

**FORT WORTH SOUTHEAST LANDFILL
TARRANT COUNTY, TEXAS
TCEQ PERMIT NO. MSW-218C**

MAJOR PERMIT AMENDMENT APPLICATION

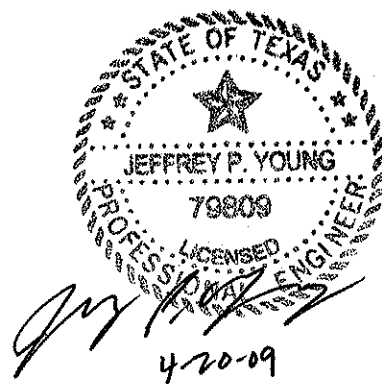
**PART III – SITE DEVELOPMENT PLAN
SITE DEVELOPMENT PLAN NARRATIVE**

Prepared for:

City of Fort Worth

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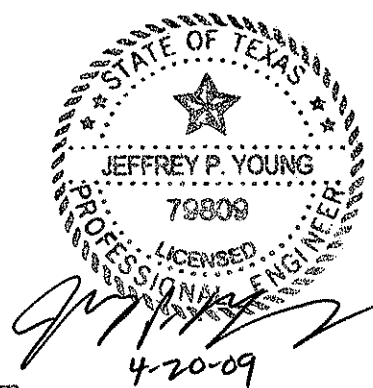
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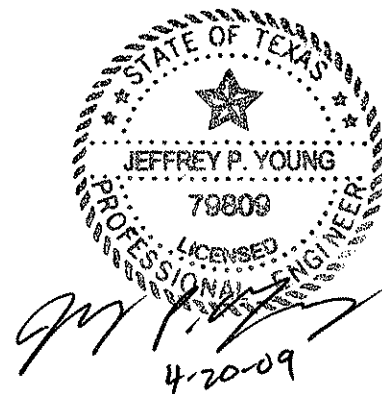
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3.6 Erosion and Sedimentation Control

Erosion and sedimentation control is provided on site during construction activities and is incorporated into the design of the perimeter drainage system and final cover system. During construction of the various sectors, perimeter berms, perimeter drainage channels, and detention ponds, erosion and sedimentation control will be provided through the use of temporary diversion berms, drainage channels, silt fences, and hay bales. These measures will provide for control of erosion and sediment prior to stormwater flows leaving the site. An erosion and sedimentation control plan is presented in Part III, Appendix IIIF – Surface Water Drainage Plan.

Permanent erosion control features have been included in the site design. These features include design of perimeter channels for non-erodible velocities. In areas where erosion has been anticipated, erosion protection of the channels in the form of gabions, rock riprap, or turf reinforcement matting is provided. Permanent erosion protection measures are also shown in Appendix IIIF – Surface Water Drainage Plan. In addition to grass cover, permanent erosion features included in the final cover design are drainage swales and chutes shown on Parts I/II, Drawing I/IIA.8 – Landfill Completion Plan.

3.7 Floodplain Information

The 100-year floodplain for Village Creek and its tributaries near the site were evaluated using the Federal Emergency Management Agency (FEMA), Flood Insurance Rate Maps (FIRM) for Tarrant County, Texas and Incorporated Areas (Map Nos. 48439C0420 H and 48439C0440 J). As shown in Parts I/II, Figure I/II-11.1, and in Appendix IIIN, the existing and proposed solid waste fill area is not located within the limits of the 100-year floodplain. As shown, over 19 feet of freeboard is provided between the existing perimeter berm and the 100-year floodplain elevation of Village Creek.

As discussed in Appendix IIIN – Floodplain Information, two stormwater detention ponds, associated channels, and a portion of the Salt Road development will be located within the 100-year floodplain. A Floodplain Development Permit has been obtained from the City of Fort Worth Floodplain Administrator for these site improvements. The Floodplain Development Permit is included in Appendix IIIN.

3.8 Wetlands Information

The Fort Worth Southeast Landfill property was examined for compliance with wetlands issues as described in §330.553(b), which states that new MSWLF units and lateral expansions shall not be in wetlands, unless the owner or operator makes appropriate demonstrations involving wetlands. Coordination with the USACE is included in Parts I/II, Appendix I/II B. As noted in the USACE letter dated ~~June 14, 2004~~ August 27, 2008, this major permit amendment application will not require Department of the Army authorization under Section 404 of the Clean Water Act or Section 10 of the Rivers and Harbors Act of 1899, and a USACE permit is not required. The original jurisdictional determination was

4 LANDFILL UNIT DESIGN

Consistent with Title 30 Texas Administrative Code (TAC) §330.63(d)(4), this Site Development Plan was prepared to address the requirements for the landfill unit at the Southeast Landfill. The following subsections discuss 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, the liner design, and leachate management are also discussed.

4.1 All-Weather Operation

The landfill perimeter roads, haul road, and interior access roads (see Parts I/II, Drawings I/IIA.4 through I/IIA.7 – Sector Development Plans) will be constructed of crushed stone, gravel, or other suitable material and will provide access from the entrance road to the fill area. Salt Road is a concrete paved roadway that provides access to the entrance facilities. From the entrance facilities, the landfill haul road is a crushed stone road. The paved access road and crushed stone haul road will serve as mud control for waste hauling vehicles prior to exiting the site and returning to the site access roads. The crushed stone haul road and perimeter road will be maintained for all-weather access by site personnel. Salt Road, which is maintained by the City of Fort Worth, is over 3,000 feet long before it intersects with the IH-20 frontage road. This relatively long access road will minimize the tracking of mud onto roads that are not maintained by the City (i.e., the IH-20 frontage road). Additional mud control measures will be taken if these mud control measures do not effectively minimize tracking of mud onto public roads.

On-site stockpiles of crushed stone, concrete rubble, masonry demolition debris, or other similar material will be provided as needed for use in maintaining passable access roads. Grading equipment or other appropriate equipment will be used, as necessary, to control or remove mud accumulations on the perimeter access road around the landfill, the landfill haul road, the paved entrance facility area, and Salt Road.

The landfill haul road and perimeter roads will be passable under inclement weather conditions to allow access to the working face area. To enhance operating efficiency during wet weather, a disposal area close to the all-weather roads may be reserved for wet-weather operations.

- A textured 40-mil LLDPE geomembrane liner;
- A leachate collection drainage geocomposite layer;
- A series of leachate collection pipes and sumps; and
- A one-foot-thick protective cover layer.

The proposed overliner system design and details are also summarized in Appendix IIIA – Landfill Unit Design Information. A Point of Compliance (POC) Demonstration, prepared consistent with §330.331(a)(1), is included in Appendix IIIB. The geomembrane will be placed on a prepared foundation layer that will consist of 1 foot of compacted soil with a permeability of no more than 1×10^{-6} cm/s. It should be noted that the foundation layer is not included in the POC demonstration, included in Appendix IIIB, to provide for a conservative analysis.

In addition, the western portion of the pre-Subtitle D area will be reconfigured by the placement of a waste grading layer to create a uniform 6 percent and 10 percent grade over a majority of the west overliner area (Sectors 11 through 14), as shown on Figures IIIB-A-1 and IIIB-A-3. The slope of the west overliner increases near the perimeter of the disposal area to approximately 11 percent. The eastern side of the overliner will tie into the Subtitle D liner of Sectors 6 through 10 as shown on Figures IIIB-A-1 and IIIB-A-3. No waste grading layer is required on the eastern side of the pre-Subtitle D area as the top of the proposed overliner is at or below permitted top of waste grades. A minimal waste grading layer is required in the southern portion of the east overliner area. The slope of the eastern side of the overliner varies between 1.8 percent and 33.3 percent but generally matches existing grade.

4.3.3 Leachate Collection System

A LCS has been designed to remove leachate from the Subtitle-D areas of the landfill. The LCS layout is shown on Drawing A.1 – Top of Liner Plan in Appendix IIIA-A. Design of the proposed LCS and a demonstration of the adequacy of the existing LCS is discussed in Part III, Appendix IIIC – Leachate and Contaminated Water Management Plan. LCS details are provided in Part III, Appendix IIIA – Landfill Unit Design Information. Information regarding materials and construction quality assurance are included in Part III, Appendix IIID – Liner Quality Control Plan (Section 3.6).

4.3.4 Final Cover System

The final cover system will consist of a composite cover system for pre-Subtitle D and Subtitle D areas. The final cover system will provide a low maintenance cover, protect against erosion, reduce rainfall percolation through the cover system, and subsequently minimize leachate generation with the landfill. As depicted on Parts I/II, Drawing I/IIA.8 – Landfill Completion Plan, a maximum of 4 percent topslopes and 4H:1V sideslopes are provided to minimize erosion and facilitate drainage of the landfill. A composite final cover will be constructed over the existing pre-subtitle D and Subtitle D waste disposal areas. Components of the multi-layer final cover system for both pre-Subtitle D and Subtitle D areas include (from top to bottom):