July 2015

POST-CLOSURE CARE AND MONITORING PLAN

LOS ALAMOS COUNTY AIRPORT LANDFILL COVER REPLACEMENT

prepared for:
Department of Energy
Environmental Management Los Alamos Field Office (EM-LA)
Los Alamos Field Office
Los Alamos, NM 87544

prepared by:
Dwyer Engineering LLC
Stephen F. Dwyer, PhD, PE
1813 Stagecoach Rd.
Albuquerque, NM 87123
(505) 270-0215

Revision 01

EXECUTIVE SUMMARY

This Post-Closure Care and Monitoring Plan (PCMP) addresses post-closure care and monitoring for the U.S. Department of Energy (DOE) Los Alamos County Airport Landfill closure. This PCMP identifies post-closure care and monitoring requirements and activities for the landfill that satisfy NMAC 20.4.1.600 and 40 CFR 265. A tentative inspection and reporting schedule is also identified.

Background information for the Airport Landfill project is provided in the ET Cover Design Report, Los Alamos County Airport Landfill (Dwyer Engineering 2015c) and Pre-Design Work Plan for the Los Alamos County Airport Landfill (Dwyer Engineering 2014).

TABLE OF CONTENTS

FIGURES

TABLES

1.0 PURPOSE

The Los Alamos County Airport Landfill Cover Replacement Project site elements will be inspected as outlined below during the post-closure care and monitoring period following acceptance of the Construction Completion Report. Generally, landfills regulated under the Resource Conservation and Resource Act (RCRA) are subject to a 30-year post closure monitoring period. However, under §§ 265.117, the time period may be reduced or increased dependent on findings, the integrity of the closure and agreement by applicable officials and regulators.

The landfill cover and erosion and sedimentation control measures will be inspected quarterly during the initial 5-year monitoring period to assess the general condition of the closure system and identify any maintenance or repair issues that may arise. Water balance monitoring of the cover system will also be included in these quarterly inspections. In addition to the quarterly inspections, if the site experiences a precipitation event that exceeds 1 inch in any given hour (the 100-year, 1-hour design storm event is 2.17in/hr.); the site shall also be inspected. An inspection report shall be prepared by the engineer within one week of the inspection. An annual Post-Closure Care and Monitoring Report shall be prepared and submitted to NMED. The annual report shall include all inspection reports and all monitoring performed to date along with any maintenance and/or repairs performed (if any). The quarterly monitoring will continue beyond the initial 5-year post-closure monitoring period unless DOE can provide adequate information to NMED that allows for a reduction in the number of inspections or elimination of inspections. The information will include all monitoring and inspections performed to date at the time of such a request.

Monitoring frequency may be reduced after conclusion of this initial 5-year period dependent on findings, progression of the cover system, and discussion between the Department of Energy (DOE) officials and regulators from the New Mexico Environment Department (NMED). The purpose of the inspections is to identify any areas of the site that may require repair to restore the intended functionality of the closure. This document outlines the site elements to be inspected, the inspection schedule, reporting requirements, and repair and notification procedures in the event that a repair is required.

For the first year as a minimum, methane monitoring will be performed at three locations. This monitoring will be performed on a quarterly basis. The results of this methane monitoring shall be submitted to NMED for review. This monitoring shall continue until DOE and NMED concur that it is no longer warranted.

Inspections of the individual site elements are discussed in Sections 3. Reporting requirements are outlined in Section 4. A proposed inspection checklist is provided in Attachment 1. This inspection list may be modified as the inspections progress based on findings and comments during this process.

2.0 REQUIREMENTS

The Airport Landfill project consists of design and construction of a replacement cover for the asphaltic cover previously installed in 2008. The new cover system will be a vegetated soil cover referred to as an Evapotranspiration (ET) Cover (Dwyer Engineering 2015c).

Details of the landfill design can be located in the construction drawings (Dwyer Engineering 2015a), specifications (Dwyer Engineering 2015b), and calculations (Dwyer Engineering 2015c) included in the Remedy Design Work Plan.

The PCMP follows guidance set forth in the New Mexico Administrative Code (NMAC 20.4.1.600) whereby the Code of Federal Regulations (CFR) for hazardous waste sites have been directly adopted (40 CFR 265) for design and post-closure care and monitoring.

Specifically, these requirements are summarized in Table 1.

Table 1. Monitoring Requirements

Regulation	Requirement	Method of Compliance
NMAC 20.4.1.600 (40 CFR 265.118)	PCMP	PCMP.
NMAC 20.4.1.600 (40 CFR 265.310)	Maintain cover integrity	Inspection and maintenance of cover system in accordance with this PCMP.
NMAC 20.4.1.600 (40 CFR 265.310)	Maintain and operate leachate collection system	The site is unlined and does not have a leachate collection system. Therefore, leachate collection system monitoring is not required.
NMAC 20.4.1.600 (40 CFR 265.310)	Groundwater monitoring	Groundwater monitoring not required.
NMAC 20.4.1.600 (40 CFR 265.310)	Reporting	Annual monitoring report per the PCMP.
NMAC 20.4.1.600 (40 CFR 265.310)	Prevent run-on and run-off from eroding or otherwise damaging the final cover	Inspection and maintenance of surface water controls per the PCMP
NMAC 20.4.1.600 (40 CFR 265.310)	Protect and maintain surveyed benchmarks	Annual inspection and maintenance of survey benchmarks per PCMP.
NMAC 20.4.1.600 (40 CFR 265.310)	Maintain access roads to main landfill and Debris Disposal Area	There are no permanent access roads specific for the landfill; therefore, access roads are not included in the PCMP.

3.0 SITE ELEMENTS MONITORED

This PCMP covers the following elements of the Closure at the Airport Landfill:

- Evapotranspiration (ET) Cover System
- Storm water control system
- Fencing and signage
- Survey benchmarks
- Retaining walls
- New concrete hangar pad
- Erosion and Sedimentation Control Measures
- Site access

Inspections will be performed on a quarterly basis for the initial 5-year post-closure period with these inspection reports included in an annual report to be submitted to NMED. The quarterly inspections will be performed by a registered professional engineer in the State of New Mexico with not less than 10 years of expertise in alternative cover systems. Inspection records and documentation of corrective actions will be retained in the project file and provided with the annual report.

3.1 ET COVER

The general integrity of the ET Cover system shall be inspected. The top slope and side slopes of the landfill shall be examined for potential degradation of the cover system, such as erosion (as evidenced by rilling or gullying), quality and quantity of vegetation establishment, areas of subsidence, biointrusion, cracking, slope instability, and wet areas. The overall integrity of the cover on the top slope and side slopes system shall be inspected and observations shall be recorded with digital photos in an inspection report that includes the check list contained in Attachment 1. Any maintenance or repair issues identified in an inspection shall be repaired as soon as weather permits. Any repairs requiring additional fill shall use fill from an approved borrow source.

Vegetation is a key aspect of the ET Cover. Vegetation will be inspected for success based on type of vegetation, percent bare area and size of native vegetation seeded during the cover installation. These values will be recorded by the Inspection Engineer in each inspection report. Furthermore, the vegetation will be monitored for continued robustness to ensure that there are not unintended stresses on it such as stress due to landfill gas. Digital photos will be taken during each inspection and included in the quarterly report to monitor the maturation and success of the vegetation. Should problems with vegetation be identified by the Engineer, the problem will be noted along with a recommended repair or further evaluation recommendations.

3.1.1 WATER BALANCE MONITORING

Water balance monitoring of the ET Cover shall be performed. The monitoring equipment shall be installed within three months after the completion of the cover construction. This monitoring is to include the monitoring of water content and soil suction within the cover profile. There

shall be two locations within the cover system to be monitored (Figure 2). The two locations are to be used to provide duplication in case of instrumentation or software errors. Each location shall have five water content probes and 5 soil suction probes installed within the profile to measure the respective parameters on a daily basis (Figure 1). Each set of probes shall be connected to an on-site data logger that will compile the data to be downloaded by the Inspection Engineer on a quarterly basis. The summary and analysis of the data shall be submitted with each quarterly inspection report.

Proposed Monitoring Equipment at each location (2 locations) includes:

- 5 each – GS3 water content probes by Decagon Devices Inc.
- 5 each – MPS-6 water potential probes by Decagon Devices, Inc.
- 2 each – EM50 data loggers by Decagon Devices Inc.

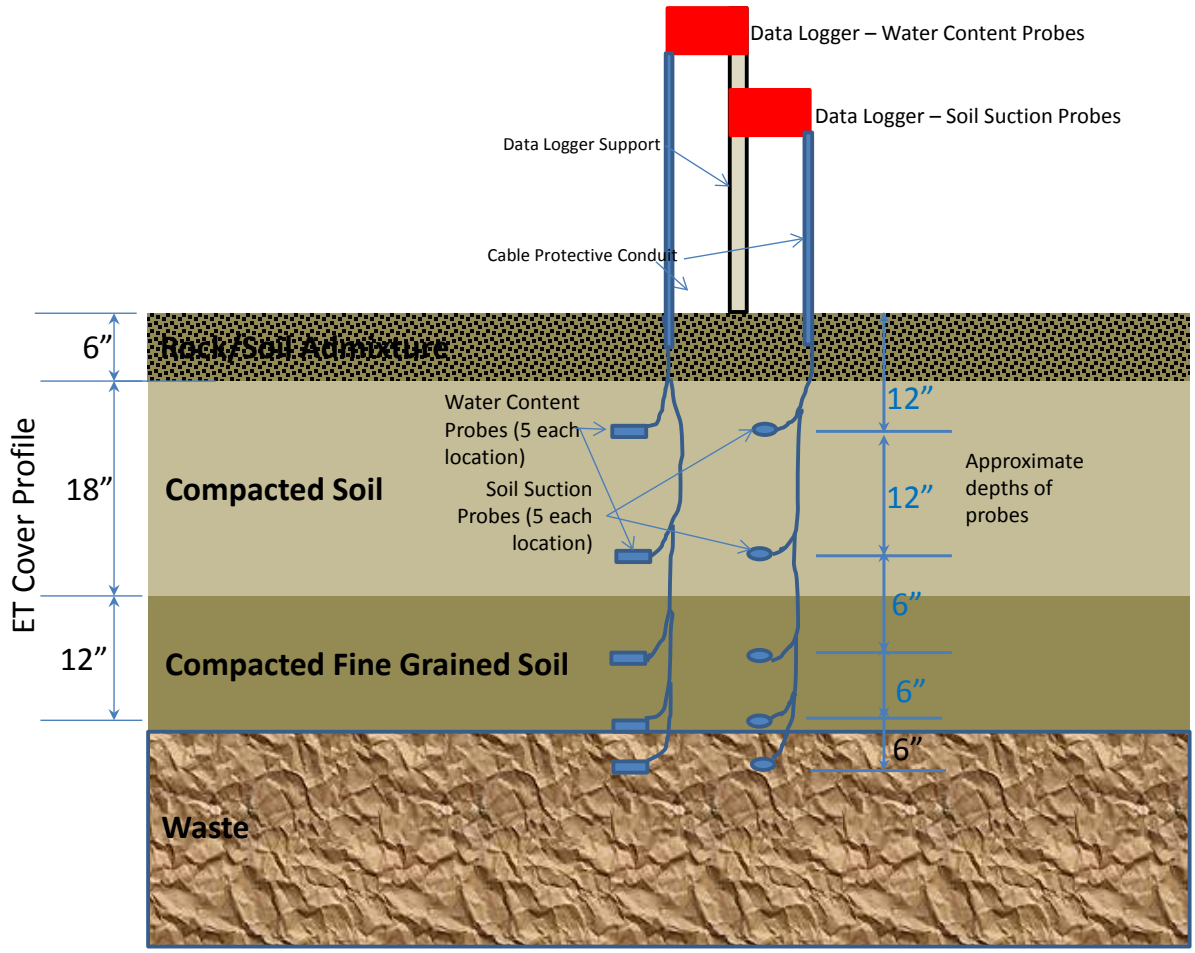

Figure 1. Water Balance Monitoring Typical Equipment

3.1.2 METHANE MONITORING

Methane monitoring shall be performed at three locations (Figures 2 and 3). The monitoring equipment shall be installed within three months after the completion of the cover construction. The monitoring shall include the installation of the three passive vent locations. Each location shall include a vertical riser installed into the underlying waste that rises above ground level where measurements can be made (Figure 3).

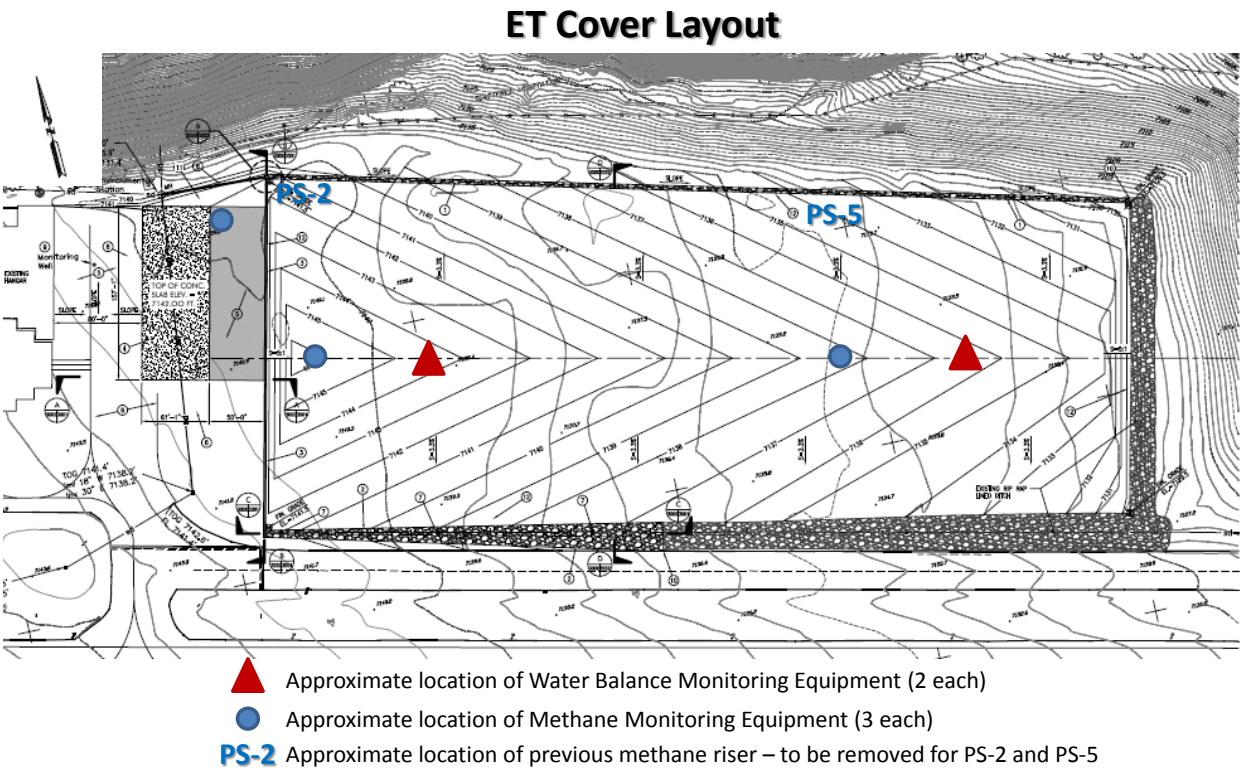

Figure 2. Methane and Water Balance Monitoring Locations

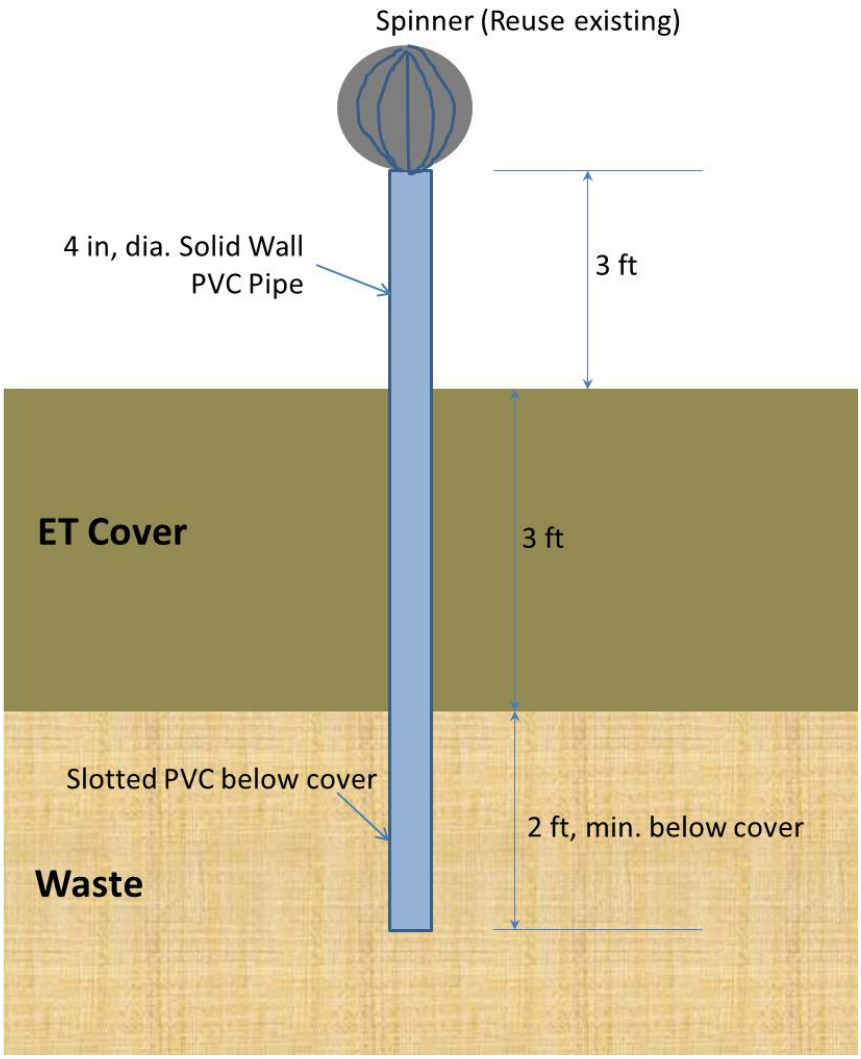

Figure 3. Methane Monitoring Vent

The methane monitoring shall be performed on a quarterly basis. If measured gas concentrations do not exceed 25% of the lower explosive limit (LEL) at any monitoring location for two years, the locations will be monitored twice the third year. If measured concentrations do not exceed 25% of the LEL the third year, monitoring will be discontinued. By mutual agreement between the NMED and DOE, if a descending trend is identified whereby the gas levels are decreasing - monitoring may also be discontinued prior to the time periods mentioned above.

If combustible gas levels exceed 25% of the LEL in any enclosed structure, or 100% of the LEL at the north edge of the cap, the owner or operator shall:

- Immediately take all necessary steps to ensure protection of public health, welfare and the environment and notify the NMED;

- Within 7 days of detection, record the methane gas levels detected and a description of the steps taken to protect public health, welfare and the environment and report them to NMED.

3.1.3 BIOINTRUSION MONITORING

As part of the periodic inspection, the ET Cover surface will be visually monitored for significant animal burrowing. Although the surface layer composed of a mixture of 25% rock to 75% soil by volume will discourage burrowing, it will not prevent it. However, the Federal Aviation Administration requires nearby fields including this landfill surface to be mowed to ensure that vegetation is less than a foot tall. The mowing to be performed under the direction of the Los Alamos County Airport has multiple advantages for the cover system. Its purpose is to disrupt the landscape required for burrowing animals to effectively survive. The taller vegetation acts as a canopy to hide the smaller animals from predators such as coyotes and birds. The FAA requires the mowing and thus discouragement of smaller burrowing animals because the presence of predators is a safety hazard. A second advantage of the mowing is that it encourages the establishment of thinner and shallower rooting vegetation such as grasses and discourage the establishment of deeper, woody rooted plants such as trees. The large woody roots of trees can provide preferential flow paths through soil covers. Significant burrowing will be reported to in the attached inspection checklist as well as to the Los Alamos County Airport manager. Any animal burrows larger than 3-icnhes in diameter will be reported. These large burrow holes will also be filled as soon as possible with soil meeting the cover soil specifications contained in the Technical Specifications, Section 02200 (Earthwork).

3.2 STORM WATER CONTROL SYSTEMS

The quarterly inspection will also satisfy the required annual storm water control system inspections as described in the approved Storm Water Pollution Prevention Plan (SWPPP). The Inspection Engineer will look for evidence of, or the potential for, degradation of and /or pollutants entering the storm water conveyance system. Discharge locations identified in the site plans will be inspected to determine whether erosion controls are effective in preventing significant impact to Pueblo Canyon.

The general integrity of the landfill drainage channels and culverts shall be inspected. The channels and the transition of the channels to the arroyo shall be inspected for evidence of degradation, erosion, subsidence, sediment accumulation, undercutting, obstructions, slope instability and other disturbances to the channels. The overall integrity of the drainage channels and culverts shall be inspected and observations shall be recorded using the table in Attachment 1. If any of the issues listed in Attachment 1 are observed to be significant by a New Mexico Professional Engineer, they are to be repaired as soon as weather permits. Any repairs requiring

additional fill shall use fill from an approved borrow source. Repairs requiring additional material such as riprap shall use locally available materials that meet the design specifications.

3.3 FENCING AND SIGNAGE

Fencing at the site includes perimeter fencing around the airport. The integrity of all fencing adjacent to the landfill and eastern retaining wall structures shall be inspected quarterly. The entire length of all fences shall be inspected for any damage, including but not limited to: bent posts, loose posts, broken links or wire, and damaged gates. Any damage noted shall be noted in the inspection report and repaired as soon as weather permits.

Signs associated with the landfill shall be visible and legible to public access areas. Damaged or obstructed signs shall be replaced, relocated, or the obstruction shall be removed. Repairs to signage shall be performed as soon as weather permits.

3.4 SURVEY BENCHMARKS

Inspections will include locating and documenting the condition of the permanent survey benchmarks. Benchmarks will be maintained in a clearly visible condition.

3.4 RETAINING WALLS

Visual inspections will be performed for both the concrete and mechanically stabilized earth (MSE) walls. Inspections shall evaluate the condition of the retaining structures and note any degradation. Inspections will investigate the existence and extent of any cracks that may exist in the concrete wall. Digital photos shall be taken of any cracking or degradation noted in the concrete wall. Measurements of the location and depth of the crack(s) (if any) shall be determined and documented in the inspection report. Also, investigate for any separation, rotation, or other movement of the MSE walls. Document location (if any) and take digital photo of extent of movement and include in the inspection report. Any soil erosion or other evidence of water damage in the vicinity of retaining walls shall be documented in the inspection report with recommended repair or maintenance.

3.5 CONCRETE HANGAR PAD

The concrete hangar pad installed with this project shall be inspected for structural integrity and degradation. Any tension cracks, spalling, or differential settlement shall be noted in the inspection report. The Los Alamos County Airport manager shall be notified should any significant degradation of the concrete hangar pad be noted. Seals between the concrete slabs and adjacent asphalt shall be inspected for continuity and weatherproofing. Degradation of these seals shall be noted in the inspection along with maintenance or repair suggested by the Engineer. Maintenance or repair of the seals shall be completed as soon as weather permits.

The Los Alamos County Airport personnel shall implement airport operating procedures to prevent damage to the concrete slabs and perimeter seals by snow removal equipment or other means.

3.6 EROSION AND SEDIMENTATION CONTROL

Condition of temporary erosion measures will be inspected for their integrity and usefulness during the time period they are deemed essential. If temporary erosion control measures such as wattles, silt fencing, or erosion control blankets are deemed to be damaged, they are to be repaired or replaced with similar materials as designated by the Engineer performing the inspection. All damage shall be noted in the inspection report along with recommend maintenance. These repairs or replacements are to be performed as soon as weather permits.

Condition of permanent erosion control measures will be inspected. These include the drainage channels, rock check dams, terraces, and rip rap protecting the areas around the retaining structures along the eastern portion of the landfill. Any degradation or damage shall be noted in the inspection reports along with recommended repair or maintenance for each occurrence. These repairs or maintenance items are to be performed as soon as weather permits.

Condition of outlet chutes, perimeter drains/berms, terrace drains, culverts, and drop inlets shall be inspected for presence of sediments, breaches in berms, presence of vegetation or debris, etc. Sediments, vegetation, or debris retarding storm water runoff will be removed as needed. Breaches in berms or chutes will be repaired using the appropriate materials.

3.7 SITE ACCESS

A permanent road dedicated to the landfill will not exist. However, access to continued monitoring shall be granted and included in the inspection report. Access shall be made available for any maintenance or repairs required as noted during the quarterly inspections.

4.0 COMMUNICATION/REPORTING REQUIREMENTS

An annual Post-Closure Care and Monitoring Report shall be submitted to the NMED during the five year initial monitoring period. These reports shall include all quarterly inspection reports (inclusive of water balance and methane monitoring performed) as well as any recommended maintenance or repairs inclusive of documentation that the recommended repair was properly performed. Attachment 1 provides a Post Closure Monitoring Check list, for guidance during the inspections. Digital Photos shall be included in each inspection report of key elements along with a summary of the condition of the site and any changes, damage or other issues, along with any maintenance or repairs recommended. The annual Post-Closure Care and Monitoring Report shall include, at a minimum, the following information for each reporting period:

1. Summary of the condition of each site element identified.
2. Photographs of the site features taken at the locations.
3. Summaries of all findings.
4. Summaries of all changes or repairs made to the site, indicating consultation with DOE and/or NMED and approval of those changes, when necessary.
5. Summaries of all contacts with representatives of the local community, public interest groups or government agencies.
6. Summaries of all problems or potential problems encountered.
7. Summaries of actions taken and being taken to rectify problems.
8. Changes in project personnel.
9. Copies of inspection reports and any other relevant records.
10. Summary of water balance monitoring and analysis performed (as long as this monitoring is performed).
11. Summary of methane monitoring results (as long as this monitoring is performed).

Each inspection report will include a list of any recommended maintenance or repairs based on findings from the recent inspection. The inspection report will also include a follow up review of previous maintenance or repairs performed verifying their effectiveness at addressing the issue. A recommendation for timeliness of the maintenance and repairs will be provided. Examples of maintenance or repairs needed may include:

- Localized areas of the cover where vegetation is deemed to be inadequate. Reseeding or further investigation may be required.
- Localized erosion including formation of grills/gullies will require repair and potential redesign to address the situation.
- Localized differential settlement that has or may create ponding will require repairs by adding additional soil in depressed area and reseeding.
- Excessive or large burrowing will need to be addressed immediately. Large burrow holes can be filled with soil, while excessive burrowing can create a hazard to the airport and must be addressed beyond repairs to the landfill.

Also to be included in each inspection report are areas of concern to be closely watched on subsequent inspection. These can vary – but include localized vegetation distress, settlement, erosion, cracking, an unexpected increase in methane production or cover moisture etc. These

issues on a case-by-case basis may trigger a more in depth review. Any of these issues will be included in the inspection report. All areas of concern will be forwarded to NMED by DOE as soon as possible for input into any corrective action that may be warranted.

A project file containing records of all inspections, monitoring, and maintenance performed will be maintained by DOE Environmental Management Los Alamos Field Office (EM-LA). The annual Post-Closure Care and Monitoring Report will be prepared and provided to the New Mexico Environmental Department (NMED) Secretary within 45 days from the end of each calendar year.

The name, address, and telephone number for the individual to contact during the post-closure period is as follows:

Ramoncita Massey, Project Manager
Department of Energy
Environmental Management - Los Alamos Field Office (EM-LA)
3747 West Jemez Road
Los Alamos, NM 87544
Phone: (505) 665-7771
Email: rmassey@em.doe.gov

5.0 REFERENCES

1. 40 CFR 265.118. 2006. "Post-closure Plan; Amendment of Plan," Code of Federal Regulations, published by the U.S. Government Printing Office, Washington, D.C.
2. 40 CFR 265.310. 2006. "Closure and Post-closure Care," Code of Federal Regulations, published by the U.S. Government Printing Office, Washington, D.C.
3. Dwyer Engineering. 2014. Pre-Design Work Plan for Los Alamos County Airport Landfill prepared by Dwyer Engineering LLC.
4. Dwyer Engineering. 2015a. Drawings (8 sheets). Los Alamos Airport Landfill Cover Replacement, Los Alamos, NM. April 2015.
5. Dwyer Engineering. 2015b. Technical Specifications. Los Alamos Airport Landfill Cover Replacement, Los Alamos, NM. April 2015.
6. Dwyer Engineering. 2015c. ET Cover Design Report. Los Alamos Airport Landfill Cover Replacement, Los Alamos, NM. April 2015.
7. LANL, 1998, "RFI Report for Potential Release Sites 73-001(a,b,c,d) and 73-004(d), Airport Landfill Areas," Vol. 1, 2, and 3, Los Alamos National Laboratory (LANL) report LA-UR-98-3824, 63070, Los Alamos, New Mexico, November 1, 1998.
8. NMAC 20.4.1.600. 2009. "Adoption of 40 CFR Part 265," New Mexico Administrative Code, published by the Commission of Public Records, Administrative Law Division, Santa Fe, New Mexico, October 1, 2003.

.

ATTACHMENT 1

POST-CLOSURE MONITORING CHECK LIST

Post-Closure Monitoring Check List for the Los Alamos County Airport Landfill Closure

Site Name: Los Alamos County Airport Landfill	Date of Inspection:
City: Los Alamos	Weather:
State: New Mexico	Temperature:
Agency: Department of Energy	Site Map:
Inspector:	Note: Indicate the location of any deficiency noted below on the site map
Landfill ET Cover – Top Slope	**Remarks**
1. Settlement (Low Spots): Yes ( ) No ( ) Areal Extent: Depth: Repairs Necessary Yes ( ) No ( ) If yes, explain	
2. Surface Cracks: Yes ( ) No ( ) Length: Width: Depth: Repairs Necessary Yes ( ) No ( ) If yes, explain	
3. Erosion: Yes ( ) No ( ) Areal Extent: Depth: Repairs Necessary Yes ( ) No ( ) If yes, explain	
4. Biointrusion Holes: Yes ( ) No ( ) Areal Extent:	

Depth: Suspected Cause (Rodent or Other): Repairs Necessary Yes ( ) No ( ) If yes, explain	
5. Vegetation Condition: General Condition progressing as expected: Yes ( ) No ( ) If no, explain Issues Observed: Yes ( ) No ( ) If yes, explain Repairs Necessary: Yes ( ) No ( ) If yes, explain	
6. Rill/Gully: Yes ( ) No ( ) Areal Extent: Height: Suspected Cause Repairs Necessary Yes ( ) No ( ) If yes, explain	
7. Wet Areas: Yes ( ) No ( ) Ponding: Yes ( ) No ( ) Areal Extent: Seeps: Yes ( ) No ( ) Areal Extent: Estimated Flow Rate: Soft Subgrade: Yes ( ) No ( ) Areal Extent: Repairs Necessary Yes ( ) No ( ) If yes, explain	

8. Slope Instability: Yes ( ) No ( ) Slides: Yes ( ) No ( ) Areal Extent: Probable Slide Interface: Suspected Cause: Exposed Cover Components: Repairs Necessary Yes ( ) No ( ) If yes, explain	
Landfill Cover – Side Slopes	
1. Settlement (Low Spots) : Yes ( ) No ( ) Areal Extent: Depth: Repairs Necessary Yes ( ) No ( ) If yes, explain	
2. Cracks: Yes ( ) No ( ) Length: Width: Depth: Repairs Necessary Yes ( ) No ( ) If yes, explain	
3. Erosion: Yes ( ) No ( ) Areal Extent: Depth: Repairs Necessary Yes ( ) No ( ) If yes, explain	

4. Biointrusion Holes: Yes ( ) No ( ) Areal Extent: Depth: Suspected Cause (Rodent or Other): Repairs Necessary Yes ( ) No ( ) If yes, explain	
5. Vegetation Condition: General Condition progressing as expected: Yes ( ) No ( ) If no, explain Issues Observed: Yes ( ) No ( ) If yes, explain Repairs Necessary: Yes ( ) No ( ) If yes, explain	
6. Rill/Gully: Yes ( ) No ( ) Areal Extent: Height: Suspected Cause: Repairs Necessary Yes ( ) No ( ) If yes, explain	
7. Wet Areas: Yes ( ) No ( ) Ponding: Yes ( ) No ( ) Areal Extent: Seeps: Yes ( ) No ( ) Areal Extent: Estimated Flow Rate: Soft Subgrade: Yes ( ) No ( ) Areal Extent:	

Repairs Necessary Yes ( ) No ( ) If yes, explain	
8. Slope Instability: Yes ( ) No ( ) Slides: Yes ( ) No ( ) Areal Extent: Probable Slide Interface: Suspected Cause: Exposed Cover Components: Repairs Necessary Yes ( ) No ( ) If yes, explain	
Rip Rap Lined Drainage Channels	
1. Settlement: Yes ( ) No ( ) Areal Extent: Depth: Repairs Necessary Yes ( ) No ( ) If yes, explain	
2. Material Degradation: Yes ( ) No ( ) Material Type: Areal Extent: Degree of Degradation: Repairs Necessary Yes ( ) No ( ) If yes, explain	
3. Erosion: Yes ( ) No ( ) Areal Extent:	

Depth: Repairs Necessary Yes ( ) No ( ) If yes, explain	
4. Undercutting: Yes ( ) No ( ) Areal Extent: Depth: Repairs Necessary Yes ( ) No ( ) If yes, explain	
5. Obstructions: Yes ( ) No ( ) Type: Areal Extent: Size: Repairs Necessary Yes ( ) No ( ) If yes, explain	
6. Slope Instability: Yes ( ) No ( ) Type: Areal Extent: Repairs Necessary Yes ( ) No ( ) If yes, explain	
7. Siltation: Yes ( ) No ( ) Areal Extent: Depth: Repairs Necessary Yes ( ) No ( ) If yes, explain	
8. Drop Inlet Structures: Working Properly Yes ( ) No ( )	

Condition: Extent of Damage: Repairs Necessary Yes ( ) No ( ) If yes, explain	
Asphalt Lined Drainage Channels	
1. Settlement: Yes ( ) No ( ) Areal Extent: Depth: Repairs Necessary Yes ( ) No ( ) If yes, explain	
2. Material Degradation: Yes ( ) No ( ) Material Type: Areal Extent: Degree of Degradation: Repairs Necessary Yes ( ) No ( ) If yes, explain	
3. Erosion: Yes ( ) No ( ) Areal Extent: Depth: Repairs Necessary Yes ( ) No ( ) If yes, explain	
4. Undercutting: Yes ( ) No ( ) Areal Extent: Depth: Repairs Necessary Yes ( ) No ( ) If yes, explain	
5. Obstructions:	

Yes ( ) No ( ) Type: Areal Extent: Size: Repairs Necessary Yes ( ) No ( ) If yes, explain	
6. Slope Instability: Yes ( ) No ( ) Type: Areal Extent: Repairs Necessary Yes ( ) No ( ) If yes, explain	
7. Siltation: Yes ( ) No ( ) Areal Extent: Depth: Repairs Necessary Yes ( ) No ( ) If yes, explain	
8. Drop Inlet Structures: Working Properly Yes ( ) No ( ) Condition: Extent of Damage: Repairs Necessary Yes ( ) No ( ) If yes, explain	
Concrete Culvert	

1. Siltation: Yes ( ) No ( ) Areal Extent: Depth: Repairs Necessary Yes ( ) No ( ) If yes, explain	
2. Concrete Condition and Joints General Condition progressing as expected: Yes ( ) No ( ) If no, explain Issues Observed: Yes ( ) No ( ) If yes, explain Repairs Necessary: Yes ( ) No ( ) If yes, explain	
3. Grating Condition: General Condition progressing as expected: Yes ( ) No ( ) If no, explain Issues Observed: Yes ( ) No ( ) If yes, explain Repairs Necessary: Yes ( ) No ( ) If yes, explain	
Fencing/Signage	
1. Airport Fence Adjacent to Landfill: bent posts: Yes ( ) No ( ) loose posts: Yes ( ) No ( ) broken links or wire: Yes ( ) No ( ) damaged gates: Yes ( ) No ( ) Description of damage: Repairs Necessary Yes ( ) No ( ) If yes, explain	
2. Signage: Damage or Obstruction to Viewing Yes ( ) No ( ) Description:	

Survey Benchmarks	
1.Survey Benchmarks Located: Yes ( ) No ( )	
2.Survey Benchmarks Condition:	
3.Survey Benchmarks Damage Description (if any):	
4.**Repairs Necessary** Yes ( ) No ( ) If yes, explain	
Retaining Wall	
1.Retaining Wall Condition:	
2. Retaining Wall Damage Description (if any):	
3.**Repairs Necessary** Yes ( ) No ( ) If yes, explain	
Concrete Hangar Pad	
1.Concrete Hangar Pad Condition:	
2. Settlement Yes ( ) No ( ) If yes, explain	
3. Cracking Yes ( ) No ( ) If yes, explain	
4.**Repairs Necessary**	

Yes ( ) No ( ) If yes, explain	
Temporary Erosion & Sedimentation Control Measures	
1. Silt Fence or Waddle: Functional Yes ( ) No ( ) if no, describe locations Loose posts: Yes ( ) No ( ) Broken or ripped fabric: Yes ( ) No ( ) Gap between fabric and ground: Yes ( ) No ( ) Description of damage: Repairs Necessary Yes ( ) No ( ) If yes, explain	
2. Erosion Control Blanket: Functional Yes ( ) No ( ) if no, describe locations Damaged Blanket: Yes ( ) No ( ) Other damage: Yes ( ) No ( ) Description of damage: Repairs Necessary Yes ( ) No ( ) If yes, explain	
Permanent Erosion & Sedimentation Control Measures	
1. Rip Rap Reinforced Side Slope near Retaining Wall: Functional Yes ( ) No ( ) if no, describe locations Damage or degradation: Yes ( ) No ( ) Description of damage: Repairs Necessary Yes ( ) No ( ) If yes, explain	
2. Rock Check Dams near Retaining Wall: Functional Yes ( ) No ( ) if no, describe locations Damage, displaced rock, or other damage: Yes ( ) No (	

) Description of damage: Repairs Necessary Yes ( ) No ( ) If yes, explain	
3. Landfill Terrace above Retaining Wall: Functional Yes ( ) No ( ) if no, describe locations Damage, adjunct erosion, slope problem, or other damage/degradation: Yes ( ) No ( ) Description of damage: Repairs Necessary Yes ( ) No ( ) If yes, explain	
4. Drainage Channels adjacent to Retaining Wall: Functional Yes ( ) No ( ) if no, describe locations Damage, adjunct erosion, slope problem, or other damage/degradation: Yes ( ) No ( ) Description of damage: Repairs Necessary Yes ( ) No ( ) If yes, explain	
5. Gabion above Drainage Channels adjacent to Retaining Wall: Functional Yes ( ) No ( ) if no, describe locations Damage or degradation: Yes ( ) No ( ) Description of damage: Repairs Necessary Yes ( ) No ( ) If yes, explain	
Site Access	
1.Access Restrictions: Yes ( ) No ( ) Description: Repairs Necessary Yes ( ) No ( ) If yes, explain	
General	

1. Vandalism: Yes ( ) No ( ) Description of damage: Repairs Necessary Yes ( ) No ( ) If yes, explain	
2. Land Use Change: Yes ( ) No ( ) Description: Repairs Necessary Yes ( ) No ( ) If yes, explain	
Summary of Recommended Maintenance and/or Repairs	
1. Maintenance / Repairs Necessary Yes ( ) No ( ) If yes, explain	
Other	
1. Describe	