



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

PERMIT APPLICATION

**PART III
SITE DEVELOPMENT PLAN**

Prepared for:

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**Golder Associates Inc.
F-2578**

**INTENDED FOR PERMITTING
PURPOSES ONLY**

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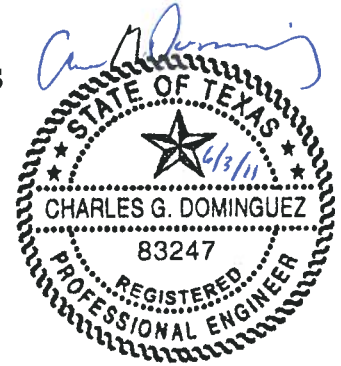


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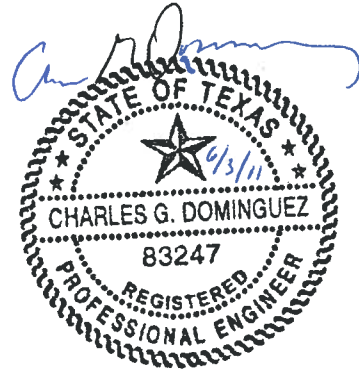
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- 1 General Facility Design
- 2 Facility Surface Water Drainage Report
- 3 Waste Management Unit Design Report
- 4 Geology Report
- 5 Groundwater Characterization and Monitoring Report
- 6 Landfill Gas Management Plan
- 7 Closure Plan
- 8 Post-Closure Plan
- 9 Closure and Post-Closure Cost Estimates



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1.0 INTRODUCTION

This Site Development Plan (SDP) has been developed in accordance with 30 TAC §330.63(a). This plan includes criteria used to design the Brazos Valley Disposal Facility in order to provide for safeguarding of the health, welfare, and physical property of the people and the environment through the consideration of geology, soil conditions, drainage, land use, zoning, adequacy of access roads and highways, and other considerations as dictated by the additional requirements of 30 TAC §330.63.

1.1 Site 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.

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 Proposed Application

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 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.

1.3 Land Use and Zoning §330.63(a)

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.

1.3.1 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.

1.3.2 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 1-1.

Table 1-1. 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

1.4 Adequacy of Access Roads and Highways §330.63(a)

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

1.4.1 Site Access

Access road characteristics for FM 60 are shown in Table 1-2, 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 1-2. 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 1-2. 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.

2.0 GENERAL FACILITY DESIGN §330.63(b)

2.1 Facility Access and Control §330.63(b)(1)

In order to prevent the entry of livestock, to protect the public from exposure to potential health and safety hazards, and to discourage unauthorized entry or uncontrolled disposal of solid waste or hazardous materials, a perimeter fence consisting of a combination of five-foot mesh fence and 3-strand or 4-strand barbed wire will be constructed along all boundaries. The two entrances will be equipped with lockable gates. The perimeter fencing and entrance gate will be inspected once per month for integrity. Maintenance will be performed as needed to correct normal wear and tear. Repairs will be performed by site personnel or by a contractor. If an access control breach is detected, a temporary or permanent repair will be made within 24 hours of detection. The landfill manager (LM) will notify the TCEQ regional office, and any local pollution agency with jurisdiction that has requested to be notified, of the access control breach within 24 hours of detection if a permanent repair cannot be completed within 8 hours of detection. The breach will be temporarily repaired within 24 hours of detection and permanently repaired by the time specified in the official breach report to the TCEQ regional office. The LM will notify the TCEQ regional office when a permanent access control breach repair is completed, unless the repair can be made within 8 hours of detection. An example inspection and repair form is included in Part IV, Appendix C. The site may use this form, any other similar form, or a combination of forms, to record the inspections and repairs as long as the required information is included.

The proposed Brazos Valley Disposal Facility will share the existing entrance of the adjacent Brazos Valley Recycling (BVR) operation. The existing entrance to the recycling facility 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. From the Old Jones Road entrance, waste trucks will enter the recycling facility, pass through the existing scale, unload the material inside the recycling facility, and egress through the security gate to the west along Stewarts Meadow or trucks may bypass the recycling facility and go directly to the landfill. After the materials being sorted at recycling facility for processing and recycling, the waste materials that require disposal will be hauled to the Brazos Valley Disposal Facility. Direct entrance to the Brazos Valley Disposal Facility is at the southwest corner of the site through a lockable security gate. An optional new scale and gatehouse may be installed inside the landfill boundary. The entrance to the landfill will be comprised of crushed gravel or stone flexible road base. The weight and/or volume of all vehicles will be recorded. Records of such weights and/or volumes will be kept for a period of 3 years and made available to the TCEQ upon request.

The site entrance will be secured by a gate that is monitored by the gate attendant during normal site operating hours. During extended operating hours (nights and weekends), the gate attendant may be replaced with an operator. Outside operating hours, the gate to the site will be locked. One additional gate will be located on the eastern side of the site accessing Lacy Wells Road. 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. Site security measures will be designed to prevent unauthorized persons from entering the site, to protect the facility and its equipment from possible damage caused by trespassers, and to prevent disruption of facility operations caused by unauthorized site entry. Unauthorized entry into the site will be minimized by controlling access to the landfill site with the perimeter fence and gate at the entrance.

Entry to the active portion of the site will be restricted to designated personnel, approved waste haulers, and properly identified persons whose entry is authorized by site management. Visitors will be allowed on the active area only when accompanied by a site representative. Landfill users will be required to stop at the gatehouse and conduct appropriate business transactions prior to proceeding to the disposal area(s). Unauthorized vehicles will not be allowed to proceed past the gatehouse. At this point, the vehicles are screened for waste type, as necessary. If a load is identified or suspected of containing any prohibited waste, the prohibited waste procedures outlined in Part IV of the application will be followed. Signs located along the landfill haul road and access road direct solid waste transportation vehicles to appropriate fill areas. The signs will identify the active working face. These vehicles deposit their loads and depart the site. No private or commercial solid waste vehicles are allowed access to any areas other than the active portion of the landfill. Site personnel provide traffic directions as necessary to facilitate safe movement of vehicles.

2.2 Waste Movement, Sanitation, and Water Pollution Control §330.63(b)(2)-(4)

This section provides a generalized process design and working plan of the overall facility, and describes how liquids resulting from solid waste processing at the facility will be managed so as not to cause surface water or groundwater pollution.

Attachment 1, Figure ATT1-1 is a flow diagram that indicates the storage, processing, and disposal sequences for the various wastes received at the facility. Attachment 1, Figure ATT1-2 provides a schematic view of the various phases of collection, separation, processing, and disposal for the various wastes received at the facility. Part III, Attachment 3 discusses the management of contaminated water at the facility.

The potential sources of odor at the facility have been identified and a plan has been developed to address these sources. The Odor Management Plan for the facility is included in Part IV, Site Operating Plan, and addresses the requirements of 30 TAC §330.63(b)(2)(C).

In general, recyclable materials are not expected at the Brazos Valley Disposal Facility since materials will be sorted at the adjacent BVR first and the recyclable materials will be reclaimed at the BVR. In case any additional recyclable materials are reclaimed at the landfill, they will be transferred to the BVR. Processing of materials will not occur within the landfill boundary.

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. These activities will continue to occur within the landfill footprint, but will not interfere with normal disposal activities.

Stockpiles of gravel, concrete rubble, and similar non-contaminated recycled materials will be maintained or otherwise available to provide and maintain all-weather roads to waste unloading areas designated for wet-weather operation.

2.3 Protection of Endangered Species §330.63(b)(5)

A threatened and endangered species assessment was conducted for the proposed 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). 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.

3.0 FACILITY SURFACE WATER DRAINAGE DESIGN §330.63(c)

The facility was designed to comply with the requirements of 30 TAC §§330.63(c)(1)(C) and 330.305(a), which are the regulations related to surface water drainage for municipal solid waste landfills. A Facility Surface Water Drainage Report was developed that includes: analyses of the pre-development and post-development conditions; design of the surface water management system, including perimeter channels, add-on berms, a detention pond, and other appurtenances; an erosion and sedimentation control plan (including best management practices); an evaluation of the 100-year floodplain; and a maintenance and restoration plan. The Drainage Report is included in Attachment 2 of this SDP. The analyses contained in this report demonstrate that existing drainage patterns will not be adversely altered as a result of the proposed landfill development.

4.0 WASTE MANAGEMENT UNIT DESIGN §330.63(d)(4)

In accordance with 30 TAC §330.63(d)(4), a Waste Management Unit Design Report was prepared specifically to address the requirements for landfill units. The report, included in Attachment 3 of this SDP, includes provisions for all-weather operations and access, the proposed landfill method, minimum and maximum design elevations, solid waste acceptance rates, site life, cross-sections and design details, and a liner quality control plan. In addition to these items, as required by §330.63(d)(4), additional information regarding the geotechnical analyses and the liner design has also been included in the Waste Management Unit Design Report.

5.0 GEOLOGY AND SOILS §330.63(e)

In accordance with 30 TAC §330.63(e), a geology report was prepared by a qualified groundwater scientist. This report summarizes available data related to regional and local geology and aquifers in the area of the facility. Based on a review of this data, and on the results of geotechnical investigations conducted at the site, the geology, hydrogeology, and soil conditions in the facility area are suitable for the proposed operations of a municipal solid waste disposal facility. The Geology Report is included as Attachment 4 in this SDP.

6.0 GROUNDWATER CHARACTERIZATION AND MONITORING §330.63(f)

In accordance with 30 TAC §330.63(f) and 30 TAC Chapter 330, Subchapter J, a Groundwater Characterization and Monitoring Report, which includes a groundwater sampling and analysis plan, was prepared for the facility. This report provides information on the most likely pathways for pollutant migration beneath the facility; data on the quality of the site groundwater; a design of the proposed groundwater monitoring system; and requirements for groundwater sampling and analysis. The Groundwater Characterization and Monitoring Report is included as Attachment 5 to this SDP. The Groundwater Sampling and Analysis Plan is found in Appendix A to Attachment 5.

7.0 LANDFILL GAS MANAGEMENT §330.63(g)

In accordance with 30 TAC §330.63(g) and 30 TAC Chapter 330, Subchapter I, a Landfill Gas Management Plan has been developed for the facility to provide a site-specific approach for implementing landfill gas monitoring and control. This plan includes the requirements and procedures for landfill gas monitoring using perimeter probes and combustible gas monitors in site structures, recordkeeping, and reporting; and a contingency plan to be implemented in the event that concentrations of methane in excess of the regulatory limits are measured at the site permit boundary or in on-site structures. The Landfill Gas Management Plan is included as Attachment 6 of this SDP.

8.0 CLOSURE §330.63(h) & (j)

In accordance with 30 TAC §§330.63(h) and 30 TAC Chapter 330, Subchapter K, a Closure Plan has been developed for the facility. This plan includes a description of the steps that will be undertaken to close each filled disposal unit, a general schedule for final closure, a description of the final cover system, and the methods used to install the cover. The Closure Plan is included as Attachment 7 of this SDP.

In accordance with 30 TAC §§330.63(j) and 30 TAC Chapter 330, Subchapter L, a closure cost estimate has been prepared for the facility. This estimated cost was developed in accordance with the Closure Plan, and is based on the cost of hiring a third party to close the facility at the point in the facility's operating life when the extent and manner of its operation would make closure the most expensive. The breakdown of the cost estimate is presented in Attachment 9 of this SDP and is based on closure of a 21.8-acre area, which is the largest area projected to require closure at one time.

9.0 POST-CLOSURE §330.63(i) & (j)

In accordance with 30 TAC §§330.63(i) and 30 TAC Chapter 330, Subchapter K, a Post-Closure Plan was prepared for the facility. Post-closure care maintenance will begin at the facility immediately upon the date of final closure as approved by the executive director of the Texas Commission on Environmental Quality (TCEQ). The Post-Closure Plan incorporates monitoring and maintenance activities specific to final cover, drainage control systems, groundwater monitoring, and gas management that will be performed throughout the post-closure period. The Post-Closure Plan is included in Attachment 8 of this SDP.

In accordance with 30 TAC §§330.63(j) and 30 TAC Chapter 330, Subchapter L, a post-closure cost estimate has been prepared for the facility. The cost estimate is based on the cost of hiring a third party to conduct post-closure care activities for the facility in accordance with the Post-Closure Plan, as required by 30 TAC §330.463(b)(3)(D) and §330.507. The estimate accounts for the total cost of conducting post-closure care for the largest area that could possibly require post-closure care in the year to follow, including annual and periodic costs as described in the post-closure plan over the entire post-closure care period. The breakdown of the cost estimate is presented in Attachment 9 of this SDP.