restriction criteria in 30 TAC §330.559 require engineering measures to be incorporated into the design of a disposal unit located in an unstable area to ensure that the integrity of the structural components of the disposal unit will not be disrupted. Unstable areas, by definition, are areas susceptible

to natural or human-induced events or forces that are capable of impairing the integrity of some or all structural components (i.e., liners, leachate collection systems, final covers, etc.) of a disposal unit. Unstable areas can include poor foundation conditions, areas susceptible to mass movement, salt domes, or karst terrain.

Based on information from existing geological and geotechnical data, unstable areas due to poor foundation conditions, areas susceptible to mass movement, salt domes, or karst terrain do not exist at, or immediately adjacent to the facility.

3.4 Ground and Surface Water Statement

In accordance with 30 TAC §330.61(k), a general discussion of the groundwater and surface water conditions at the Brazos Valley Disposal Facility is included in the following sections.

3.4.1 Groundwater Conditions

The Yegua aquifer is the major hydrologic unit utilized for groundwater supplies in Brazos County. Minor hydrologic units utilized for groundwater supplies in Brazos County include the Fluvial Terrace Deposits, Sparta, Queen City, and Carrizo-Wilcox aquifers. These aquifers are composed of sands, silt, and clays of Quaternary and Tertiary age. Groundwater is produced from coarser-grained members (sands) of the aquifers. A detailed discussion of the groundwater conditions at and near the site is included in Part III, Attachment 4, Geology Report.

In accordance with the location restriction criteria in 30 TAC §330.549, the Brazos Valley Disposal Facility is not located over the recharge zone of the Edwards Aquifer. Additionally, the facility is a Type IV facility and will not manage Class 1 industrial waste.

3.4.2 Surface Water Features

According to the Texas Water Development Board published maps entitled “Major River Basins of Texas over DEM” and “Texas Major River Basins and Sub-Basins over DEM”, the site is located in the Lower Brazos-Little Brazos sub-basin of the Brazos River basin. According to maps provided on the Brazos River Authority website, the site is located in the Central watershed. The natural flow patterns at the site are to the south towards the Brazos River.

In general, the site within the proposed permit boundary is lower than the areas to the north and northwest, resulting in offsite run-on to the site. Offsite run-on is collected and routed around the facility by the western perimeter channel, which is also designed to convey runoff from the western side of the site. On-site surface water runoff is controlled with a variety of structures that reduce the slopes (and the velocities) at which the storm water travels. These structures include add-on berms, downchutes, slope contouring, perimeter channels, culverts, and a detention pond.

For the proposed landfill development, areas were divided into sub-basins which drain to protected downchutes that travel straight down the approximately 4 horizontal to 1 vertical (4H:1V) side slopes. The side slopes of the final cover have add-on berms sloped at 2 percent at 25-foot vertical intervals down the 4H:1V slopes. These add-on berms collect the stormwater from the side slopes and convey it to the downchutes. The downchutes discharge across concrete surfaced access road crossings into perimeter channels, which then convey the flow into the proposed detention pond.

The proposed detention pond discharges into a channel which flows to Brushy Creek towards the south. The discharge rate is controlled by the proposed outlet control structure, which consists of two 36-inch corrugated metal pipe (CMP) culverts.

3.4.3 Texas Pollutant Discharge Elimination System

In accordance with 30 TAC §330.61(k)(3)(A), a certification statement indicating that CCAA will obtain the appropriate TPDES coverage as required for this permit is included in the Documentation section following this text.

3.5 Abandoned Oil and Water Wells

There are no known existing or abandoned water, crude oil, natural gas, or other wells associated with mineral recovery within the site. The landfill manager (LM) will provide written notification to the TCEQ of the location of any and all existing or abandoned on-site water, crude oil, natural gas, or other wells associated with mineral recovery within 30 days of discovery of any such well.

Within 30 days after plugging of any existing or abandoned on-site crude oil, natural gas, or other wells associated with mineral recovery, the LM will provide the TCEQ with written certification that any such wells have been properly capped, plugged, and closed in accordance with all applicable rules and regulations of the Railroad Commission of Texas. Producing crude oil or natural gas wells that do not affect or hamper landfill operations may be operated within the facility if identified in a written notification to the TCEQ.

The LM, within 30 days of discovery of an existing or abandoned on-site water well, will provide the TCEQ with written certification that the well has been capped, plugged, and closed in accordance with all applicable rules and regulations of the TCEQ or any other state agency with jurisdiction. Any water well that will be used for supply at the facility may remain in use as long as it is located outside the waste footprint, it is not impacted by landfill operations, it can be demonstrated that well design and installation will prevent any cross-contamination from the waste management unit to the water well production zone and between any water-bearing zones, and an approved sampling plan to include frequency and parameters is in place.

If any water or other type of well under the jurisdiction of the TCEQ is to be plugged, it will be plugged in accordance with all applicable state requirements and/or any additional requirements imposed by the TCEQ. A copy of the well plugging report required to be submitted to the appropriate state agency will also be submitted to the TCEQ within 30 days after the well has been plugged.

3.6 Floodplains and Wetlands Statement

In accordance with 30 TAC §330.61(m), a general discussion of the floodplains and wetlands at the Brazos Valley Disposal Facility is included in the following sections.

3.6.1 Floodplains

The Federal Emergency Management Agency (FEMA) FIRM that includes the site area (Brazos County, Texas, and Incorporated Areas, Map No. 48041C0200C, Effective Date: July 2, 1992) indicates that the proposed disposal facility is not located within the 100-year floodplain in accordance with the location restriction criteria in 30 TAC §330.547. A copy of the map is included in Part I/II, Appendix B.

3.6.2 Wetlands

A wetlands determination was performed for the facility. The purpose of the determination was to identify the potential impact to wetlands in accordance with 30 TAC §330.61(m)(2) and §330.553. Based on a field investigation and a review of National Wetland Inventory (NWI) and aerial photography, it was concluded that no wetlands exist on the site. A copy of the report is included in Part I/II, Appendix B.

3.7 Protection of Endangered or Threatened Species

A threatened and endangered species assessment was conducted at the facility. The objective of the assessment was to evaluate the potential for the existence of species and/or their habitat that are considered protected under the Endangered Species Act of 1973 and subsequent amendments and listings in accordance with the requirements of 30 TAC §330.61(n) and 30 TAC §330.551. Based on a field survey and available records, it was concluded that the facility and the operation of the facility is not expected to result in the destruction or adverse modification of the critical habitat of endangered or threatened species, or cause or contribute to the taking of any endangered or threatened species. A copy of the assessment is included in Part I/II, Appendix A.

3.8 Regional Solid Waste Management

30 TAC §330.61(p) requires that the owner or operator provide documentation that Parts I and II of the permit application were submitted for review to the applicable council of governments for compliance with regional solid waste plans. The regional authority for Brazos County is the Brazos Valley Council of Governments (BVCOG) which represents seven counties, including Brazos, Burleson, Grimes, Leon, Madison, Robertson, and Washington. BVCOG's solid waste management plan is presented in "Brazos Valley Council of Governments Solid Waste Management Plan, 2002-2022" dated December 11, 2002 and revised May 5, 2006. Parts I and II of this permit application are presented in a manner to assist the BVCOG in evaluating the proposed facility for consistency with the goals and objectives of the plan that seeks to ensure the availability of disposal in the BVCOG region to manage municipal solid waste, to ensure the availability of proper and safe management of solid waste and to reduce the amount of municipal solid waste generated.

A letter was sent to the BVCOG summarizing the proposed permit application and transmitting a copy of Parts I and II of this permit application for review. A copy of the related correspondence is included in Part I/II, Appendix A.

3.9 Local Solid Waste Management

30 TAC §330.61(p) requires that the owner or operator request review from local governments for compliance with the local solid waste plan. The local governments for the proposed facility are the City of College Station and Brazos County. Neither local entity has a solid waste management plan; therefore, no further considerations are required as this regulation is not applicable to this facility.

Brazos County utilizes the BVCOG's solid waste management plan, therefore, no further considerations are required from the County.

3.10 Site-Specific Conditions Requiring Special Design Considerations

In accordance with 30 TAC §330.61(a), the requirements of 30 TAC §330.61(h) through (o) have been evaluated and discussed in the above Sections 3.1 through 3.7 of the existing conditions summary. There are no special design considerations or possible mitigation of conditions required at the facility.

3.11 Additional Standard Permit Conditions for Municipal Solid Waste Facilities

If at any time during the life of the facility CCAA becomes aware of any condition in the permit that necessitates a change to accommodate new technology or improved methods or that makes it impractical to keep the facility in compliance, CCAA will submit to the executive director requested changes to the permit in accordance with 30 TAC §305.62 relating to Amendments or 30 TAC §305.70 relating to MSW permit modifications. The requested changes must be approved prior to their implementation at the facility.

A preconstruction conference will be held prior to commencing physical construction of the landfill. The preconstruction conference will not be held more than 90 days prior to the date that construction is scheduled to begin. All aspects of the permit, construction activities, and inspections will be discussed. The TCEQ and CCAA's representatives, including the engineer, the geotechnical consultant, the contractor, and the facility manager, will attend the preconstruction conference.

CCAA will obtain and submit certification by a Texas-licensed professional engineer that the facility has been constructed as designed in accordance with the issued permit and in general compliance with the regulations prior to initial operation. For inspection, CCAA will maintain that certification on site in the site operating record, as described in Part IV, the Site Operating Plan.

After all initial construction activity has been completed and prior to accepting any solid waste in the expansion area, CCAA will contact the TCEQ Austin office and the region office in writing and request a pre-opening inspection. The TCEQ will conduct a pre-opening inspection within 14 days of notification by CCAA that all construction activities have been completed, accompanied by representatives of CCAA and the engineer.

The facility will not accept solid waste until the TCEQ has confirmed in writing that all applicable submissions required by the permit and 30 TAC Chapter 330 have been received and found to be acceptable, and that construction is in compliance with the permit and the approved SDP. If the TCEQ does not provide a written or verbal response within 14 days of completion of the pre-opening inspection, the facility will be considered approved for acceptance of waste.

4.0 SUPPLEMENTARY TECHNICAL REPORT

In accordance with 30 TAC §305.45(a)(8), a supplementary technical report is required to be submitted with a permit application to provide a general description of the facilities and the systems used for or in connection with the collection, transportation, treatment, and disposal of waste, or used in connection with an injection activity. There is no injection activity proposed at the Brazos Valley Disposal Facility; therefore, the related portions of 30 TAC §305.45(a)(8) are not applicable to this facility. The volume and rate of disposal, the types of allowable wastes, the physical properties and characteristics of the allowable wastes, and the general sequence operation of the facility are discussed in Section 2.0 of this report, Waste Acceptance Plan. Descriptions of the facilities and systems used for disposal of waste are included in Part III and Part IV of this permit application.