

**Part III  
Attachment III-H**

**CLOSURE PLAN**

**Pescadito Environmental Resource Center  
MSW No. 2374  
Webb County, TX**

**PESCADITO**  
ENVIRONMENTAL RESOURCE CENTER

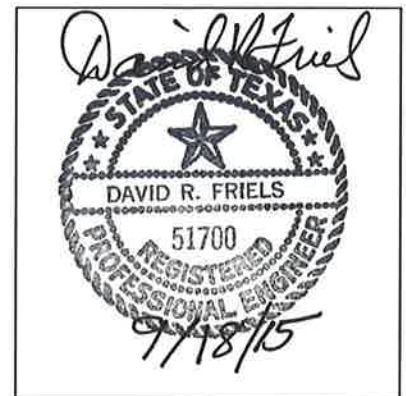
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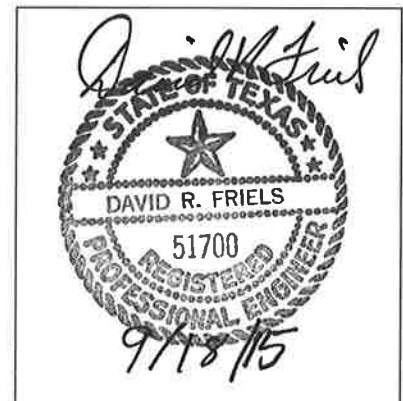
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## Table of Contents

1.0	CLOSURE PLAN.....	1
1.1	General.....	1
1.2	Estimate of Maximum Inventory of Waste on Site.....	1
1.3	Estimate of Largest Area Requiring Final Cover.....	2
2.0	LANDFILL FINAL COVER SYSTEM.....	4
2.1	Landfill Final Cover System Design.....	4
2.2	Installation Methods and Procedures.....	4
2.3	Construction Procedures.....	4
3.0	CLOSURE PROCEDURES.....	6
3.1	Landfill Final Cover/Closure Sequence.....	6
3.2	Landfill Closure During Active Life.....	6
3.3	Liquid Waste Solidification Unit Closure.....	7
3.4	Citizens Convenience Center Closure.....	8
3.5	Leachate and Contaminated Water Storage.....	8
4.0	CLOSURE SCHEDULE.....	9
4.1	Final Cover Construction.....	9
4.2.1	Closure Plan Implementation.....	9
4.3	Provisions for Extending Closure Period.....	11
5.0	CLOSURE COST ESTIMATE.....	12



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## **1.0 CLOSURE PLAN**

### **1.1 General**

This Closure Plan has been prepared on behalf of Rancho Viejo Waste Management for the Pescadito Environmental Resource Center (PERC) pursuant to requirements as set forth in 30 TAC §330.63(h) and §330.457, 330.459, and 330.461. In accordance with §330.457(f)(1), a copy of the closure plan will be placed in the Site operating record. The PERC is located in Webb County, Texas. Initially, PERC will consist of two solid waste landfill disposal units. Both units will accept Type 1 Municipal Solid Waste (MSW) and non-hazardous industrial waste (NHIW). PERC may also construct and operate the following facilities as the need develops:

- Liquid Waste Solidification Unit
- Citizen Convenience Center including recyclables collection
- Leachate, Contaminated Water, and Gas Condensate Storage Facility
- Reusable Items Storage Area for inert and non-inert materials
- Storage Area for Large Items, White Goods, and Whole Tires

Consistent with §330.457(e) this closure plan addresses the final cover system design and installation, closure procedures, and the closure schedule. The final cover contour map and final cover details are presented in Appendix III-D.3.

### **1.2 Estimate of Maximum Inventory of Waste on Site**

The estimated maximum inventory of wastes ever on-site over the active life of the facility is projected to be the total volume(s) available through this permit. Site life calculations are provided in Part III, Appendix III-D.4. The projected mass of MSW and NHIW occurring landfill units at the time of facility closure is 195,960,492 tons in the MSW landfill occurring at time of closure. Other facilities that will not be constructed initially, but are planned during the active life of PERC will close in the following manner:

- Liquid Waste Solidification – Liquid waste in the unit at time of closure will be solidified onsite, with all liquids solidified and landfilled prior to final closure.

- Citizens Convenience Center – During operation MSW will be deposited in large containers (i.e., roll-offs) by the citizens. On a routine basis, when a container is full, the MSW will be transported to the active disposal area and landfilled. Recyclable materials that are separated will be removed from the site for recycling prior to final closure. If recycling is not practicable, the materials may be disposed in the landfill. Therefore, there will be little or no waste at the Citizens Convenience Center at the time of closure, but any waste that is present will be disposed in the landfill.
- Contaminated Water – The leachate and contaminated water storage will remain active during the post-closure period since it will likely be necessary to handle some leachate and landfill gas condensate. Any liquids remaining in the storage facility will be removed and properly disposed prior to the end of the post-closure period. Since liquid volumes will be periodically reduced, it is projected that no more than 10,000 gallons of contaminated water will require disposal at when the contaminated water storage facility is decommissioned.
- Reusable Items will be either used on site, or removed from the site, or landfilled prior to closing.
- Large items, white goods, and whole tires will be removed from the site prior to closing and appropriately disposed.

### **1.3 Estimate of Largest Area Requiring Final Cover**

The landfill includes north unit with an area of 320.5 acres and a south unit with an area of 340.2 acres providing a combined total of approximately 660.7 acres (plan area). The landfill will be constructed in cells (or parts of a cell) and will be closed in sections. The size of each closure area will vary depending on the geometry of the filled area that needs to be closed. However, in generally once a section of the landfill that is large enough in area to make cover installation practical has been filled to the permitted top of waste and daily/intermediate cover grades, cover construction will commence for that section. Closure will include grading as needed, construction of surface water control features, and installation erosion controls (e.g., surface

vegetation). The largest area requiring closure for the purpose of determining final closure construction cost is addressed in Attachment III-J.

## **2.0 LANDFILL FINAL COVER SYSTEM**

### **2.1 Landfill Final Cover System Design**

The final cover system design for the site is provided in Part III, Attachment III-D, Appendix III-D.8 of this Site Development Plan (SDP). Webb County is within the arid region of Texas with an average annual rainfall of approximately 20 inches. The final cover contour map and final cover details are provided in Appendix III-D.3 for reference. PERC will utilize a water balance (WB) final cover system that consists of the following (from the top down):

- 7 inches of topsoil/vegetation layer
- 30 inches of soil evapotranspiration (storage layer)
- 12 inches of intermediate cover soil

The erosion layer for the final cover will consist of a minimum of 7 inches of on-site native soil that is capable of sustaining native plant growth. The infiltration layer will consist of on-site soil that is classified as CL or CH and complies with the requirements stated in Appendix III-D.8 and also in Appendix III-D.9, Final Cover Quality Control Plan (FCQCP). The final cover will have a maximum final top slope of 6 percent and a side slope of 4H:1V (25 percent) and has been designed to provide sufficient slope to preclude ponding of surface water after taking into consideration expected subsidence.

The erosion layer will be covered with: (1) vegetation consisting of native grasses, (2) wood chips, or (3) stone to provide erosion protection from wind and surface water. The final cover system will be maintained until closure and through the post-closure period.

### **2.2 Installation Methods and Procedures**

### **2.3 Construction Procedures**

The final cover system will be constructed in accordance with 30 TAC §330.457 and as specified in Appendix III-D.9 – Final Cover Quality Control Plan (FCQCP). The final cover will be installed in sections during the active life of the facility. The area of the sections to be closed will vary, but each section will be completed or filled to the design lines and grades prior to final

cover construction for that area. Each new cover section will be properly tied in with the adjacent existing cover section(s). Soil used for final cover construction will either be excavated from future cell construction areas or from stockpiles of previously excavated soil.

### **2.3.1 Final Cover Testing Procedures**

Construction for each section of final cover will be inspected and tested in accordance with the Appendix III-D.9 - FCQCP. Upon completion of a section, construction documentation will be submitted to the TCEQ in a Final Cover System Evaluation report. The final cover thickness will be verified by survey and soil testing will be conducted as specified in the FCQCP.

## **3.0 CLOSURE PROCEDURES**

### **3.1 Landfill Final Cover/Closure Sequence**

Final cover may be placed on landfill sections as they are completed (i.e., filled to the permitted grades). Likewise sections of the landfill that have received final cover may be closed during the active life. Completed final cover will be maintained until final closure and then during the post-closure care period.

### **3.2 Landfill Closure During Active Life**

As described above, the final cover may be constructed in sections as waste fill is brought to the final design contours. Should closure of the landfill become necessary at any time during the active life of the landfill, the following steps shall be taken:

- The final waste received will be placed and properly compacted.
- Cell excavations will be filled with suitable material, and graded to promote runoff and prevent ponding.
- Sections of daily/intermediate cover (that have not received final cover) will be regraded and reshaped as needed to provide the proper slope for positive drainage.
- The final cover system will be constructed and documented according to Section 2 of this closure plan or the latest approved plan for all fill sections that have not already received approved final cover.
- Sections that have previously received final cover will receive additional soil fill as needed to eliminate ponding and promote runoff.
- Surface water management systems will be installed to minimize erosion.
- Areas without satisfactory vegetation or other approved final cover material (e.g. wood chips or rock) will be seeded with appropriate native grasses. The soil surface/seed bed will be protected from wind and water erosion with mulch, stone or other approved controls. This required action will minimize water and wind erosion.



- A closure certification will be prepared by an independent registered professional engineer and submitted to the TCEQ for approval.
- All proper notices and documentations will be filed with the appropriate agencies.

### **3.3 Liquid Waste Solidification Unit Closure**

Upon closure of the landfill, the active liquid waste solidification unit will be closed and decommissioned. Closure of this facility will be accomplished in accordance with the following closure plan.

- Any existing liquids will either be pumped out and transported to another approved liquid waste solidification facility or managed as stated in the liquid waste solidification unit operation plan and placed in the landfill.
- If the unit is lined with HDPE, liquids that have been satisfactorily stabilized will be removed and placed in the landfill. The HDPE liner will be removed and disposed in the active area of the landfill. The area beneath the liner will be inspected for possible leakage. If leakage is detected, the affected soil will be excavated and transported to the active area of the landfill for disposal. Removal of liner and closing will be conducted in a manner that will not cause ponding or trapping of water. The area of the facility will be graded as needed to comply with the approved contours. If the soil complies with the requirements for alternate daily cover, the soil may be used for daily cover.
- If the unit is lined with concrete, liquids that have been satisfactorily solidified will be removed and placed in the landfill and concrete surfaces will be steam cleaned. Any voids will be filled with compacted soil and the facility will be covered to provide positive drainage.
- A closure report and request that the liquid stabilization unit be deemed closed will be submitted to the TCEQ after closure activities are completed.

### **3.4 Citizens Convenience Center Closure**

If a citizens convenience center has been placed in operation, it will be closed when no longer used or upon closure of the landfill. During normal operations, MSW will be transported to the active face and disposed when containers are full or the landfill is temporarily closed. Prior to closure, any remaining MSW will be transported to the active disposal area and landfilled. Recyclables that have been separate from the MSW will be moved off site and transported to an authorized recycling facility or properly disposed in the landfill. Any combustible materials will be transported to an authorized facility for disposition. After removal of the MSW and any recyclable materials, any remaining waste or debris will be removed and properly disposed in the landfill. Soil that exhibits stains will be excavated and hauled to the landfill. Concrete surfaces will be cleaned by pressure washing or steam cleaned and wash water will be collected along with affected soil and appropriately managed.

### **3.5 Leachate and Contaminated Water Storage**

Storage facilities for leachate, contaminated water, and gas condensate will be kept active during the post closure period, or until it is determined that the facilities are no longer required. Once the liquid storage is no longer required, any remaining liquids will be removed from the site and properly disposed. After removal of the liquids, the facility will be closed and decommissioned. Once the facility is no longer required and the contaminated water has been removed, the facility will be closed. Closure of storage ponds will include removal and disposal of any exposed geosynthetics and inspection of subgrade for leakage. Soil contaminated by leakage will be removed and properly managed, and backfill will be placed and compacted as needed to eliminate the potential of ponding water. Above ground storage tanks, if used, will be emptied and properly decontaminated and either left in place or removed from the site.

## **4.0 CLOSURE SCHEDULE**

### **4.1 Final Cover Construction**

During the active life of the landfill, final cover will be placed in separate construction phases as the various areas reach the design top of waste grades. The sections of final cover will be constructed and verified in accordance with Appendices III-D.8 and D.9 of Attachment III-D of the SDP. The general procedure for constructing a section of final cover will include:

- Survey controls to verify waste grades
- Place and test various components of the final cover system
- Prepare and submit a Final cover system certification report to the TCEQ
- Maintain the certification report in the site operating record

#### **4.2.1 Closure Plan Implementation**

The facility will be closed in an orderly fashion, consistent with 30 TAC §330.457(f) implementing the following steps:

- Consistent with §330.461(a), no later than 90 days prior to initiation of final closure activities for each MSW unit, a public notice of facility closure which contains the name, address, and physical location of the facility, the permit number, and the last date of intended receipt of waste, will be provided in the newspaper of the largest circulation in the vicinity of the facility. The owner or operator shall make available a copy of the approved final closure and post-closure plan for public access and review at a public library in Laredo or another public place.
- No later than 45 days prior to initiation of final closure activities for each municipal solid waste landfill (MSW) unit, the Executive Director of the TCEQ will be notified of the intent to close the unit and the notification will be placed in the operating record.
- Following notification of the Executive Director of the TCEQ and consistent with §330.461(b), a minimum of one sign will be posted at the main entrance notifying

all persons utilizing the facility of the closure date or date which further receipt of waste is prohibited. In addition, barriers or gates will be installed at access points following the closure date to prevent unauthorized dumping of solid waste at the facility.

- Final closure activities will commence for each MSW unit no later than 30 days after the date the MSW unit receives the known final receipt of wastes except as provided in Section 4.3 below.
- Final closure activities of each MSW unit will be completed in accordance with the Final Closure Plan within 180 days following the beginning of closure except as provided in Section 4.3 below.
- Within 10 days after completion of final closure activities of the facility, a certified copy of an Affidavit to the Public will be submitted to the TCEQ by registered mail in accordance with §330.19 and §330.457(g) and placed in the operating record. In addition, a certified notation will be recorded in the county deed records of Web County to the deed to the facility property or on some other instrument that would normally be examined during title search that will in perpetuity notify any potential purchaser of the property that the land has been used as a landfill facility and the use of the land is restricted according to the provisions specified in the Post-closure Plan. A certified copy of the modified deed or other legal instrument that was used for the notation will be submitted to the TCEQ and placed in the operating record within the same timeframe of 10 days stated above.
- Following completion of final closure activities, a documented certification, signed by an independent registered professional engineer, will be submitted to the TCEQ by registered mail for review and approval. This certification will verify that final closure has been completed in accordance with the final closure plan and will include all applicable documentation necessary for certification of final closure. Once approved this application will be placed in the operating record.
- Following receipt of the required final closure documents and an inspection report from the TCEQ Regional office verifying proper closure of the MSWLF facility

according to this Final Closure Plan, the Executive Director may acknowledge the termination of operation and closure of the facility and deem the landfill properly closed.

- Following completion of final closure activities for the MSW landfill unit, the owner or operator shall comply with the post-closure care requirements specified in §330.463(b).

#### **4.3 Provisions for Extending Closure Period**

If the PERC Landfill has remaining capacity, at the time of its closure, final closure activities will begin no later than 1 year after the most recent receipt of wastes. A request for an extension beyond the 1-year deadline for the initiation of final closure may be submitted to the Executive Director for review and approval and will include all applicable documentation to demonstrate that the unit or site has the capacity to receive additional waste and that the owner/operator has taken and will continue to take all steps necessary to prevent threats to human health and the environment.

Closure activities will be completed within 180 days following the initiation of final closure activities. If necessary, a request for an extension of the completion of final closure activities will be submitted to the Executive Director for approval. This request will include all applicable documentation necessary to demonstrate that final closure will take longer than 180 days and all steps have been taken and will continue to be taken to prevent threat to human health and the environment from the unclosed site.

## **5.0 CLOSURE COST ESTIMATE**

A detailed written cost estimate, in current dollars, showing the cost of hiring a third party to close the largest area of the landfill ever requiring a final closure at any time during the active life of the unit has been prepared and is included in Attachment III-J. The cost estimate also includes closure costs related to closure of the liquid stabilization unit and citizen convenience center.