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DEPARTMENT OF ENERGY
Environmental Management Los Alamos Field Office (EM-LA)
Los Alamos, New Mexico 87544

EMLA-23-BF45-2-1

December 15, 2022

Mr. Rick Shean
Bureau Chief
Hazardous Waste Bureau
New Mexico Environment Department
2905 Rodeo Park Drive East, Building 1
Santa Fe, NM 87505-6313

Subject: Biennial Inspection and Maintenance Report on Erosion Controls Associated with Solid Waste Management Unit 16-003(o) within Fishladder Canyon

References

1. New Mexico Environment Department Letter, J.P. Bearzi to D. Gregory and D. McInroy, "Approval with Modifications for Phase II Investigation Report for the TA-16-340 Complex [Consolidated Units 13-003(a)-99 and 16-003(n)-99 and Solid Waste Management Units 16-003(o), 16-026(j2), and 16-029(f)], Revision 1," dated February 9, 2009
2. Los Alamos National Laboratory, December 2016. "Inspection and Maintenance of Erosion Controls Associated with Solid Waste Management Unit 16-003(o) within Fishladder Canyon," Los Alamos National Laboratory document LA-UR-16-20239
3. New Mexico Environment Department Letter, J.E. Kieling to D. Hintz and M.T. Brandt, "Review Inspection and Maintenance Report of Erosion Controls Associated with Solid Waste Management Unit 16-003(o) within Fishladder Canyon," dated January 5, 2017
4. Letter EMLA-2021-0019-02-001, A.Q. Duran to K. Pierard, "Biennial Inspection and Maintenance Report on Erosion Controls Associated with Solid Waste Management Unit 16-003(o) within Fishladder Canyon," dated December 10, 2020
5. New Mexico Environment Department Email, M. Schatz to A. Duran, "Biennial Inspection and Maintenance Report on Erosion Controls Associated with SWMU 16-003(o) within Fishladder Canyon," dated April 5, 2022
6. Letter EMLA-2022-BF112-02-001, M.L. Bishop to M. Schatz, "Response to New Mexico Environment Department Request for Additional Information Concerning the 2020 Biennial Inspection and Maintenance of Erosion Controls Associated with Solid Waste Management Unit 16-003(o) within Fishladder Canyon," dated June 24, 2022
7. New Mexico Environment Department Letter, R. Shean to A.Q. Duran, "Review of Request for Certificates of Completion with Controls for Five Solid Waste Management Units in the Cañon de Valle Aggregate Area and One Solid Waste Management Unit and One Area of Concern in the S-Site Aggregate Area," dated October 24, 2022

Dear Mr. Shean:

This letter documents the annual inspection and maintenance of erosion control measures associated with Solid Waste Management Unit (SWMU) 16-003(o) within Fishladder Canyon for calendar years 2021 and 2022. This letter is required under the New Mexico Environment Department's (NMED's) approval with modifications for the Phase II Investigation Report for the Technical Area 16 (TA-16) 340 Complex, Revision 1, dated February 9, 2009 (Reference 1).

Erosion controls for SWMU 16-003(o) in Fishladder Canyon were installed during Phase II investigation activities in July 2008. The controls included straw wattles, geotextile, and jute matting at the former fishladder location; a silt fence along the access road; and a gabion/rock check dam at the access road crossing.

Following NMED's February 9, 2009, approval letter requiring the annual inspection of and reporting on the erosion controls (Reference 1), the U.S. Environmental Protection Agency issued Los Alamos National Laboratory's National Pollutant Discharge Elimination System Storm Water Individual Permit (Permit No. NM0030759) (hereafter the Individual Permit). The Individual Permit, which became effective November 1, 2010, and was renewed effective August 1, 2022, regulates stormwater discharges from SWMUs, including SWMU 16-003(o), and areas of concern. The erosion controls installed during the Phase II investigation were incorporated into the Individual Permit, and inspection and maintenance activities performed each year are reported in the Site Discharge Pollution Prevention Plan (SDPPP) under site monitoring area (SMA) CDV-SMA-2.3. The most recent SDPPP can be found on the Individual Permit website at https://ext.em-la.doe.gov/ips.

Since completion of the 2008 Phase II investigation, erosion controls have been modified to meet the needs of the site. The Phase II wattles and matting have been retired in place, and the silt fence was removed once the hillside and access road were stabilized. The gabion/rock check dam at the access road crossing continues to be inspected under the Individual Permit. Additional controls have been installed per requirements for SWMU 16-003(o) under the Individual Permit as shown in Figure 1. (Figures 1–19 are included in Enclosure 1.)

Figure 1 also shows the Individual Permit sampler location as well as erosion and sedimentation controls for other SWMUs associated with the SMA. Controls specifically associated with SWMU 16-003(o) consist of a rock berm (-0026), an earthen berm (-0027), straw wattles (-0028 and -0030), rock check dams (-0024 and -0025), and the small gabion structure (-0002) installed during the Phase II investigation. The photographs in Figures 2 through 19 (Enclosure 1), taken in 2021 and 2022, show these controls as well as general site conditions. Other controls in this SMA are associated with SWMU 16-003(n) and are not evaluated as part of this submittal.

On December 13, 2016, the annual "Inspection and Maintenance of Erosion Controls Associated with Solid Waste Management Unit 16-003(o) within Fishladder Canyon" was submitted to NMED (Reference 2). In that report a request was made to reduce the report submittal schedule to once every 2 yr and no later than December 31 of the reporting year. On January 5, 2017, NMED approved the annual inspection report and the request to submit reports biennially (Reference 3). On December 10, 2020, the

biennial "Inspection and Maintenance of Erosion Controls Associated with Solid Waste Management Unit 16-003(o) within Fishladder Canyon" was submitted to NMED (Reference 4). In that report, a request was made to discontinue reporting and remove the report as a requirement in NMED's approval with modifications for the Phase II Investigation Report for the TA-16 340 Complex, Revision 1, dated February 9, 2009 (Reference 1). On April 5, 2022, NMED requested additional information in order to consider the discontinuation of monitoring of controls at SWMU 16-003(o) (Reference 5). On June 24, 2022, the "Response to New Mexico Environment Department Request for Additional Information Concerning the 2020 Biennial Inspection and Maintenance of Erosion Controls Associated with Solid Waste Management Unit 16-003(o) within Fishladder Canyon" was submitted to NMED (Reference 6). On October 24, 2022, NMED denied the request for a certificate of completion with controls for SWMU16-003(o), concluding that inspection and maintenance of best management practices (BMPs) must continue (Reference 7). This inspection report covers inspection and maintenance activities performed during 2021 and 2022.

Under the 2010 Individual Permit, controls are inspected at least once per year, after a rainfall event equal to or greater than 0.25 in. of rain within 30 min, and in the event that stormwater sampling results at the SMA exceed Individual Permit target action levels. Effective August 1, 2022, the renewed Individual Permit updated the definition of a "rainfall event" to be equal to or greater than 0.5 in. of rain within 30 min. Eight rainfall events occurred in 2021, and five occurred in 2022 before August 1, 2022. Since the renewed Individual Permit became effective there have been no rainfall events.

Controls at SWMU 16-003(o) were inspected seven times during 2021:

- The first inspection was completed on June 7, 2021, for the May 30 and 31, 2021, rain events (maximum intensity of 0.74 in. and 0.61 in. within 30 min, respectively).There were no findings or maintenance items.
- The second inspection was completed on July 7, 2021, for the June 26, 2021, rain event (maximum intensity of 0.29 in. within 30 min). There were no findings or maintenance items.
- The third inspection was completed on July 29, 2021, for the July 20 and 27, 2021, rain events (maximum intensity of 0.29 in. and 0.49 in. within 30 min, respectively). There were no findings or maintenance items.
- The fourth inspection was completed on August 11, 2021, for the August 4, 2021, rain event (maximum intensity of 0.32 in. within 30 min). There were no findings or maintenance items.
- The fifth inspection was completed on August 24, 2021, for the August 15, 2021, rain event (maximum intensity of 0.45 in. within 30 min). There were no findings or maintenance items.
- The sixth inspection was completed on September 3, 2021, for the August 26, 2021, rain event (maximum intensity of 0.27 in. within 30 min). There were no findings or maintenance items.
- The seventh inspection was completed on October 22, 2021, for the required annual inspection. There were no findings or maintenance items.

Controls at SWMU 16-003(o) were inspected four times during 2022:

- The first inspection was completed on July 7, 2022, for the June 25, 2022, and July 4, 2022, rain events (maximum intensity of 0.47 in. and 0.33 in. within 30 min, respectively). Straw wattle V00703060030 was recommended for replacement as the sediment retention capacity was almost full. The BMP was replaced with straw wattle V00703060033 on July 29, 2022 (Enclosure 1, Figure 1).
- The second inspection was completed on July 29, 2022, for the July 20 and July 27, 2022, rain events (maximum intensity of 0.34 in. and 0.35 in. within 30 min, respectively). There were no findings or maintenance items.
- The third inspection was completed on August 9, 2022, for the July 30, 2022, rain event (maximum intensity of 0.56 in. within 30 min). There were no findings or maintenance items.
- The fourth inspection was completed on September 13, 2022, for the required annual inspection. There were no findings or maintenance items. A photograph of the view west of the former access road into Fishladder Canyon was not taken at that inspection. A photograph was obtained on November 8, 2022, for inclusion for this submittal (Enclosure 1, Figure 19).

If you have any questions, please contact Ryan Flynn at (505) 470-0624 (ryan.flynn@em-la.doe.gov) or Cheryl Rodriguez at (505) 414-0450 (cheryl.rodriguez@em.doe.gov).

Sincerely,

For M Lee Bishop

Digitally signed by For M Lee Bishop
Date: 2022.12.13 14:16:54 -07'00'

Arturo Q. Duran
Compliance and Permitting Manager
U.S. Department of Energy
Environmental Management
Los Alamos Field Office

Enclosure(s):

1. Two hard copies with electronic files:
   Figures for the Biennial Inspection and Maintenance Report on Erosion Controls Associated with Solid Waste Management Unit 16-003(o) within Fishladder Canyon (EM2022-0787)

CC (letter and enclosure[s] emailed):
Laurie King, EPA Region 6, Dallas, TX
Raymond Martinez, San Ildefonso Pueblo, NM
Dino Chavarria, Santa Clara Pueblo, NM
Steve Yanicak, NMED-DOE-OB
Chris Catechis, NMED-RPD
Jennifer Payne, LANL
Stephen Hoffman, NA-LA
Felicia Aguilar, N3B
William Alexander, N3B
Ryan Flynn, N3B
Kim Lebak, N3B
Joseph Legare, N3B
Dana Lindsay, N3B
Erik Loechell, N3B
Robert Macfarlane, N3B
Christian Maupin, N3B
Karly Rodriguez, N3B
Shannon Smith, N3B
Troy Thomson, N3B
Amanda White, N3B
M. Lee Bishop, EM-LA
John Evans, EM-LA
Michael Mikolanis, EM-LA
David Nickless, EM-LA
Cheryl Rodriguez, EM-LA
emla.docs@em.doe.gov
n3brecords@em-la.doe.gov
Public Reading Room (EPRR)
PRS website

Enclosure 1

Figures for the Biennial Inspection and Maintenance Report on Erosion Controls Associated with Solid Waste Management Unit 16-003(o) within Fishladder Canyon

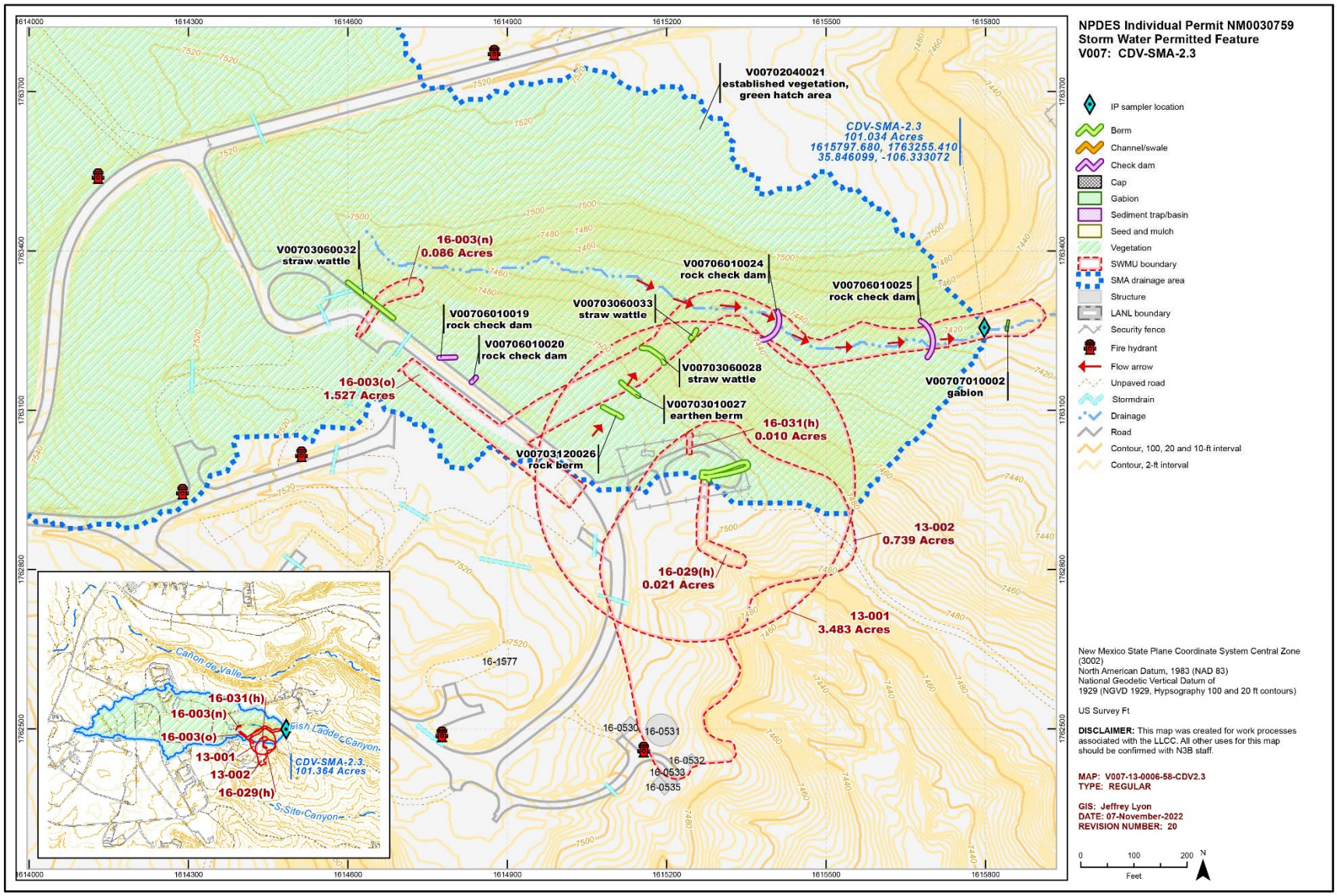

Figure 1 **Individual Permit sample locations and stormwater controls as well as solid waste mangement units (SWMUs) associated with CDV-SMA-2.3**

Figure 2 **Rock berm (V00703120026, center of photo) at the top of drainage leading into Fishladder Canyon (October 2021). Note established vegetation. Condition of control: excellent.**

Figure 3 **Rock berm (V00703120026, center of photo) at the top of drainage leading into Fishladder Canyon (September 2022). Note established vegetation. Condition of control: excellent.**

Figure 4 **Earthen berm (V00703010027, center of photo) at the top of drainage leading into Fishladder Canyon (October 2021). Note established vegetation. Condition of control: excellent.**

Figure 5 **Earthen berm (V00703010027, center of photo) at the top of drainage leading into Fishladder Canyon (September 2022). Note established vegetation. Condition of control: excellent.**

Figure 6 **View downslope of the former fishladder location (October 2021). Note established vegetation above and below retired straw wattle. No active controls are visible in photo.**

Figure 7 **View downslope of the former fishladder location (September 2022). Note established vegetation above and below retired straw wattle. No active controls are visible in photo.**

Figure 8 **View upslope of the former fishladder location from the canyon bottom (October 2021). Note established vegetative cover and lack of erosional features. Control is not visible in photo.**

Figure 9 **View upslope of the former fishladder location from the canyon bottom (September 2022). Note established vegetative cover and lack of erosional features. Control is not visible in photo.**

Figure 10 View east of former access road and straw wattle (V00703060028, center-left of photo, October 2021). Note established vegetation.

Figure 11 View east of former access road and straw wattle (V00703060028, center-left of photo, September 2022). Note established vegetation. Condition of control: very good.

Figure 12 Rock check dam (V00706010024, center of photo) in Fishladder Canyon primary drainage (October 2021). Condition of control: good.

Figure 13 Rock check dam (V00706010024, center of photo) in Fishladder Canyon primary drainage (September 2022). Condition of control: good.

Figure 14 Rock check dam (V00706010025, center of photo) in primary drainage (October 2021). Note established vegetation in channel. Condition of control: excellent.

Figure 15 Rock check dam (V00706010025, center of photo) in primary drainage (September 2022). Note established vegetation in channel. Condition of control: excellent.

Figure 16 **Gabion (V00707010002, center of photo) at access road crossing in Fishladder Canyon (October 2021). Note vegetation in channel upstream of control. Condition of control: good.**

Figure 17 **Gabion (V00707010002, center of photo) at access road crossing in Fishladder Canyon (September 2022). Note vegetation in channel upstream of control. Condition of control: good.**

Figure 18 View west of former access road in Fishladder Canyon (October 2021). Note vegetative cover, needlecast, and downed trees along the former access road.

Figure 19 View west of former access road in Fishladder Canyon (November 2022). Note vegetative cover, needlecast, and downed trees along the former access road.