EMID-702684

N3B Los Alamos

2022 Update to the Site Discharge Pollution Prevention Plan

NPDES Permit No. NM0030759
May 1, 2023

Pajarito Watershed

Receiving Waters:
Pajarito Canyon, Starmer Canyon, Twomile Canyon, and Threemile Canyon

Volume 3

CONTENTS

Attachments

119.0 2M-SMA-1: SWMU 03-010(a)

One historical industrial activity area, Site 03-010(a), is associated with 2M-SMA-1 (permitted feature E001). Summaries of all inspection, monitoring, and maintenance actions conducted in 2022 are provided below. Refer to the "2022 Sampling Implementation Plan, NPDES Permit No. NM0030759" (N3B 2023, 702608) for more information on Consent Order investigation activities, the SSD, and planned stormwater monitoring at the SMA for future monitoring seasons.

119.1 Site Descriptions

03-010(a) (11/27/2017)

SWMU 03-010(a) is surface disposal area and drainage that received waste generated from vacuum pumps repaired at the shop in building 03-30 [AOC 03-001(e)] at TA-03. The surface disposal area received discharges of waste oil and mercury between 1950 and 1957. Former site workers estimated that between 150 and 200 lb of mercury was in the waste oil discharged to the drainage along with tritium and transuranics. The drainage encompasses an area approximately 40 ft long × 15 ft wide on a moderately steep slope southwest of building 03-30 that discharges into Twomile Canyon. Waste oil from the vacuum repair shop in building 03-30 was subsequently collected and stored in containers at AOC 03-001(e) located on the west side of the building until 1992.

Known or Potential Use of POCs

POCs known to be managed or potentially used at the Site are listed in Table 119-1.

Table 119-1 POCs Known or Suspected to Have Been Used Historically at the Site

Site	Potential POC Source	Potential POCs
03-010(a)	Former vacuum repair shop outfall	Lead, mercury, tritium, transuranic elements

119.2 Control Measures

All active control measures in use at 2M-SMA-1 are listed in Table 119-2. Their locations are shown on the project map (Figure 119-1) located at the end of this SMA update. Future map updates will be posted on the IP website: https://ext.em-la.doe.gov/ips/Home/SiteMonitoringAreaMaps.

Table 119-2 Active Control Measures

Control ID	Control Name	Purpose of Control				Control Status	Install Date
		Run-On	Runoff	Erosion	Sediment		
E00102040026	Established Vegetation	-	X	X	-	B	4-23-2013
E00103010014	Earthen Berm	X	-	-	X	EC	6-19-2012
E00103110035	Eco-Block	X	-	-	X	B	6-17-2019
E00103120034	Rock Berm	-	-	X	-	B	11-4-2015
E00104060010	Riprap	X	-	X	-	CB	6-1-2009
E00104060011	Riprap	X	-	X	-	CB	6-1-2009
E00104060033	Riprap	-	X	-	X	B	11-4-2015
E00105020013	Sediment Basin	X	-	-	X	EC	6-19-2012
E00106010007	Rock Check Dam	X	-	-	X	CB	6-1-2009
E00106010008	Rock Check Dam	X	-	-	X	CB	6-1-2009

Control ID	Control Name	Purpose of Control				Control Status	Install Date
		Run-On	Runoff	Erosion	Sediment		
E00106010009	Rock Check Dam	X	-	-	X	CB	6-1-2009
E00106010017	Rock Check Dam	X	-	-	X	EC	6-19-2012
E00106010018	Rock Check Dam	X	-	-	X	EC	6-19-2012
E00106010019	Rock Check Dam	X	-	-	X	EC	6-19-2012
E00106010020	Rock Check Dam	X	-	-	X	EC	6-19-2012
E00106010021	Rock Check Dam	X	-	-	X	EC	6-19-2012
E00106010022	Rock Check Dam	X	-	-	X	EC	6-19-2012
E00106010023	Rock Check Dam	X	-	-	X	EC	6-19-2012
E00106010024	Rock Check Dam	X	-	-	X	EC	6-19-2012
E00106010025	Rock Check Dam	X	-	-	X	EC	6-19-2012
E00106010028	Rock Check Dam	X	-	-	X	B	6-19-2015
E00106010029	Rock Check Dam	X	-	-	X	B	6-19-2015
E00106020031	Log Check Dam	-	X	-	X	B	11-18-2015
E00106020032	Log Check Dam	-	X	-	X	B	11-18-2015

119.3 Inspections and Maintenance

Rain gage RG121.9 recorded five storm events at 2M-SMA-1 during the 2022 season, requiring two post-storm inspections, which are summarized in Table 119-3. All other control-measure inspections conducted at the SMA are summarized in Table 119-4, and maintenance activities conducted during 2022 are summarized in Table 119.5.

Power-line infrastructure upgrades for TA-03 that began in the fall of 2021 continued throughout 2022 at 2M-SMA-1. SWPP team members continued regular inspections of active control measures to ensure the functionality of IP controls during this Triad-managed activity. The work is ongoing, and at completion, the SMA will be reevaluated for changes in condition or compliance status.

Table 119-3 Post-Storm Inspections During 2022

Inspection Reference	Storm Date	30-Minute Maximum Intensity (in.)	Inspection Date	Days to Inspection	Inspected within 15 days?
BMP-93201[a,b]	6-25-2022	0.49	7-8-2022	13	Yes
	6-26-2022	0.32		12	Yes
	7-2-2022	0.32		6	Yes
BMP-94713[b]	7-27-2022	1.24	8-4-2022	8	Yes
	7-31-2022	0.32		4	Yes

[a] Inspection also qualifies as the Annual Erosion Evaluation per 2010 IP Part I.G.1.

[b] Inspection qualifies for multiple Storm Dates per 2010 IP Part I.G.2 and 2022 IP Part I.B.8.b.

Table 119-4 Other Control-Measure Inspections During 2022

Inspection Type	Inspection Reference	Inspection Date	Summary of Findings
Remediation Construction Compliance Inspection	COMP-90573	1-6-2022	Operations have damaged matting on Earthen Berm E00103010014. Fallen tree covering Rock Check Dams E00106010021 and E00106010022. SOM has been notified. Construction related controls in place.
Remediation Construction Compliance Inspection	COMP-90629	1-11-2022	Operations have damaged matting on Earthen Berm E00103010014. Fallen tree covering Rock Check Dams E00106010028 and E00106010029. SOM has been notified. Construction related controls in place.
Remediation Construction Compliance Inspection	COMP-90657	1-18-2022	Site unchanged from previous inspection. Construction related controls in place.
Remediation Construction Compliance Inspection	COMP-90882	1-25-2022	Earthen Berm E00103010014 no longer impacted. Site otherwise unchanged from previous inspection.
Remediation Construction Compliance Inspection	COMP-90986	2-1-2022	Site unchanged from previous inspection.
Remediation Construction Compliance Inspection	COMP-91044	2-8-2022	
Remediation Construction Compliance Inspection	COMP-91079	2-15-2022	
Remediation Construction Compliance Inspection	COMP-91145	2-22-2022	
Remediation Construction Compliance Inspection	COMP-91197	3-1-2022	
Remediation Construction Compliance Inspection	COMP-91263	3-8-2022	
Field assessment for planned excavation for swale improvements due to causing erosion while construction work for the SCC Power Line Project is being performed. Swale will be excavated approximately 8 feet wide and 2 feet deep. Filter fabric will be installed with 1 foot of 4-6 angular rock on top of fabric in swale.	BMP-91273	3-9-2022	It is not expected that any IP controls will be impacted by construction of swale. Weekly inspections are already ongoing for other SCC Power Line Project work and this area will be included in future inspections as needed.
Remediation Construction Compliance Inspection	COMP-91293	3-15-2022	Site unchanged from previous inspection. Installation of permanent facility-installed controls is in planning phase.
Remediation Construction Compliance Inspection	COMP-91504	3-22-2022	Vehicle operations have impacted Earthen Berm E00103010014. Site otherwise unchanged from previous inspection. Construction related controls in place.

Inspection Type	Inspection Reference	Inspection Date	Summary of Findings
Remediation Construction Compliance Inspection	COMP-91619	3-30-2022	Operations have impacted Eco-Block E00103110035. Fallen tree covering Rock Check Dam E00106010029. Construction related controls in place.
Remediation Construction Compliance Inspection	COMP-91727	4-5-2022	Fallen trees are no longer impacting controls. Earthen Berm E00103010014 damaged by vehicle operations. Construction related controls in place.
Remediation Construction Compliance Inspection	COMP-91888	4-12-2022	Earthen Berm E00103010014 impacted by activity. Eco-Block E00103110035 displaced by operations. Construction related controls in place.
Remediation Construction Compliance Inspection	COMP-91976	4-19-2022	Site unchanged from previous inspection. Construction related controls in place.
Remediation Construction Compliance Inspection	COMP-92101	4-26-2022	
Remediation Construction Compliance Inspection	COMP-92206	5-3-2022	
Remediation Construction Compliance Inspection	COMP-92426	5-20-2022	
Remediation Construction Compliance Inspection	COMP-92452	5-24-2022	
Remediation Construction Compliance Inspection	COMP-92541	5-31-2022	
Remediation Construction Compliance Inspection	COMP-92681	6-7-2022	Site unchanged from previous inspection. Triad repairs to earthen berm and eco-block are planned for this week.
Remediation Construction Compliance Inspection	COMP-92770	6-14-2022	Eco-Block E00103010014 no longer impacted by operations. Earthen Berm E003010014 still impacted, augmented with gravel bags. Construction related controls in place.
Remediation Construction Compliance Inspection	COMP-92852	6-21-2022	Site unchanged from previous inspection. Construction related controls in place.
Remediation Construction Compliance Inspection	COMP-92953	6-28-2022	
Remediation Construction Compliance Inspection	COMP-93488	7-5-2022	Earthen Berm E00103010014 impacted by activity. Erosion occurring down gradient of swale. Sedimentation occurring up gradient of gravel bags near the bottom swale.
Remediation Construction Compliance Inspection	COMP-93844	7-12-2022	Earthen Berm E00103010014 and Rock check Dam E00106010018 impacted by activity. Erosion occurring down gradient of swale. Sedimentation occurring up gradient of gravel bags near the bottom swale.
Remediation Construction Compliance Inspection	COMP-93956	7-19-2022	Earthen Berm E00103010014 impacted by activity. Rock check dam no longer impacted. Erosion occurring down gradient of swale. Sedimentation occurring up gradient of gravel bags near the bottom swale.

Inspection Type	Inspection Reference	Inspection Date	Summary of Findings
Remediation Construction Compliance Inspection	COMP-94186	7-26-2022	Earthen Berm E00103010014 displaced by activities. New construction related controls installed.
Remediation Construction Compliance Inspection	COMP-94522	8-2-2022	Site unchanged from previous inspection. Construction related controls in place.
Remediation Construction Compliance Inspection	COMP-95216	8-9-2022	
Remediation Construction Compliance Inspection	COMP-95314	8-16-2022	No findings. Heavy equipment operations ongoing, site access restricted.
Remediation Construction Compliance Inspection	COMP-95502	8-23-2022	
Remediation Construction Compliance Inspection	COMP-95621	8-30-2022	New construction related controls in place.
Remediation Construction Compliance Inspection	COMP-95743	9-6-2022	No findings.
Remediation Construction Compliance Inspection	COMP-95808	9-13-2022	
Remediation Construction Compliance Inspection	COMP-95898	9-20-2022	
Remediation Construction Compliance Inspection	COMP-96033	9-27-2022	
Remediation Construction Compliance Inspection	COMP-96133	10-6-2022	Earthen Berm E003010014 impacted by activity, augmented with gravel bags. Construction related controls in place.
Remediation Construction Compliance Inspection	COMP-96256	10-11-2022	Site unchanged from previous inspection. Construction related controls in place.
Remediation Construction Compliance Inspection	COMP-96305	10-18-2022	No findings.
Remediation Construction Compliance Inspection	COMP-96375	10-25-2022	
Remediation Construction Compliance Inspection	COMP-96468	11-1-2022	
Remediation Construction Compliance Inspection	COMP-96535	11-8-2022	Bare ground on site has been roughened. Potential installation of construction managed controls pending.
Remediation Construction Compliance Inspection	COMP-96575	11-15-2022	Established Vegetation E00106010020 has been impacted by activity. Fresh topsoil has been laid over disturbed areas. Earthen Berm E00103010014 damaged by operations. Fallen trees covering Rock Check Dams E00106010020 and E00106010021. Construction related controls in place.
Remediation Construction Compliance Inspection	COMP-96675	11-23-2022	Fallen trees covering Rock Check Dams E00106010020 and E00106010021. Construction related controls in place.
Remediation Construction Compliance Inspection	COMP-96811	11-30-2022	Earthen Berm E00103010014 damaged by operations. Construction related controls in place.

Inspection Type	Inspection Reference	Inspection Date	Summary of Findings
Remediation Construction Compliance Inspection	COMP-96856	12-6-2022	Earthen Berm E00103010014 damaged by operations. Four construction managed controls installed down gradient from riprap swale. Construction related controls in place.
Remediation Construction Compliance Inspection	COMP-96891	12-14-2022	Earthen Berm E00103010014 damaged by operations. Construction related controls in place. Removal of fallen trees scheduled for early 2023.
Remediation Construction Compliance Inspection	COMP-96932	12-20-2022	Site unchanged from previous inspection. Construction related controls in place.

Table 119-5 Maintenance Activities Conducted During 2022

Maintenance Reference	Maintenance Conducted	Maintenance Date	Response Time	Response Discussion
BMP-92769 (follow up from COMP-92681)	Corrected placement of Eco-Block E00103110035 that had been displaced by facility-managed construction activities.	6-9-2022	3 days	Maintenance was performed as soon as practicable.
BMP-94713	Removed two bags of floatable waste and debris from site at inspection.	8-4-2022	0 days	

119.4 Stormwater Monitoring

Following the installation of baseline control measures, two baseline-monitoring stormwater samples were collected on August 4 and August 20, 2011. Analytical results from these samples yielded TAL exceedances for aluminum (1200 µg/L) and gross-alpha activity (18.3 pCi/L). The complete analytical results are presented in "Stormwater Individual Permit Annual Report, Reporting Period: January 1–December 31, 2011, NPDES Permit No. NM0030759" (LANL 2012, 211408).

Following the installation of enhanced control measures, two corrective-action stormwater samples were collected on July 25 and September 12, 2012. Analytical results from these samples yielded a TAL exceedance for aluminum (1430 µg/L). The complete analytical results are presented in "Stormwater Individual Permit Annual Report, Reporting Period: January 1–December 31, 2012, NPDES Permit No. NM0030759" (LANL 2013, 237680).

Stormwater monitoring was not conducted at 2M-SMA-1 in 2022 under the 2010 IP requirements. Due to the large scale of changes conducted during the Triad-managed site disturbance mentioned in Section 119.3, the SIP will be updated before stormwater monitoring is initiated under the 2022 IP requirements.

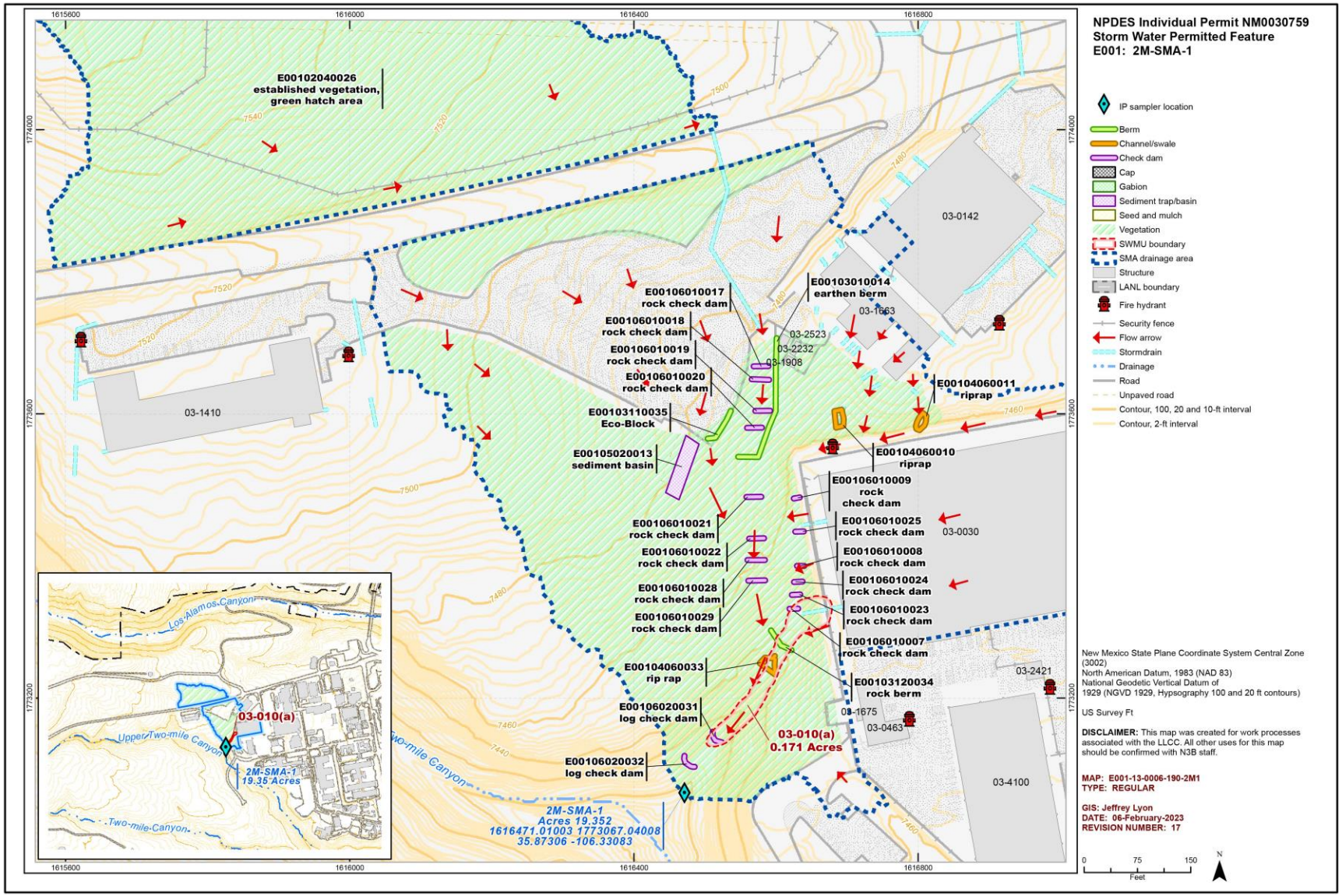

Figure 119-1 2M-SMA-1 location map

120.0 2M-SMA-1.42: SWMU 06-001(a)

One historical industrial activity area, Site 06-001(a), is associated with 2M-SMA-1.42 (permitted feature E002). Summaries of all inspection, monitoring, and maintenance actions conducted in 2022 are provided below. Refer to the "2022 Sampling Implementation Plan, NPDES Permit No. NM0030759" (N3B 2023, 702608) for more information on Consent Order investigation activities, the SSD, and planned stormwater monitoring at the SMA for future monitoring seasons.

120.1 Site Descriptions

06-001(a) (11/27/2017)

SWMU 06-001(a) is an inactive septic system located north of former building 06-03 at TA-06. The septic system served former buildings 06-01 and 06-03 and consists of an 840 gal. septic tank (structure 06-40), inlet and outlet drainlines, and an associated outfall that discharged to Tributary A of Twomile Canyon. The septic tank is located approximately 100 ft north of former building 06-03.

Former building 06-01 was constructed in May 1944 and was originally used to develop analytical procedures for nonradioactive cobalt tracer shots. An engineering drawing shows the building as having two rooms, one identified as a carpenter shop and the other as a laboratory. The laboratory had an acid-resistant workbench and a lead-lined sink connected to the septic system. In the late 1950s, silver soldering may have been conducted in the carpenter shop. In the early 1980s, cable and boxed inert supplies were warehoused in former building 06-01. The building was not used after the carpenter shop closed in the 1980s.

Former building 06-03 was also constructed in 1944 and housed a restroom, darkroom, and laboratory with a lead-lined sink. The building was first used as a control bunker for explosives shots and was surrounded on three sides by an earthen berm. Explosion-proof fixtures were subsequently installed because diethyl ether was used in the analyses performed in the building. From 1945 to 1948, building 06-03 housed offices, and from 1948 to the early 1950s, the building had a firing control panel and a bridgewire-testing laboratory to prepare cobalt tracers. In 1972, building 06-03 was remodeled into a printed circuit shop, and was later used as a silk-screen facility until the mid-1980s. After the mid-1980s, the building was used for storage.

The septic system was decommissioned in 1986, and the outlet drainline from the septic tank (structure 06-40) was plugged in 1988. During a reconnaissance site visit in 1992, the septic tank was located and found to be empty. Buildings 06-01 and 06-03 were demolished and removed in 2004. The septic system was left in place.

Known or Potential Use of POCs

POCs known to be managed or potentially used at the Site are listed in Table 120-1.

Table 120-1 POCs Known or Suspected to Have Been Used Historically at the Site

Site	Potential POC Source	Potential POCs
06-001(a)	Septic system	Lead, silver, HE, cobalt

120.2 Control Measures

All active control measures in use at 2M-SMA-1.42 are listed in Table 120-2. Their locations are shown on the project map (Figure 120-1) located at the end of this SMA update. Future map updates will be posted on the IP website: https://ext.em-la.doe.gov/ips/Home/SiteMonitoringAreaMaps.

Table 120-2 Active Control Measures

Control ID	Control Name	Purpose of Control				Control Status	Install Date
		Run-On	Runoff	Erosion	Sediment		
E00202040015	Established Vegetation	-	X	X	-	B	4-23-2013
E00203010011	Earthen Berm	-	X	-	X	EC	11-30-2011
E00203010012	Earthen Berm	X	-	-	X	EC	11-30-2011
E00203010014	Earthen Berm	X	-	-	X	EC	5-14-2012
E00203120003	Rock Berm	X	-	-	X	CB	6-1-2009
E00206010006	Rock Check Dam	X	-	-	X	CB	8-3-2010
E00206010007	Rock Check Dam	X	-	-	X	CB	8-3-2010
E00206010008	Rock Check Dam	X	-	-	X	CB	8-3-2010

120.3 Inspections and Maintenance

Rain gage RG-TA-06 recorded seven storm events at 2M-SMA-1.42 during the 2022 season, requiring two post-storm inspections, which are summarized in Table 120-3. No other control-measure inspections, maintenance activities, or facility modifications affecting discharge were conducted at the SMA in 2022.

Table 120-3 Post-Storm Inspections During 2022

Inspection Reference	Storm Date	30-Minute Maximum Intensity (in.)	Inspection Date	Days to Inspection	Inspected within 15 days?
BMP-93068[a,b]	6-25-2022	0.48	7-8-2022	13	Yes
	6-26-2022	0.3		12	Yes
	7-4-2022	0.26		4	Yes
BMP-94211[b]	7-20-2022	0.3	8-2-2022	13	Yes
	7-27-2022	1.77		6	Yes
	7-30-2022	0.45		3	Yes
	7-31-2022	0.45		2	Yes

[a] Inspection also qualifies as the Annual Erosion Evaluation per 2010 IP Part I.G.1.

[b] Inspection qualifies for multiple Storm Dates per 2010 IP Part I.G.2 and 2022 IP Part I.B.8.b.

120.4 Stormwater Monitoring

Following the installation of baseline control measures, two baseline-monitoring stormwater samples were collected on August 21 and September 15, 2011. Analytical results from these samples yielded TAL exceedances for aluminum (794 µg/L) and gross-alpha activity (51.8 pCi/L). The complete analytical results are presented in "Stormwater Individual Permit Annual Report, Reporting Period: January 1–December 31, 2011, NPDES Permit No. NM0030759" (LANL 2012, 211408).

Following the installation of enhanced control measures at 2M-SMA-1.42, a corrective-action stormwater sample was collected on July 20, 2015. Analytical results from this sample yielded TAL exceedances for aluminum (1900 µg/L) and gross-alpha activity (16 pCi/L). The complete analytical results are presented in "Stormwater Individual Permit Annual Report, Reporting Period: January 1–December 31, 2015, NPDES Permit No. NM0030759" (LANL 2016, 601240).

Stormwater monitoring was not conducted at 2M-SMA-1.42 in 2022 under the 2010 IP requirements.

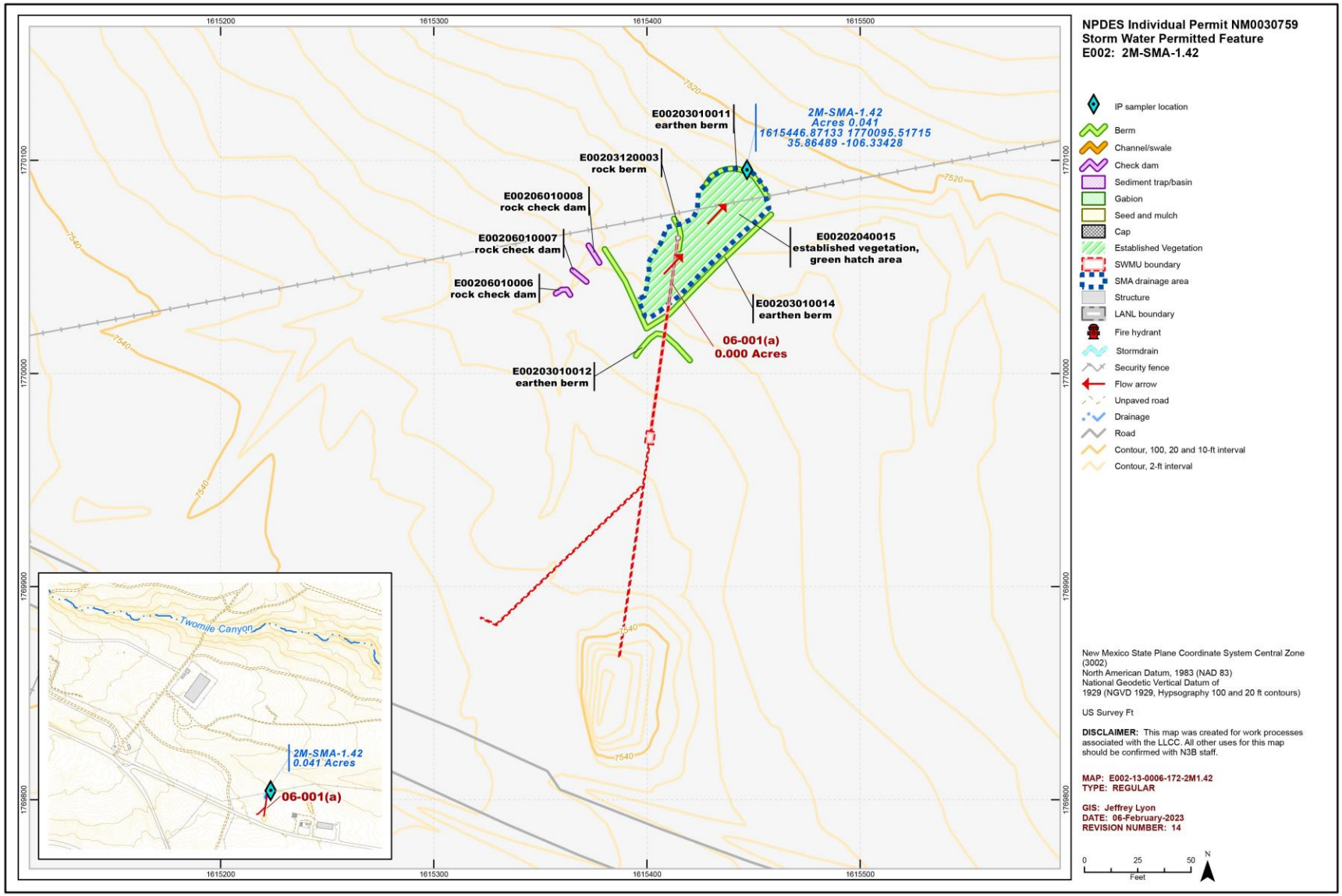

Figure 120-1 2M-SMA-1.42 location map

121.0 2M-SMA-1.43: SWMUs 22-014(a) and 22-015(a)

Two historical industrial activity areas, Sites 22-014(a) and 22-015(a), are associated with 2M-SMA-1.43 (permitted feature E003). Summaries of all inspection, monitoring, and maintenance actions conducted in 2022 are provided below. Refer to the "2022 Sampling Implementation Plan, NPDES Permit No. NM0030759" (N3B 2023, 702608) for more information on Consent Order investigation activities, the SSD, and planned stormwater monitoring at the SMA for future monitoring seasons.

121.1 Site Descriptions

22-014(a) (11/30/2017)

SWMU 22-014(a) consists of an active HE sump system located immediately south of building 22-93 at TA-22. The sump system consists of a concrete sump measuring approximately 4 ft deep × 9 ft long × 3 ft wide containing an inset aluminum tank, an inlet drainline, and an inactive outlet drainline and seepage pit. The sump system has been operating since 1985 and receives rinse water from a washing facility for parts and clothing from explosives compacting operations in rooms C112 and C114 in building 22-93. Before 1995, the sump discharged approximately 100 gal. of wastewater each week through a drainline to a seepage pit located 150 ft south of the sump in the upper part of Tributary B of Twomile Canyon. The seepage pit is 4 ft in diameter and 36 ft deep. In 1995, the outflow from the sump was capped leaving the sump outlet drainline and seepage pit inactive. Operations in building 22-93 continue to discharge wastewater to the sump, where the effluent is retained and suspended HE solids settle out as sludge. The sump contents are periodically removed for disposal at approved facilities at TA-16. The sump is equipped with a level monitor and an alarm that are monitored remotely in a manager's office.

22-015(a) (6/8/2020)

SWMU 22-015(a) consists of two inactive seepage pits (Pits A and B), associated inlet drainlines, and a former NPDES-permitted outfall (EPA 128-128) located in an open grass-covered area east of building 22-91 at TA-22. The 1990 SWMU Report describes SWMU 22-015(a) as industrial drainlines from building 22-91 that discharged to two dry wells and then to an outfall southeast of the building. Engineering drawing ENG-C 44842 (pg. 8 of 120) shows the two inactive seepage pits (Pits A and B) each having an outside diameter of 4 ft and filled with crushed gravel with a central 4-in. polypropylene perforated pipe vented to the surface. Pit A is 26 ft deep and Pit B is 20 ft deep. The seepage pits were operated in series and served rooms B102, B107, B121, B123, B145, and B160 in building 22-91, which housed printed circuit board etching operations. The seepage pits began operation shortly after building 22-91 was occupied in 1985. From 1985 to 1987, treated waste from the etching operations was discharged through a 6-in.-diameter PVC drainpipe to the seepage pits. The effluent production rate exceeded the infiltration rate of liquid into the tuff beneath the seepage pits, causing the seepage pits to overflow. As a result, the inlet drainlines were disconnected from the seepage pits in 1987 and the pits became inactive. After inlet drainlines to the seepage pits were disconnected, effluent was discharged to an NPDES-permitted outfall (EPA 128-128) southeast of building 22-91 for a few months before the drainlines were tied into the TA-16 WWTF. The former NPDES-permitted outfall is shown on the 2014 Orthographic GIS Layer and a 1988 site photograph of the outfall, and described in the TA-22 Wastewater Stream Characterization report. A transportainer (structure 22-169) is currently located over a portion of the inlet drainline originating from the south side of building 22-91.

Known or Potential Use of POCs

POCs known to be managed or potentially used at the Site are listed in Table 121-1.

Table 121-1 POCs Known or Suspected to Have Been Used Historically at the Site

Site	Potential POC Source	Potential POCs
22-014(a)	Sump System	HE
22-015(a)	Drainlines and dry wells	Copper, iron, cyanide, organic chemicals

121.2 Control Measures

All active control measures in use at 2M-SMA-1.43 are listed in Table 121-2. Their locations are shown on the project map (Figure 121-1) located at the end of this SMA update. Future map updates will be posted on the IP website: https://ext.em-la.doe.gov/ips/Home/SiteMonitoringAreaMaps.

Table 121-2 Active Control Measures

Control ID	Control Name	Purpose of Control				Control Status	Install Date
		Run-On	Runoff	Erosion	Sediment		
E00302040005	Established Vegetation	-	X	X	-	B	4-23-2013
E00306010003	Rock Check Dam	-	X	-	X	CB	10-28-2009

121.3 Inspections and Maintenance

Rain gage RG-TA-06 recorded seven storm events at 2M-SMA-1.43 during the 2022 season, requiring three post-storm inspections, which are summarized in Table 121-3. No other control-measure inspections, maintenance activities, or facility modifications affecting discharge were conducted at the SMA in 2022.

Table 121-3 Post-Storm Inspections During 2022

Inspection Reference	Storm Date	30-Minute Maximum Intensity (in.)	Inspection Date	Days to Inspection	Inspected within 15 days?
BMP-93069[a,b]	6-25-2022 6-26-2022	0.48 0.3	6-28-2022	3 2	Yes Yes
BMP-93725	7-4-2022	0.26	7-11-2022	7	Yes
BMP-94212[b]	7-20-2022 7-27-2022 7-30-2022 7-31-2022	0.3 1.77 0.45 0.45	8-1-2022	12 5 2 1	Yes Yes Yes Yes

[a] Inspection also qualifies as the Annual Erosion Evaluation per 2010 IP Part I.G.1.

[b] Inspection qualifies for multiple Storm Dates per 2010 IP Part I.G.2 and 2022 IP Part I.B.8.b.

121.4 Stormwater Monitoring

Following the installation of baseline control measures, a baseline monitoring stormwater sample was collected on July 12, 2013. Analytical results from this sample yielded TAL exceedances for aluminum (1500 µg/L) and gross-alpha activity (52 pCi/L). The complete analytical results are presented in "Stormwater Individual Permit Annual Report, Reporting Period: January 1–December 31, 2013, NPDES Permit No. NM0030759" (LANL 2014, 254067).

Stormwater monitoring was not conducted at 2M-SMA-1.43 in 2022 under the 2010 IP requirements.

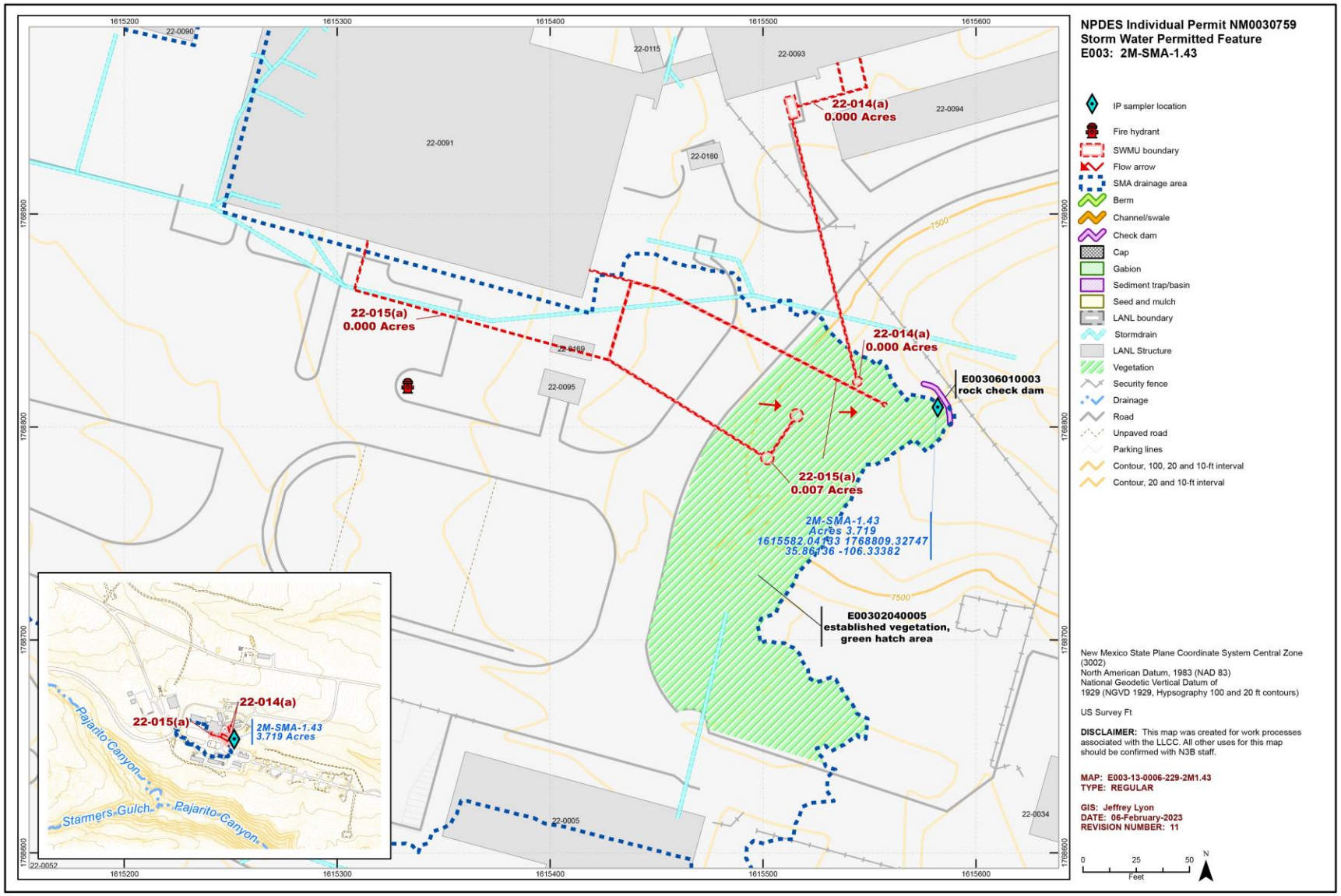

Figure 121-1 2M-SMA-1.43 location map

122.0 2M-SMA-1.44: SWMU 06-001(b)

One historical industrial activity area, Site 06-001(b), is associated with 2M-SMA-1.44 (permitted feature E004). Summaries of all inspection, monitoring, and maintenance actions conducted in 2022 are provided below. Refer to the "2022 Sampling Implementation Plan, NPDES Permit No. NM0030759" (N3B 2023, 702608) for more information on Consent Order investigation activities, the SSD, and planned stormwater monitoring at the SMA for future monitoring seasons.

122.1 Site Descriptions

06-001(b) (11/27/2017)

SWMU 06-001(b) is an inactive septic system located north of former buildings 06-06 at TA-06. The septic system served former building 06-06 and consists of a 960-gal.-capacity septic tank (structure 06-43), inlet and outlet drainlines, a distribution box, filter trench, and outfall that discharged to Tributary A of Twomile Canyon. The septic tank is located approximately 200 ft north of former building 06-06 and measures 5 ft × 9 ft × 5 ft 9 in. deep. Effluent from the septic tank discharged north to a distribution box and then to a filter trench consisting of two parallel trenches with perforated pipe surrounded by sand and covered with gravel. Overflow from the filter trench flowed north to the outfall. The septic system operated from 1945 to the 1980s. In 1989, the outlet drainline from the septic tank was cut and capped. Building 06-06 was demolished and removed in 2004; however, the septic tank, drainlines, distribution box, and filter trenches were left in place.

Former building 06-06 originally housed laboratory operations related to detonator assembly, an electronics work room, a chemistry laboratory, two darkrooms, restrooms, and a sink. The sink drain received rinsate containing copper, brass, and steel parts dipped in nitric acid to remove silver solder flux and oxidized metals. Solvents were also used to degrease metal. Tin and lead soldering using paste and aqueous zinc/aluminum chloride fluxes was performed on electrical circuits. Manometric apparatuses containing liquid mercury were serviced. Ionizing radiation, in the form of electrically generated x-rays, was used through the 1950s to about 1965. By 1961, the darkrooms, assembly room, and a storage area had been converted to offices. In the 1970s, former building 06-06 was used as a cable shop, where acetone, alcohol, and dilute acids may have been used. In the early 1980s, former building 06-06 was used for printed circuit production.

The RFI work plan for OU 1111 and the 1997 RFI report state that plumbing in former buildings 06-05 and 06-08 was tied to SWMU 06-001(b). However, engineering drawings for these two buildings show no drains or points of discharge. In addition, an engineering drawing of the sanitary sewer system at TA-06 shows no waste lines coming from either building. Therefore, SWMU 06-001(b) did not receive any discharges from former buildings 06-05 and 06-08.

Known or Potential Use of Potential Use of POCs

POCs known to be managed or potentially used at the Site are listed in Table 122-1.

Table 122-1 POCs Known or Suspected to Have Been Used Historically at the Site

Site	Potential POC Source	Potential POCs
06-001(b)	Septic system	Metals, aluminum, copper, lead, mercury, silver, zinc, inorganic and organic chemicals, HE

122.2 Control Measures

All active control measures in use at 2M-SMA-1.44 are listed in Table 122-2. Their locations are shown on the project map (Figure 122-1) located at the end of this SMA update. Future map updates will be posted on the IP website: https://ext.em-la.doe.gov/ips/Home/SiteMonitoringAreaMaps.

Table 122-2 Active Control Measures

Control ID	Control Name	Purpose of Control				Control Status	Install Date
		Run-On	Runoff	Erosion	Sediment		
E00402040008	Established Vegetation	-	X	X	-	B	4-23-2013
E00403010006	Earthen Berm	X	-	-	X	EC	11-17-2011
E00403010011	Earthen Berm	X	-	-	X	EC	6-23-2015
E00403010015	Earthen Berm	-	X	-	X	EC	6-23-2015
E00403060019	Straw Wattle	X	-	-	X	B	8-7-2015
E00403060020	Straw Wattle	X	-	-	X	B	8-7-2015
E00403060021	Straw Wattle	X	-	-	X	B	8-7-2015
E00403060023	Straw Wattle	X	-	-	X	B	8-7-2015
E00403060024	Straw Wattle	X	-	-	X	B	8-7-2015
E00403060027	Straw Wattle	X	-	-	X	B	10-30-2015
E00403140016	Coir Log	-	X	-	X	EC	6-23-2015
E00403140028	Coir Log	X	-	-	X	B	9-28-2021
E00404060012	Riprap	-	-	X	-	EC	6-23-2015
E00406010009	Rock Check Dam	X	-	-	X	EC	6-23-2015
E00406010010	Rock Check Dam	X	-	-	X	EC	6-23-2015
E00406010013	Rock Check Dam	-	-	X	-	EC	6-24-2015
E00406010014	Rock Check Dam	-	-	X	-	EC	6-23-2015

122.3 Inspections and Maintenance

Rain gage RG-TA-06 recorded seven storm events at 2M-SMA-1.44 during the 2022 season, requiring two post-storm inspections, which are summarized in Table 122-3. No other control-measure inspections, maintenance activities, or facility modifications affecting discharge were conducted at the SMA in 2022.

Table 122-3 Post-Storm Inspections During 2022

Inspection Reference	Storm Date	30-Minute Maximum Intensity (in.)	Inspection Date	Days to Inspection	Inspected within 15 days?
BMP-93070[a,b]	6-25-2022	0.48	7-6-2022	11	Yes
	6-26-2022	0.3		10	Yes
	7-4-2022	0.26		2	Yes
BMP-94213[b]	7-20-2022	0.3	8-2-2022	13	Yes
	7-27-2022	1.77		6	Yes
	7-30-2022	0.45		3	Yes
	7-31-2022	0.45		2	Yes

[a] Inspection also qualifies as the Annual Erosion Evaluation per 2010 IP Part I.G.1.

[b] Inspection qualifies for multiple Storm Dates per 2010 IP Part I.G.2 and 2022 IP Part I.B.8.b.

122.4 Stormwater Monitoring

Following the installation of baseline control measures, a baseline monitoring stormwater sample was collected on August 21, 2011. Analytical results from this sample yielded TAL exceedances for copper (31.5 µg/L) and gross-alpha activity (21.1 pCi/L). The complete analytical results are presented in "Stormwater Individual Permit Annual Report, Reporting Period: January 1–December 31, 2011, NPDES Permit No. NM0030759" (LANL 2012, 211408).

Following the installation of enhanced control measures at 2M-SMA-1.44, corrective-action stormwater samples were collected on September 12, 2013, and July 31, 2014. Analytical results from these samples yielded TAL exceedances for copper (39.5 µg/L and 27.5 µg/L). The complete analytical results are presented in "Stormwater Individual Permit Annual Report, Reporting Period: January 1–December 31, 2013, NPDES Permit No. NM0030759" (LANL 2014, 254067) and "Stormwater Individual Permit Annual Report, Reporting Period: January 1–December 31, 2014, NPDES Permit No. NM0030759" (LANL 2015, 600241).

Stormwater monitoring was conducted at 2M-SMA-1.44 under the 2010 IP requirements from March 15 through November 7, 2022, resulting in a monitoring season of 238 days. Seven inspections were performed during the monitoring period and are summarized in Table 122-4. Rain gage RG-TA-06 recorded 36 rain events exceeding 0.1 in. in 24 hr while the sampling equipment was active. No new confirmation-monitoring samples were collected in 2022 and no sampling operability issues were encountered.

Table 122-4 Sampler Inspections During 2022

Inspection Reference	Inspection Date	Sample Retrieved?	Date(s) of Rain Events Exceeding 0.1 in. in 24 hr since previous inspection	Rainfall Intensity[a]/ Total[b] (in.)
SMPLR-91525	4-8-2022	No	None	None
SMPLR-91942	5-4-2022	No	None	None
SMPLR-92331	5-25-2022	No	None	None

Inspection Reference	Inspection Date	Sample Retrieved?	Date(s) of Rain Events Exceeding 0.1 in. in 24 hr since previous inspection	Rainfall Intensity[a]/ Total[b] (in.)
SMPLR-92581	7-6-2022	No	6-17-2022 6-18-2022 6-19-2022 6-21-2022 6-22-2022 6-25-2022 6-26-2022 7-1-2022 7-2-2022 7-4-2022	0.07/0.32 0.06/0.17 0.05/0.17 0.06/0.14 0.1/0.6 0.48/1.34 0.3/1.87 0.16/0.64 0.06/0.15 0.26/0.39
SMPLR-93860	8-16-2022	No	7-14-2022 7-20-2022 7-21-2022 7-24-2022 7-26-2022 7-27-2022 7-29-2022 7-30-2022 7-31-2022 8-1-2022 8-5-2022 8-6-2022 8-11-2022	0.13/0.17 0.3/0.4 0.12/0.21 0.09/0.12 0.09/0.27 1.77/1.86 0.09/0.18 0.45/0.75 0.45/0.99 0.1/0.14 0/1.15 0.23/0.66 0.15/0.19
SMPLR-95466	9-27-2022	No	8-16-2022 8-18-2022 8-19-2022 8-20-2022 9-9-2022 9-20-2022 9-22-2022	0.07/0.21 0.03/0.16 0.09/0.22 0.06/0.11 0.12/0.15 0.07/0.11 0.19/0.21
SMPLR-96152	11-7-2022	No	10-2-2022 10-3-2022 10-4-2022 10-7-2022 10-15-2022 10-16-2022	0.09/0.31 0.16/0.2 0.02/0.12 0.06/0.1 0.17/0.86 0.04/0.18

[a] Intensity = Maximum amount of precipitation in any 30-min interval.

[b] Total = Total amount of precipitation in 24 hr.

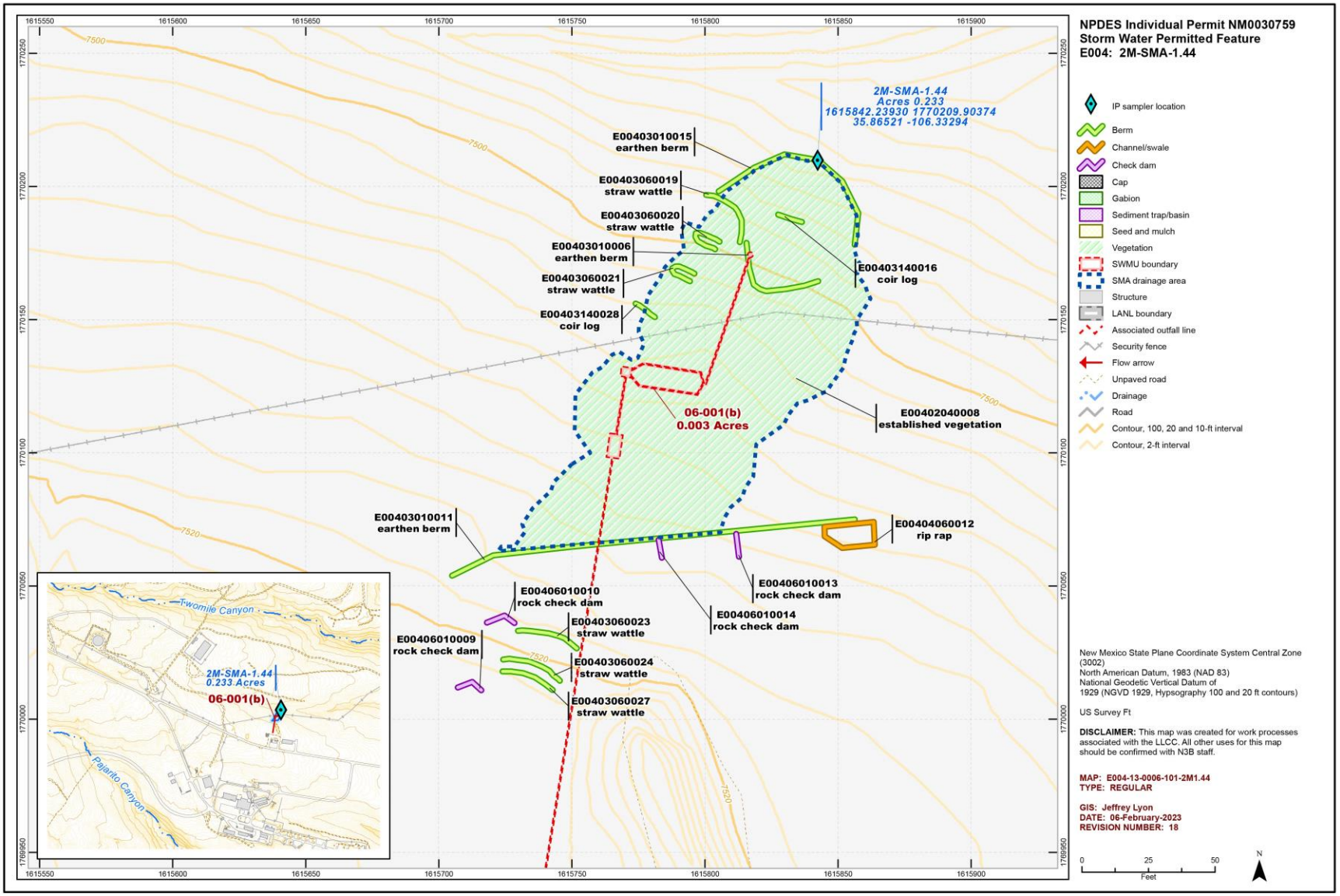

Figure 122-1 2M-SMA-1.44 location map

123.0 2M-SMA-1.45: SWMU 06-006

One historical industrial activity area, Site 06-006, is associated with 2M-SMA-1.45 (permitted feature E005). Summaries of all inspection, monitoring, and maintenance actions conducted in 2022 are provided below. Refer to the "2022 Sampling Implementation Plan, NPDES Permit No. NM0030759" (N3B 2023, 702608) for more information on Consent Order investigation activities, the SSD, and planned stormwater monitoring at the SMA for future monitoring seasons.

123.1 Site Descriptions

06-006 (11/27/2017)

SWMU 06-006 is a former container and equipment storage area located along the south and east sides of former building 06-06 at TA-06. The storage area consisted of a concrete pad and asphalt parking lot measuring approximately 300 ft × 20 ft, and was partially surrounded by a 4-ft berm. Waste containers and electrical equipment, including capacitors, were stored in this area from the late 1970s to the late 1980s. A November 1988 field survey verified that drums containing oil, capacitors and other equipment remained at the Site. Evidence of spills and leaks were observed at the Site in 1986 and 1988.

Former building 06-06 originally housed laboratory operations related to detonator assembly, an electronics work room, a chemistry laboratory, two darkrooms, restrooms, and a sink. In the 1970s, former building 06-06 was used as a cable shop, where acetone, alcohol, and dilute acids may have been used. In the early 1980s, former building 06-06 was used for printed circuit production. Building 06-06 was demolished and removed in 2004.

Known or Potential Use of POCs

POCs known to be managed or potentially used at the Site are listed in Table 123-1.

Table 123-1 POCs Known or Suspected to Have Been Used Historically at the Site

Site	Potential POC Source	Potential POCs
06-006	Storage area	PCBs

123.2 Control Measures

All active control measures in use at 2M-SMA-1.45 are listed in Table 123-2. Their locations are shown on the project map (Figure 123-1) located at the end of this SMA update. Future map updates will be posted on the IP website: https://ext.em-la.doe.gov/ips/Home/SiteMonitoringAreaMaps.

Table 123-2 Active Control Measures

Control ID	Control Name	Purpose of Control				Control Status	Install Date
		Run-On	Runoff	Erosion	Sediment		
E00502040018	Established Vegetation	-	X	X	-	B	4-23-2013
E00503010014	Earthen Berm	-	X	-	X	B	10-31-2011
E00503010015	Earthen Berm	X	-	-	X	B	10-31-2011
E00503010016	Earthen Berm	-	X	-	X	EC	6-25-2012
E00503010017	Earthen Berm	-	X	-	X	EC	6-25-2012

123.3 Inspections and Maintenance

Rain gage RG-TA-06 recorded seven storm events at 2M-SMA-1.45 during the 2022 season, requiring two post-storm inspections, which are summarized in Table 123-3. No other control-measure inspections, maintenance activities, or facility modifications affecting discharge were conducted at the SMA in 2022.

Table 123-3 Post-Storm Inspections During 2022

Inspection Reference	Storm Date	30-Minute Maximum Intensity (in.)	Inspection Date	Days to Inspection	Inspected within 15 days?
BMP-93071[a,b]	6-25-2022 6-26-2022 7-4-2022	0.48 0.3 0.26	7-8-2022	13 12 4	Yes Yes Yes
BMP-94214[b]	7-20-2022 7-27-2022 7-30-2022 7-31-2022	0.3 1.77 0.45 0.45	8-2-2022	13 6 3 2	Yes Yes Yes Yes

[a] Inspection also qualifies as the Annual Erosion Evaluation per 2010 IP Part I.G.1.

[b] Inspection qualifies for multiple Storm Dates per 2010 IP Part I.G.2 and 2022 IP Part I.B.8.b.

123.4 Stormwater Monitoring

Following the installation of baseline control measures, a baseline stormwater sample was collected on September 7, 2011. Analytical results from this sample yielded a TAL exceedance for gross-alpha activity (398 pCi/L). The complete analytical results are presented in "Stormwater Individual Permit Annual Report, Reporting Period: January 1–December 31, 2011, NPDES Permit No. NM0030759" (LANL 2012, 211408).

Following the installation of enhanced control measures at 2M-SMA-1.45, two corrective-action stormwater samples were collected on July 7 and August 1, 2015. Analytical results from these samples yielded no TAL exceedances. The complete analytical results are presented in "Stormwater Individual Permit Annual Report, Reporting Period: January 1–December 31, 2015, NPDES Permit No. NM0030759" (LANL 2016, 601240).

Stormwater monitoring was not conducted at 2M-SMA-1.45 in 2022 under the 2010 IP requirements.

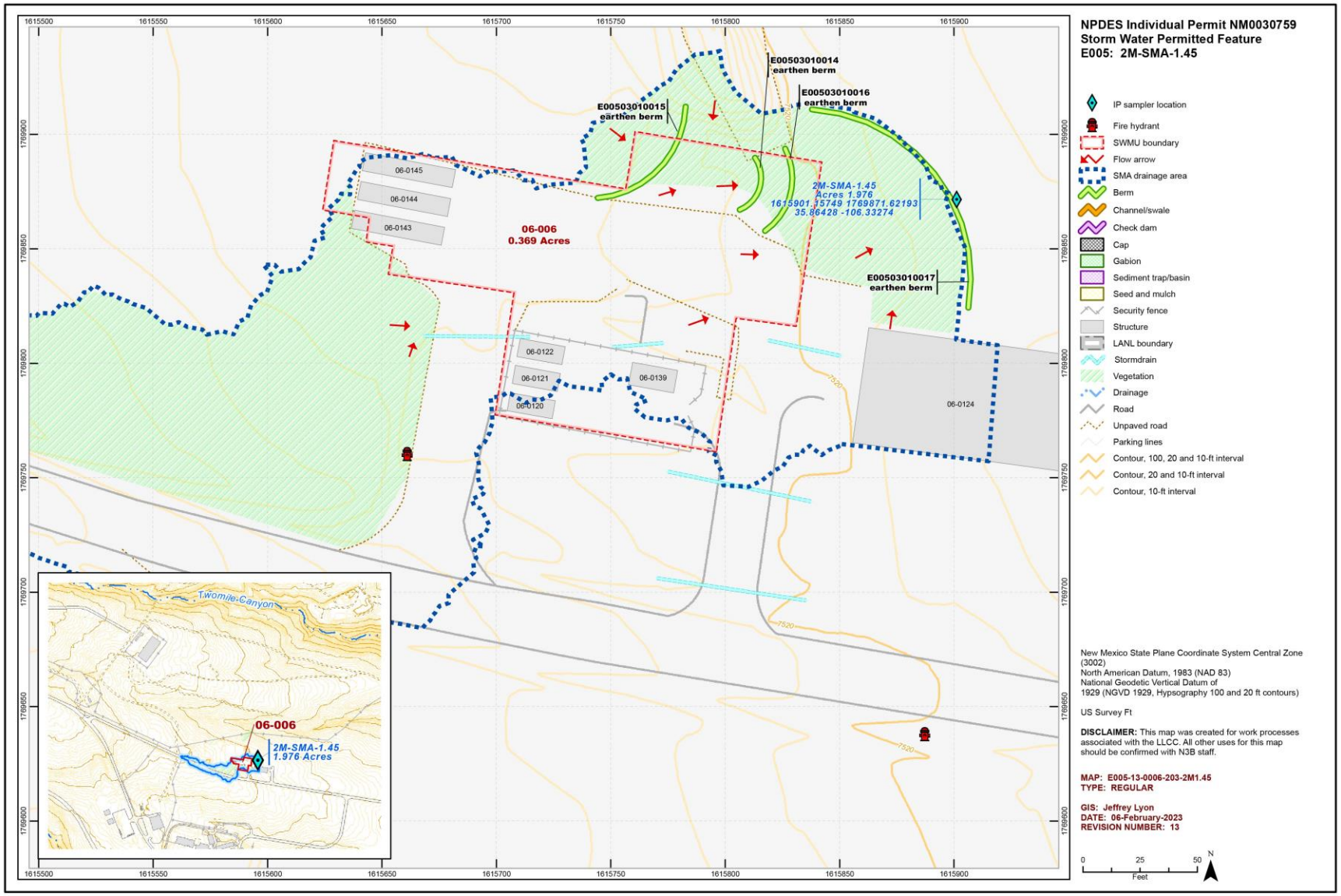

Figure 123-1 2M-SMA-1.45 location map

124.0 2M-SMA-1.5: SWMU 22-014(b)

One historical industrial activity area, Site 22-014(b), is associated with 2M-SMA-1.5 (permitted feature E006). Summaries of all inspection, monitoring, and maintenance actions conducted in 2022 are provided below. Refer to the "2022 Sampling Implementation Plan, NPDES Permit No. NM0030759" (N3B 2023, 702608) for more information on Consent Order investigation activities, the SSD, and planned stormwater monitoring at the SMA for future monitoring seasons.

124.1 Site Descriptions

22-014(b) (6/8/2020)

SWMU 22-014(b) consists of an inactive explosives and contaminated waste sump system located on the northeast wall of building 22-34 at TA-22. The 1990 SWMU Report describes SWMU 22-014(b) as a sump and an HE settling basin, each measuring 4 ft × 2 ft × 3 ft, connected to drains in building 22-34 at TA-22. The 2014 Orthographic GIS Layer, as-constructed drawing ENG-C 7558 (pg. 68 of 71), and the Wastewater Stream Characterization for TA-22 report drawing (Figure 4) correctly describe and depict two concrete collection sumps, the inlet and outlet drainlines, and associated outfall on the north side of building 22-34. The eastern sump measures 8.5 ft long × 5.5 ft wide and was used as an HE settling basin where collected HE was periodically removed for disposal at the TA-16 Burning Ground. The western sump measures 6.5 ft long × 4.5 ft wide and was used to collect contaminated wastewater from operations in building 22-34. Use of the sumps likely began shortly after building 22-34 was completed in 1953 and served rooms 101 through 113. Building 22-34, currently used as a laser laboratory, previously housed a chemistry laboratory, an explosives laboratory, and a photographic laboratory. The 1988 site photograph and TA-22 Wastewater Stream Characterization report indicate effluent from the sumps drained to the north through an outlet drainline to an outfall located in a marshy area in the upper part of Tributary B of Twomile Canyon. The outlets on both sumps were plugged in 1994 when building 22-34 was converted to a laser laboratory.

Known or Potential Use of POCs

POCs known to be managed or potentially used at the Site are listed in Table 124-1.

Table 124-1 POCs Known or Suspected to Have Been Used Historically at the Site

Site	Potential POC Source	Potential POCs
22-014(b)	Sump system	Silver, HE, inorganic and organic chemicals

124.2 Control Measures

All active control measures in use at 2M-SMA-1.5 are listed in Table 124-2. Their locations are shown on the project map (Figure 124-1) located at the end of this SMA update. Future map updates will be posted on the IP website: https://ext.em-la.doe.gov/ips/Home/SiteMonitoringAreaMaps.

Table 124-2 Active Control Measures

Control ID	Control Name	Purpose of Control				Control Status	Install Date
		Run-On	Runoff	Erosion	Sediment		
E00602040005	Established Vegetation	-	X	X	-	B	4-23-2013
E00603060007	Straw Wattle	X	-	-	X	B	9-14-2020

124.3 Inspections and Maintenance

Rain gage RG-TA-06 recorded seven storm events at 2M-SMA-1.5 during the 2022 season, requiring three post-storm inspections, which are summarized in Table 124-3. No other control-measure inspections, maintenance activities, or facility modifications affecting discharge were conducted at the SMA in 2022.

Table 124-3 Post-Storm Inspections During 2022

Inspection Reference	Storm Date	30-Minute Maximum Intensity (in.)	Inspection Date	Days to Inspection	Inspected within 15 days?
BMP-93072[a,b]	6-25-2022 6-26-2022	0.48 0.3	6-28-2022	3 2	Yes Yes
BMP-93728	7-4-2022	0.26	7-6-2022	2	Yes
BMP-94215[b]	7-20-2022 7-27-2022 7-30-2022 7-31-2022	0.3 1.77 0.45 0.45	8-1-2022	12 5 2 1	Yes Yes Yes Yes

[a] Inspection also qualifies as the Annual Erosion Evaluation per 2010 IP Part I.G.1.

[b] Inspection qualifies for multiple Storm Dates per 2010 IP Part I.G.2 and 2022 IP Part I.B.8.b.

124.4 Stormwater Monitoring

Through calendar year 2022, stormwater flow has not been sufficient for full-volume sample collection at 2M-SMA-1.5.

Stormwater monitoring was conducted at 2M-SMA-1.5 under the 2010 IP requirements from March 31 through October 21, 2022, resulting in a monitoring season of 215 days. Seven inspections were performed during the monitoring period and are summarized in Table 124-4. Rain gage RG-TA-06 recorded 36 rain events exceeding 0.1 in. in 24 hr while the sampling equipment was active. No new confirmation-monitoring samples were collected in 2022.

Table 124-4 Sampler Inspections During 2022

Inspection Reference	Inspection Date	Sample Retrieved?	Date(s) of Rain Events Exceeding 0.1 in. in 24 hr since previous inspection	Rainfall Intensity[a]/ Total[b] (in.)
SMPLR-91754	5-4-2022	No	None	None
SMPLR-92340	6-6-2022	No	None	None
SMPLR-92755	6-28-2022	No	6-17-2022 6-18-2022 6-19-2022 6-21-2022 6-22-2022 6-25-2022 6-26-2022	0.07/0.32 0.06/0.17 0.05/0.17 0.06/0.14 0.1/0.6 0.48/1.34 0.3/1.87
SMPLR-93463	7-6-2022	No	7-1-2022 7-2-2022 7-4-2022	0.16/0.64 0.06/0.15 0.26/0.39

Inspection Reference	Inspection Date	Sample Retrieved?	Date(s) of Rain Events Exceeding 0.1 in. in 24 hr since previous inspection	Rainfall Intensity[a]/ Total[b] (in.)
SMPLR-93871	8-1-2022	No	7-14-2022	0.13/0.17
			7-20-2022	0.3/0.4
			7-21-2022	0.12/0.21
			7-24-2022	0.09/0.12
			7-26-2022	0.09/0.27
			7-27-2022	1.77/1.86
			7-29-2022[c]	0.09/0.18
			7-30-2022[c]	0.45/0.75
			7-31-2022[c]	0.45/0.99
SMPLR-95163	9-13-2022	No	8-1-2022	0.1/0.14
			8-5-2022	0/1.15
			8-6-2022	0.23/0.66
			8-11-2022	0.15/0.19
			8-16-2022	0.07/0.21
			8-18-2022	0.03/0.16
			8-19-2022	0.09/0.22
			8-20-2022	0.06/0.11
			9-9-2022	0.12/0.15
SMPLR-95892	10-31-2022	No	9-20-2022	0.07/0.11
			9-22-2022	0.19/0.21
			10-2-2022	0.09/0.31
			10-3-2022	0.16/0.2
			10-4-2022	0.02/0.12
			10-7-2022	0.06/0.1
			10-15-2022	0.17/0.86
			10-16-2022	0.04/0.18

[a] Intensity = Maximum amount of precipitation in any 30-min interval.

[b] Total = Total amount of precipitation in 24 hr.

[c] The sampler had period(s) of inoperability since previous inspection. See CSR comment in the SDPPP Overview Appendix E for more details.

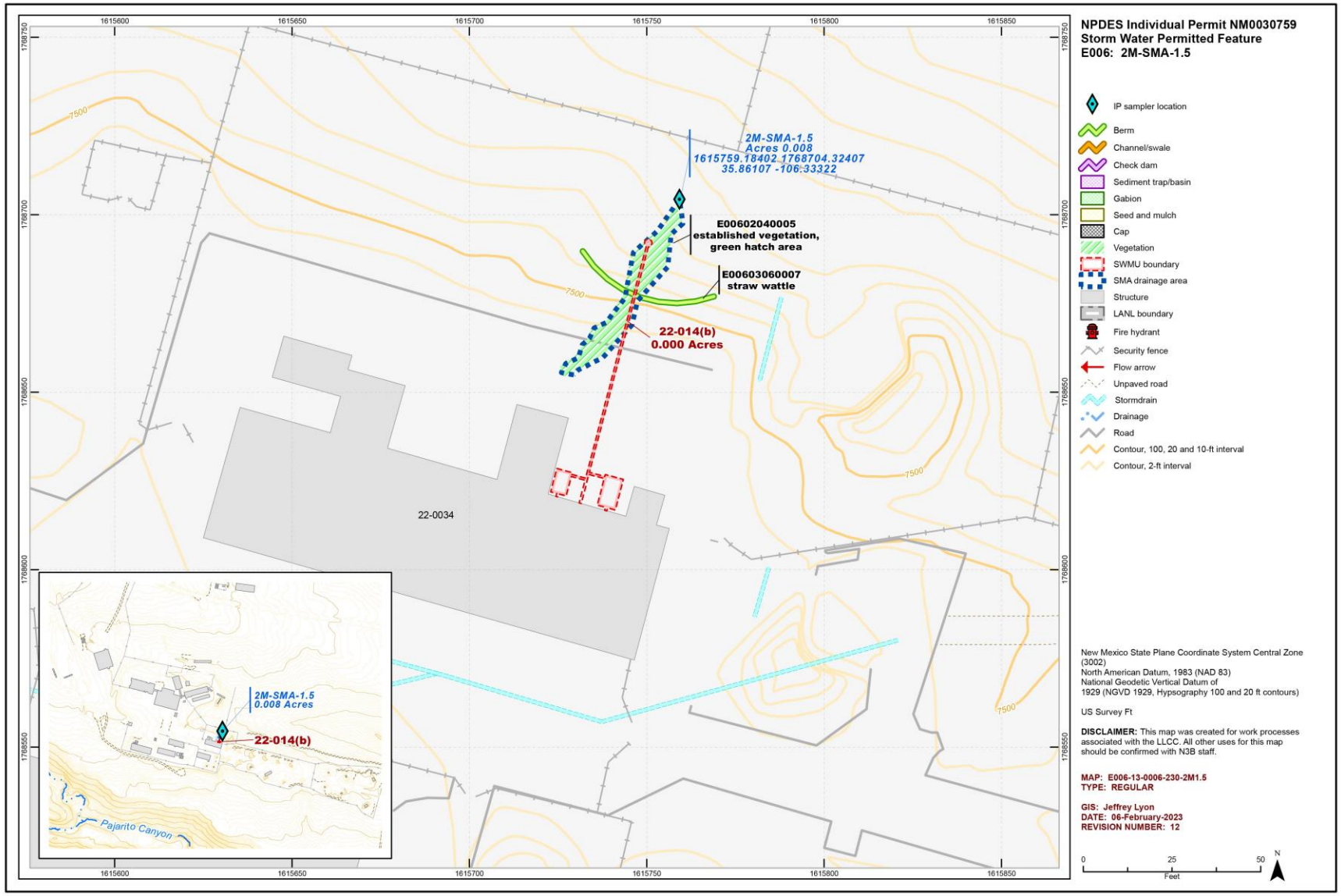

Figure 124-1 2M-SMA-1.5 location map

125.0 2M-SMA-1.65: SWMU 40-005

One historical industrial activity area, Site 40-005, is associated with 2M-SMA-1.65 (permitted feature E007). Summaries of all inspection, monitoring, and maintenance actions conducted in 2022 are provided below. Refer to the "2022 Sampling Implementation Plan, NPDES Permit No. NM0030759" (N3B 2023, 702608) for more information on Consent Order investigation activities, the SSD, and planned stormwater monitoring at the SMA for future monitoring seasons.

125.1 Site Descriptions

40-005 (6/8/2020)

SWMU 40-005 is an inactive HE sump (structure 22-75) located at the northwest corner of building 40-41 (formerly building 22-41), associated inlet and outlet drainlines, and a former NPDES-permitted outfall [EPA 05A-154] at TA-40. Before it was incorporated into TA-40, building 40-41 and the sump were part of TA-22. The concrete sump was constructed in 1961 and measures 4 ft 6 in. × 6 ft 4 in. × 5 ft deep with an inset aluminum baffle tank. Building 40-41 was constructed in 1952. Explosive grinding operations were previously conducted in the building and wastewater from a single sink drain discharged to the sump. Originally, the sump discharged to a drainline to that flowed to Tributary B of Twomile Canyon. In 1994, the sump outlet port was capped, and in December 1995 the outfall was removed from the LANL NPDES permit. The sump was subsequently filled with concrete. Currently, building 40-41 is used for the preparation of explosive tests conducted at TA-40.

Known or Potential Use of POCs

POCs known to be managed or potentially used at the Site are listed in Table 125-1.

Table 125-1 POCs Known or Suspected to Have Been Used Historically at the Site

Site	Potential POC Source	Potential POCs
40-005	Sump	HE, aluminum

125.2 Control Measures

All active control measures in use at 2M-SMA-1.65 are listed in Table 125-2. Their locations are shown on the project map (Figure 125-1) located at the end of this SMA update. Future map updates will be posted on the IP website: https://ext.em-la.doe.gov/ips/Home/SiteMonitoringAreaMaps.

Table 125-2 Active Control Measures

Control ID	Control Name	Purpose of Control				Control Status	Install Date
		Run-On	Runoff	Erosion	Sediment		
E00702040011	Established Vegetation	-	X	X	-	B	5-7-2013
E00703010010	Earthen Berm	X	-	-	X	EC	5-30-2012
E00706010006	Rock Check Dam	X	-	-	X	EC	5-30-2012
E00706010007	Rock Check Dam	X	-	-	X	EC	5-30-2012
E00706010008	Rock Check Dam	X	-	-	X	EC	5-30-2012
E00706010009	Rock Check Dam	X	-	-	X	EC	5-30-2012

125.3 Inspections and Maintenance

Rain gage RG-TA-06 recorded seven storm events at 2M-SMA-1.65 during the 2022 season, requiring three post-storm inspections, which are summarized in Table 125-3. No other control-measure inspections, maintenance activities, or facility modifications affecting discharge were conducted at the SMA in 2022.

Table 125-3 Post-Storm Inspections During 2022

Inspection Reference	Storm Date	30-Minute Maximum Intensity (in.)	Inspection Date	Days to Inspection	Inspected within 15 days?
BMP-93073[a,b]	6-25-2022 6-26-2022	0.48 0.3	6-28-2022	3 2	Yes Yes
BMP-93729	7-4-2022	0.26	7-14-2022	10	Yes
BMP-94216[b]	7-20-2022 7-27-2022 7-30-2022 7-31-2022	0.3 1.77 0.45 0.45	8-2-2022	13 6 3 2	Yes Yes Yes Yes

[a] Inspection also qualifies as the Annual Erosion Evaluation per 2010 IP Part I.G.1.

[b] Inspection qualifies for multiple Storm Dates per 2010 IP Part I.G.2 and 2022 IP Part I.B.8.b.

125.4 Stormwater Monitoring

Following the installation of baseline control measures, a baseline monitoring stormwater sample was collected on August 21, 2011. Analytical results from this sample yielded a TAL exceedance for gross-alpha activity (220 pCi/L). The complete analytical results are presented in "Stormwater Individual Permit Annual Report, Reporting Period: January 1–December 31, 2011, NPDES Permit No. NM0030759" (LANL 2012, 211408).

Following the installation of enhanced control measures at 2M-SMA-1.65, a corrective-action stormwater sample was collected on September 13, 2013. Analytical results from this sample yielded a TAL exceedance for gross-alpha activity (22.6 pCi/L). The complete analytical results are presented in "Stormwater Individual Permit Annual Report, Reporting Period: January 1–December 31, 2013, NPDES Permit No. NM0030759" (LANL 2014, 254067).

Stormwater monitoring was conducted at 2M-SMA-1.65 under the 2010 IP requirements from March 24 through October 27, 2022, resulting in a monitoring season of 218 days. Six inspections were performed during the monitoring period and are summarized in Table 125-4. Rain gage RG-TA-06 recorded 36 rain events exceeding 0.1 in. in 24 hr while the sampling equipment was active. No new confirmation-monitoring samples were collected in 2022 and no sampling operability issues were encountered.

Table 125-4 Sampler Inspections During 2022

Inspection Reference	Inspection Date	Sample Retrieved?	Date(s) of Rain Events Exceeding 0.1 in. in 24 hr since previous inspection	Rainfall Intensity[a]/ Total[b] (in.)
SMPLR-91661	4-14-2022	No	None	None
SMPLR-92013	6-1-2022	No	None	None
SMPLR-92741	6-28-2022	No	6-17-2022 6-18-2022 6-19-2022 6-21-2022 6-22-2022 6-25-2022 6-26-2022	0.07/0.32 0.06/0.17 0.05/0.17 0.06/0.14 0.1/0.6 0.48/1.34 0.3/1.87
SMPLR-93459	8-2-2022	No	7-1-2022 7-2-2022 7-4-2022 7-14-2022 7-20-2022 7-21-2022 7-24-2022 7-26-2022 7-27-2022 7-29-2022 7-30-2022 7-31-2022 8-1-2022	0.16/0.64 0.06/0.15 0.26/0.39 0.13/0.17 0.3/0.4 0.12/0.21 0.09/0.12 0.09/0.27 1.77/1.86 0.09/0.18 0.45/0.75 0.45/0.99 0.1/0.14
SMPLR-95234	9-12-2022	No	8-5-2022 8-6-2022 8-11-2022 8-16-2022 8-18-2022 8-19-2022 8-20-2022 9-9-2022	0/1.15 0.23/0.66 0.15/0.19 0.07/0.21 0.03/0.16 0.09/0.22 0.06/0.11 0.12/0.15
SMPLR-95864	10-27-2022	No	9-20-2022 9-22-2022 10-2-2022 10-3-2022 10-4-2022 10-7-2022 10-15-2022 10-16-2022	0.07/0.11 0.19/0.21 0.09/0.31 0.16/0.2 0.02/0.12 0.06/0.1 0.17/0.86 0.04/0.18

[a] Intensity = Maximum amount of precipitation in any 30-min interval.

[b] Total = Total amount of precipitation in 24 hr.

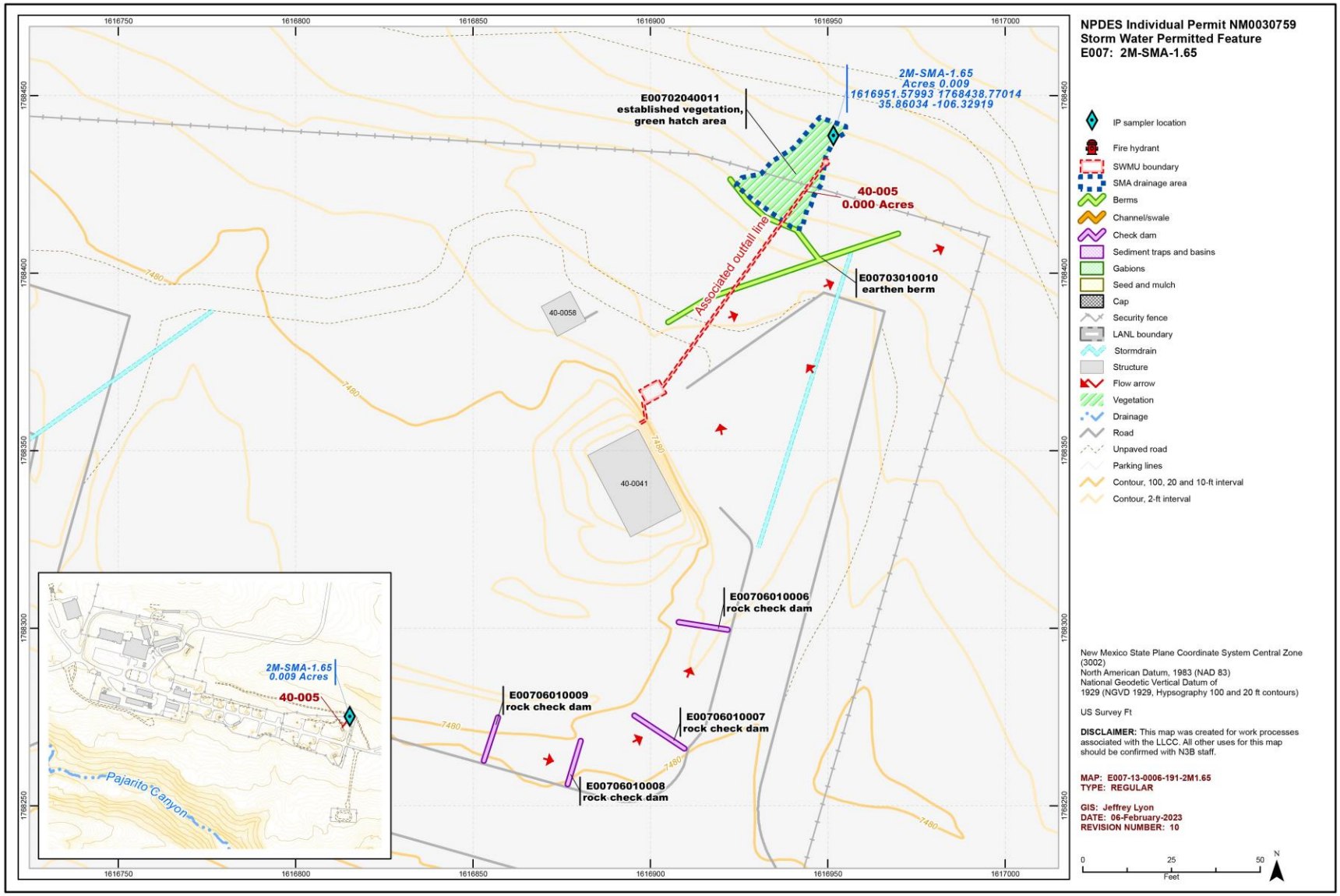

Figure 125-1 2M-SMA-1.65 location map

126.0 2M-SMA-1.67: SWMU 06-003(h)

One historical industrial activity area, Site 06-003(h), is associated with 2M-SMA-1.67 (permitted feature E008). Summaries of all inspection, monitoring, and maintenance actions conducted in 2022 are provided below. Refer to the "2022 Sampling Implementation Plan, NPDES Permit No. NM0030759" (N3B 2023, 702608) for more information on Consent Order investigation activities, the SSD, and planned stormwater monitoring at the SMA for future monitoring seasons.

126.1 Site Descriptions

06-003(h) (11/27/2017)

SWMU 06-003(h) is a formerly used firing site located north of Twomile Mesa Road at TA-06. This Site was not identified in the 1990 SWMU Report and was first discussed in the OU 1111 RCRA, RFI work plan as part of MDA F. In describing MDA F, the RFI work plan states that defective explosive lenses manufactured for use in the Fat Man implosion weapon were destroyed in this area by detonation in 1945. Some of the lenses were described as consisting of the explosive Baratol, which contains barium and TNT. A former employee involved with the detonations described this firing site as being located in the general area between the larger MDA F disposal pit [SWMU 06-007(a)] and Twomile Mesa Road.

In 1993, the Laboratory requested the EPA add SWMU 06-003(h) to the Laboratory's HWFP as a separate site; EPA approved the request in 1994.

Known or Potential Use of POCs

POCs known to be managed or potentially used at the Site are listed in Table 126-1.

Table 126-1 POCs Known or Suspected to Have Been Used Historically at the Site

Site	Potential POC Source	Potential POCs
06-003(h)	Firing site	Barium, copper, HE

126.2 Control Measures

All active control measures in use at 2M-SMA-1.67 are listed in Table 126-2. Their locations are shown on the project map (Figure 126-1) located at the end of this SMA update. Future map updates will be posted on the IP website: https://ext.em-la.doe.gov/ips/Home/SiteMonitoringAreaMaps.

Table 126-2 Active Control Measures

Control ID	Control Name	Purpose of Control				Control Status	Install Date
		Run-On	Runoff	Erosion	Sediment		
E00802040016	Established Vegetation	-	X	X	-	B	4-23-2013
E00803010014	Earthen Berm	-	X	-	X	B	10-31-2011
E00803010015	Earthen Berm	-	X	-	X	B	10-31-2011

126.3 Inspections and Maintenance

Rain gage RG-TA-06 recorded seven storm events at 2M-SMA-1.67 during the 2022 season, requiring three post-storm inspections, which are summarized in Table 126-3. No other control-measure inspections, maintenance activities, or facility modifications affecting discharge were conducted at the SMA in 2022.

Table 126-3 Post-Storm Inspections During 2022

Inspection Reference	Storm Date	30-Minute Maximum Intensity (in.)	Inspection Date	Days to Inspection	Inspected within 15 days?
BMP-93073[a,b]	6-25-2022 6-26-2022 7-4-2022	0.48 0.3 0.26	7-8-2022	13 12 4	Yes Yes Yes
BMP-94216[b]	7-20-2022 7-27-2022	0.3 1.77	7-29-2022	9 2	Yes Yes
SMPLR-93616[b,c]	7-30-2022 7-31-2022	0.45 0.45	8-11-2022	12 11	Yes Yes

[a] Inspection also qualifies as the Annual Erosion Evaluation per 2010 IP Part I.G.1.

[b] Inspection qualifies for multiple Storm Dates per 2010 IP Part I.G.2 and 2022 IP Part I.B.8.b.

[c] Due to an administrative error an inspection Work Order was not issued for the July 30, 2022 rain event. The SMA was next visited on August 11, 2022 for a sampler inspection and there were no findings of deficiency noted.

126.4 Stormwater Monitoring

Following the installation of baseline control measures, a baseline monitoring stormwater sample was collected on September 15, 2011. Analytical results from this sample yielded no TAL exceedances. The HE sample collected on September 15, 2011, was extracted or analyzed beyond the appropriate holding time and thus may have a low bias and potentially under-report the concentration of HE in this sample. Consequently, the results for this analysis cannot be used to confirm that HE is present at a concentration greater or less than the TAL. The complete analytical results are presented in "Stormwater Individual Permit Annual Report, Reporting Period: January 1–December 31, 2011, NPDES Permit No. NM0030759" (LANL 2012, 211408).

Stormwater monitoring was conducted at 2M-SMA-1.67 under the 2010 IP requirements from March 18 through November 1, 2022, resulting in a monitoring season of 229 days. Eight inspections were performed during the monitoring period and are summarized in Table 126-4. Rain gage RG-TA-06 recorded 36 rain events exceeding 0.1 in. in 24 hr while the sampling equipment was active. No new confirmation-monitoring samples were collected in 2022 and no sampling operability issues were encountered.

Table 126-4 Sampler Inspections During 2022

Inspection Reference	Inspection Date	Sample Retrieved?	Date(s) of Rain Events Exceeding 0.1 in. in 24 hr since previous inspection	Rainfall Intensity[a]/ Total[b] (in.)
SMPLR-91572	4-14-2022	No	None	None
SMPLR-92018	4-19-2022	No	None	None
SMPLR-92062	5-5-2022	No	None	None
SMPLR-92394	6-15-2022	No	None	None
SMPLR-92872	7-1-2022	No	6-17-2022 6-18-2022 6-19-2022 6-21-2022 6-22-2022 6-25-2022 6-26-2022	0.07/0.32 0.06/0.17 0.05/0.17 0.06/0.14 0.1/0.6 0.48/1.34 0.3/1.87

Inspection Reference	Inspection Date	Sample Retrieved?	Date(s) of Rain Events Exceeding 0.1 in. in 24 hr since previous inspection	Rainfall Intensity[a]/ Total[b] (in.)
SMPLR-93616	8-11-2022	No	7-1-2022 7-2-2022 7-4-2022 7-14-2022 7-20-2022 7-21-2022 7-24-2022 7-26-2022 7-27-2022 7-29-2022 7-30-2022 7-31-2022 8-1-2022 8-5-2022 8-6-2022	0.16/0.64 0.06/0.15 0.26/0.39 0.13/0.17 0.3/0.4 0.12/0.21 0.09/0.12 0.09/0.27 1.77/1.86 0.09/0.18 0.45/0.75 0.45/0.99 0.1/0.14 0/1.15 0.23/0.66
SMPLR-95357	9-20-2022	No	8-11-2022 8-16-2022 8-18-2022 8-19-2022 8-20-2022 9-9-2022	0.15/0.19 0.07/0.21 0.03/0.16 0.09/0.22 0.06/0.11 0.12/0.15
SMPLR-96012	11-1-2022	No	9-20-2022 9-22-2022 10-2-2022 10-3-2022 10-4-2022 10-7-2022 10-15-2022 10-16-2022	0.07/0.11 0.19/0.21 0.09/0.31 0.16/0.2 0.02/0.12 0.06/0.1 0.17/0.86 0.04/0.18

[a] Intensity = Maximum amount of precipitation in any 30-min interval.

[b] Total = Total amount of precipitation in 24 hr.

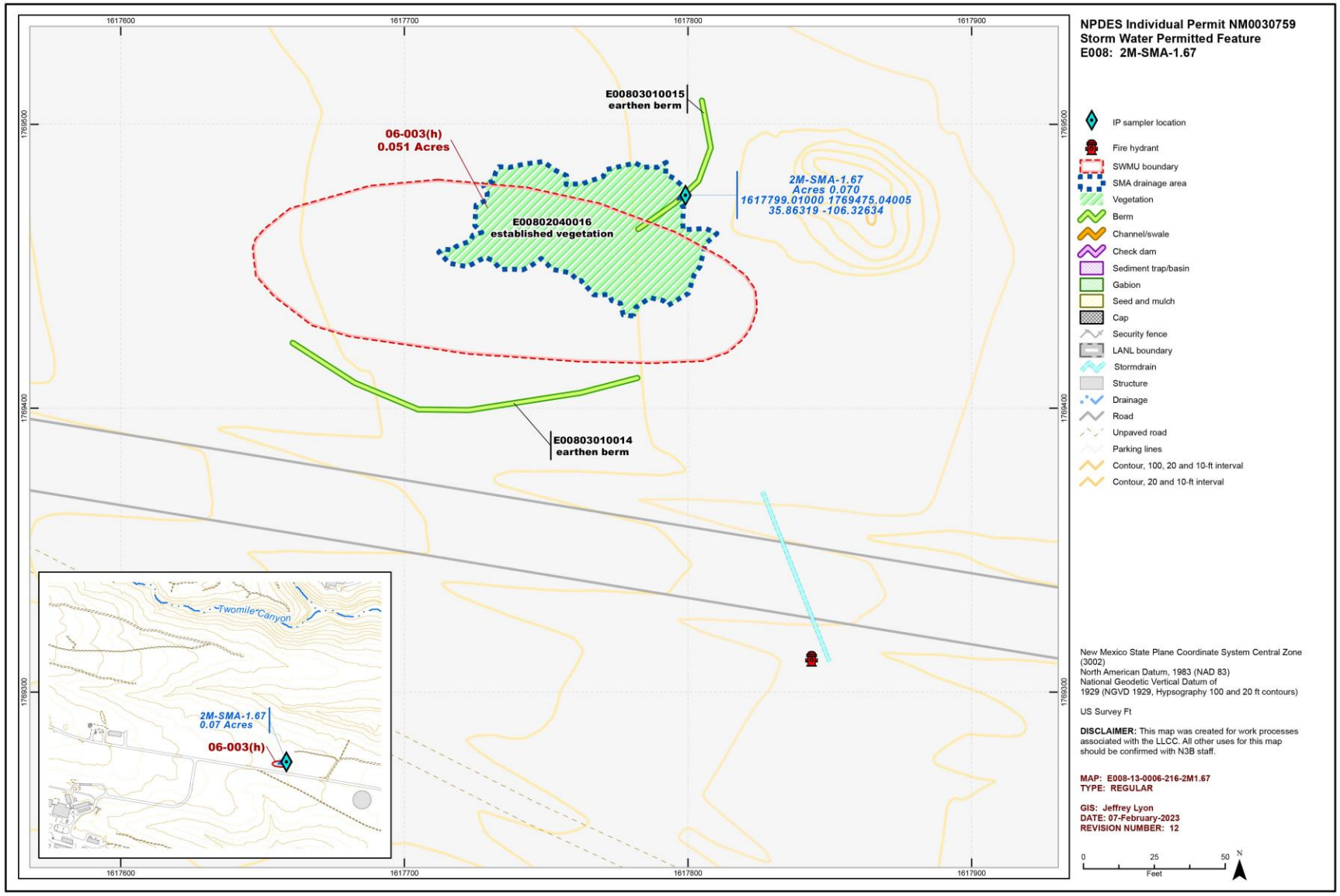

Figure 126-1 2M-SMA-1.67 location map

127.0 2M-SMA-1.7: SWMU 03-055(a)

One historical industrial activity area, Site 03-055(a), is associated with 2M-SMA-1.7 (permitted feature E009). Summaries of all inspection, monitoring, and maintenance actions conducted in 2022 are provided below. Refer to the "2022 Sampling Implementation Plan, NPDES Permit No. NM0030759" (N3B 2023, 702608) for more information on Consent Order investigation activities, the SSD, and planned stormwater monitoring at the SMA for future monitoring seasons.

127.1 Site Descriptions

03-055(a) (11/27/2017)

SWMU 03-055(a) is an outfall located approximately 50 ft south of the Van de Graaff facility (building 03-16) at TA-03. Roof drains and one floor drain in generator room 68 discharged to the outfall at the edge of the mesa into Twomile Canyon. The outfall currently receives only stormwater from Van de Graaff building roof drains. The Van de Graaff facility was constructed in 1952. The facility has been inactive since the late 1990s. Decontamination and decommissioning activities to remove radioactively contaminated equipment and fixtures from the interior of building 03-16 were implemented in 2005–2007.

Known or Potential Use of POCs

POCs known to be managed or potentially used at the Site are listed in Table 127-1.

Table 127-1 POCs Known or Suspected to Have Been Used Historically at the Site

Site	Potential POC Source	Potential POCs
03-055(a)	Outfall from building 03-16	Organic chemicals, PAHs

127.2 Control Measures

All active control measures in use at 2M-SMA-1.7 are listed in Table 127-2. Their locations are shown on the project map (Figure 127-1) located at the end of this SMA update. Future map updates will be posted on the IP website: https://ext.em-la.doe.gov/ips/Home/SiteMonitoringAreaMaps.

Table 127-2 Active Control Measures

Control ID	Control Name	Purpose of Control				Control Status	Install Date
		Run-On	Runoff	Erosion	Sediment		
E00902040009	Established Vegetation	-	X	X	-	B	4-23-2013
E00903010008	Earthen Berm	X	-	-	X	EC	7-9-2012
E00903120005	Rock Berm	-	X	-	X	CB	6-23-2010

127.3 Inspections and Maintenance

Rain gage RG-TA-06 recorded seven storm events at 2M-SMA-1.7 during the 2022 season, requiring two post-storm inspections, which are summarized in Table 127-3. No other control-measure inspections, maintenance activities, or facility modifications affecting discharge were conducted at the SMA in 2022.

Table 127-3 Post-Storm Inspections During 2022

Inspection Reference	Storm Date	30-Minute Maximum Intensity (in.)	Inspection Date	Days to Inspection	Inspected within 15 days?
BMP-93075[a,b]	6-25-2022	0.48	7-8-2022	13	Yes
	6-26-2022	0.3		12	Yes
	7-4-2022	0.26		4	Yes
BMP-94218[b]	7-20-2022	0.3	8-3-2022	14	Yes
	7-27-2022	1.77		7	Yes
	7-30-2022	0.45		4	Yes
	7-31-2022	0.45		3	Yes

[a] Inspection also qualifies as the Annual Erosion Evaluation per 2010 IP Part I.G.1.

[b] Inspection qualifies for multiple Storm Dates per 2010 IP Part I.G.2 and 2022 IP Part I.B.8.b.

127.4 Stormwater Monitoring

Following the installation of baseline control measures, two baseline monitoring stormwater samples were collected on August 3 and September 9, 2011. Analytical results from these samples yielded a TAL exceedance for copper (11.4 µg/L). The complete analytical results are presented in "Stormwater Individual Permit Annual Report, Reporting Period: January 1–December 31, 2011, NPDES Permit No. NM0030759" (LANL 2012, 211408).

Following the installation of enhanced control measures at 2M-SMA-1.7, corrective-action stormwater samples were collected on July 8 and August 26, 2014. Analytical results from these samples yielded a TAL exceedance for copper (4.6 µg/L). The complete analytical results are presented in "Stormwater Individual Permit Annual Report, Reporting Period: January 1–December 31, 2014, NPDES Permit No. NM0030759" (LANL 2015, 600241).

Stormwater monitoring was not conducted at 2M-SMA-1.7 in 2022 under the 2010 IP requirements.

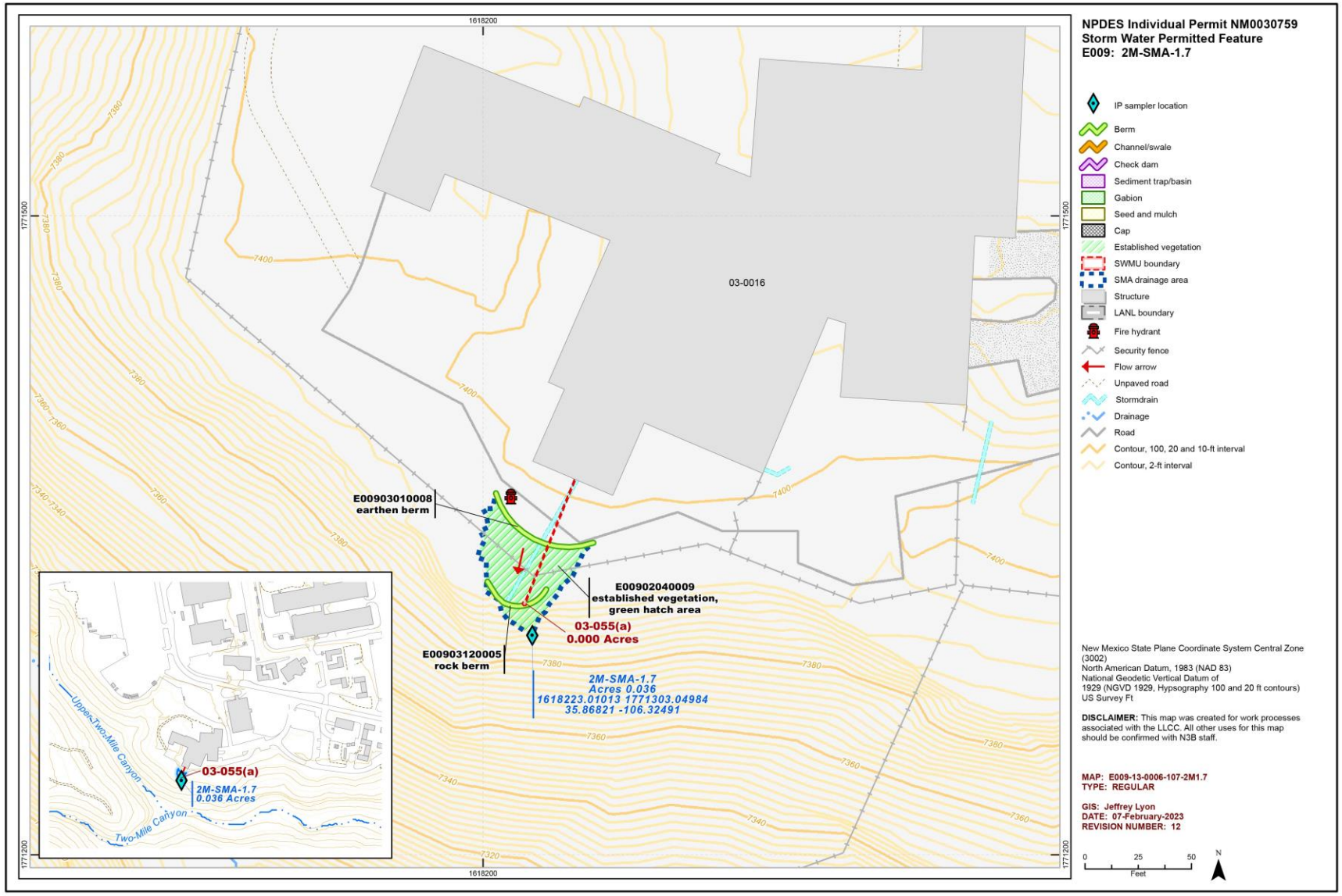

Figure 127-1 2M-SMA-1.7 location map

128.0 2M-SMA-1.8: SWMU 03-001(k)

One historical industrial activity area, Site 03-001(k), is associated with 2M-SMA-1.8 (permitted feature E010). Summaries of all inspection, monitoring, and maintenance actions conducted in 2022 are provided below. Refer to the "2022 Sampling Implementation Plan, NPDES Permit No. NM0030759" (N3B 2023, 702608) for more information on Consent Order investigation activities, the SSD, and planned stormwater monitoring at the SMA for future monitoring seasons.

128.1 Site Descriptions

03-001(k) (11/27/2017)

SWMU 03-001(k) is the former location of a less-than-90-day hazardous waste accumulation area located on the south side of building 03-16, the inactive Van de Graaff Accelerator and Ion Beam Facility at TA-03. SWMU 03-001(k) consists of two level asphalt areas each measuring approximately 20 ft × 30 ft. The areas are located next to doors on the south side of the building. Concrete pads located in front of each doorway are bounded by asphalt paving on three sides. SWMU 03-001(k) was used primarily as a storage yard for electrical equipment destined for salvage. A former shed on the southwest perimeter of the fenced area was registered as an SAA. A 1986 field inspection of SWMU 03-001(k) noted oily unmarked drums where fresh vacuum oil for experiments was stored. Other containers stored at the Site included empty drums, empty asphalt-lined drums for waste tritium, and drums containing spent solvents. Use of the storage area ceased in 1992. A 1993 inspection found no stains on the asphalt or concrete pad.

Known or Potential Use of POCs

POCs known to be managed or potentially used at the Site are listed in Table 128-1.

Table 128-1 POCs Known or Suspected to Have Been Used Historically at the Site

Site	Potential POC Source	Potential POCs
03-001(k)	Storage area	PAHs, PCBs, tritium

128.2 Control Measures

All active control measures in use at 2M-SMA-1.8 are listed in Table 128-2. Their locations are shown on the project map (Figure 128-1) located at the end of this SMA update. Future map updates will be posted on the IP website: https://ext.em-la.doe.gov/ips/Home/SiteMonitoringAreaMaps.

Table 128-2 Active Control Measures

Control ID	Control Name	Purpose of Control				Control Status	Install Date
		Run-On	Runoff	Erosion	Sediment		
E01002040010	Established Vegetation	-	X	X	-	B	4-23-2013
E01003040003	Asphalt Berm	X	-	-	X	CB	6-23-2010
E01003100012	Gravel Bags	X	-	-	X	B	8-23-2016
E01006010004	Rock Check Dam	-	X	-	X	CB	6-23-2010
E01006010005	Rock Check Dam	-	X	-	X	CB	6-23-2010
E01006010006	Rock Check Dam	-	X	-	X	CB	6-23-2010
E01006010007	Rock Check Dam	-	X	-	X	CB	6-23-2010

128.3 Inspections and Maintenance

Rain gage RG-TA-06 recorded seven storm events at 2M-SMA-1.8 during the 2022 season, requiring two post-storm inspections, which are summarized in Table 128-3. Maintenance activities conducted at the SMA are summarized in Table 128-4. No other control-measure inspections or facility modifications affecting discharge were conducted at the SMA in 2022.

Table 128-3 Post-Storm Inspections During 2022

Inspection Reference	Storm Date	30-Minute Maximum Intensity (in.)	Inspection Date	Days to Inspection	Inspected within 15 days?
BMP-93076[a,b]	6-25-2022 6-26-2022 7-4-2022	0.48 0.3 0.26	7-8-2022	13 12 4	Yes Yes Yes
BMP-94219[b]	7-20-2022 7-27-2022 7-30-2022 7-31-2022	0.3 1.77 0.45 0.45	8-1-2022	12 5 2 1	Yes Yes Yes Yes

[a] Inspection also qualifies as the Annual Erosion Evaluation per 2010 IP Part I.G.1.

[b] Inspection qualifies for multiple Storm Dates per 2010 IP Part I.G.2 and 2022 IP Part I.B.8.b.

Table 128-4 Maintenance Activities Conducted During 2022

Maintenance Reference	Maintenance Conducted	Maintenance Date	Response Time	Response Discussion
BMP-94219	Built up Rock Check Dams E01006010006 and E01006010007 with displaced rock at inspection.	8-1-2022	0 days	Maintenance was performed as soon as practicable.

128.4 Stormwater Monitoring

Following the installation of baseline control measures, two baseline monitoring stormwater samples were collected, on August 4 and September 9, 2011. Analytical results from these samples yielded TAL exceedances for copper (6.6 µg/L and 13.2 µg/L) and zinc (71.8 µg/L). The complete analytical results are presented in "Stormwater Individual Permit Annual Report, Reporting Period: January 1–December 31, 2011, NPDES Permit No. NM0030759" (LANL 2012, 211408).

Stormwater monitoring was not conducted at 2M-SMA-1.8 in 2022 under the 2010 IP requirements.

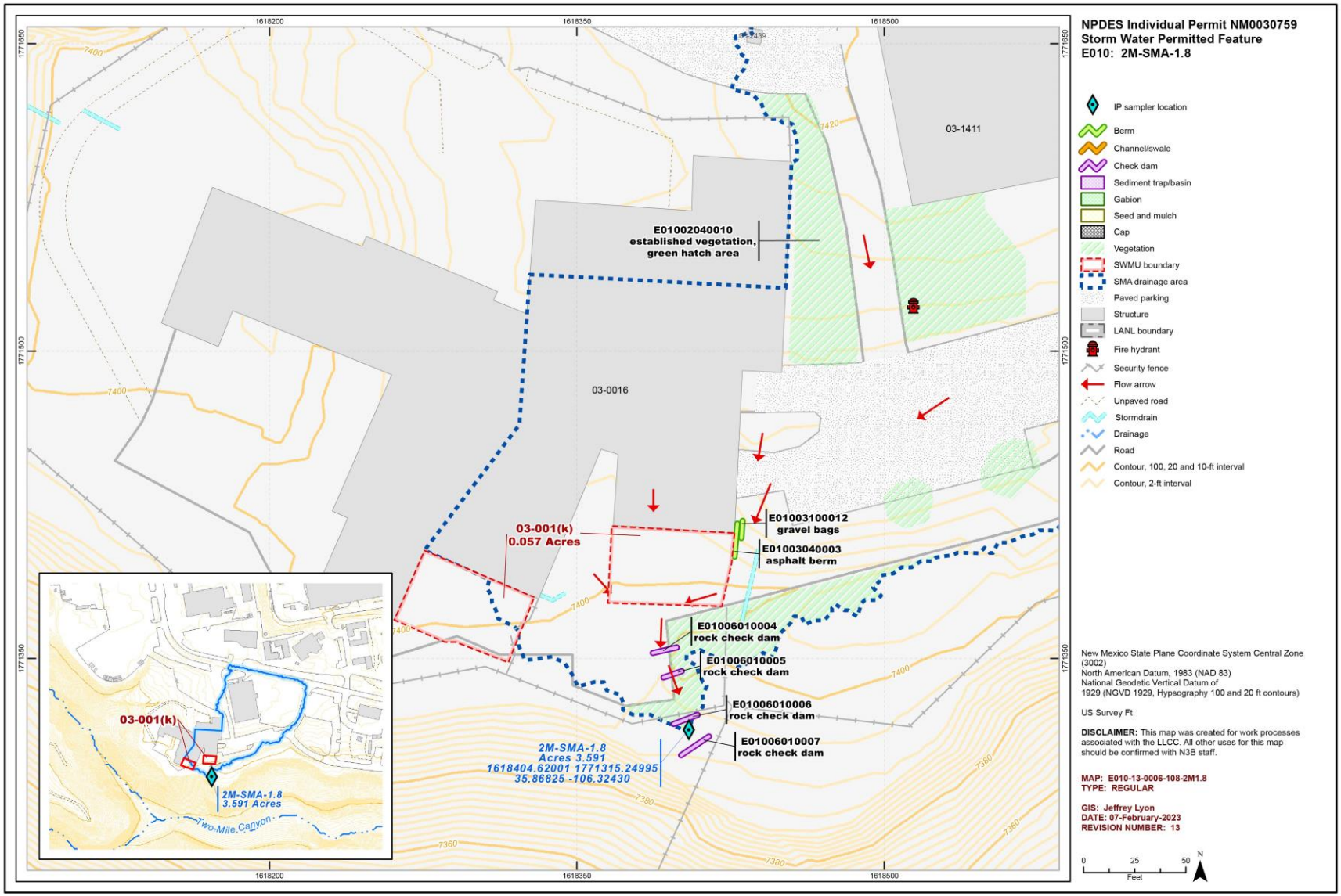

Figure 128-1 2M-SMA-1.8 location map

129.0 2M-SMA-1.9: SWMU 03-003(a)

One historical industrial activity area, Site 03-003(a), is associated with 2M-SMA-1.9 (permitted feature E011). Summaries of all inspection, monitoring, and maintenance actions conducted in 2022 are provided below. Refer to the "2022 Sampling Implementation Plan, NPDES Permit No. NM0030759" (N3B 2023, 702608) for more information on Consent Order investigation activities, the SSD, and planned stormwater monitoring at the SMA for future monitoring seasons.

129.1 Site Descriptions

03-003(a) (11/27/2017)

SWMU 03-003(a) is a former outdoor storage area used for temporary storage of electrical equipment destined for salvage, some of which contained oil. The storage area was located on the north and west sides of building 03-218 at TA-03. The northern portion of the storage area consisted of the asphalt paving next to the north side of building 03-218. The western portion of the storage area consisted of a 44 ft long × 27 ft wide concrete pad surrounded by an 18 in. to 20 in. high concrete curb. The concrete pad and curb are bounded on three sides by soil covered with gravel. A 30 ft wide × 60 ft long area of asphalt paving abuts the south end of the concrete curb. AOC 03-042 is a former containment area located around the concrete pad in the northwest portion of SWMU 03-003(a). During the 1986 CEARP survey, several hundred capacitors, some marked as PCBs, were stored on pallets the asphalt in the storage area on the north side of building 03-218; staining was visible on the asphalt beneath capacitors. Capacitors and transformers labeled as containing less than 50 ppm PCBs were stored in the southwest portion of the former storage area. During a 1989 inspection, leaking capacitors, drums of epoxy, one or two facility backup batteries, and vacuum pumps were observed in the southwest portion of the storage area. In the early 1990s, a small area of oil-stained asphalt was excavated to a depth of 3 in. around the storm drain located in the western portion of SWMU 03-003(a). Use of the SWMU 03-003(a) storage area ceased in the early 1990s.

Known or Potential Use of POCs

POCs known to be managed or potentially used at the Site are listed in Table 129-1.

Table 129-1 POCs Known or Suspected to Have Been Used Historically at the Site

Site	Potential POC Source	Potential POCs
03-003(a)	Storage area	Lead, organic chemicals, PCBs, SVOCs

129.2 Control Measures

All active control measures in use at 2M-SMA-1.9 are listed in Table 129-2. Their locations are shown on the project map (Figure 129-1) located at the end of this SMA update. Future map updates will be posted on the IP website: https://ext.em-la.doe.gov/ips/Home/SiteMonitoringAreaMaps.

Table 129-2 Active Control Measures

Control ID	Control Name	Purpose of Control				Control Status	Install Date
		Run-On	Runoff	Erosion	Sediment		
E01103090001	Curbing	X	-	-	X	CB	4-1-2009
E01103100003	Gravel Bags	-	X	-	X	CB	6-23-2010
E01103100006	Gravel Bags	X	-	-	X	B	8-9-2018

129.3 Inspections and Maintenance

Rain gage RG121.9 recorded five storm events at 2M-SMA-1.9 during the 2022 season, requiring two post-storm inspections, which are summarized in Table 129-3. No other control-measure inspections, maintenance activities, or facility modifications affecting discharge were conducted at the SMA in 2022.

Table 129-3 Post-Storm Inspections During 2022

Inspection Reference	Storm Date	30-Minute Maximum Intensity (in.)	Inspection Date	Days to Inspection	Inspected within 15 days?
BMP-93077[a,b]	6-25-2022 6-26-2022 7-2-2022	0.49 0.32 0.32	7-8-2022	13 12 6	Yes Yes Yes
BMP-94573[b]	7-27-2022 7-31-2022	1.24 0.32	8-4-2022	8 4	Yes Yes

[a] Inspection also qualifies as the Annual Erosion Evaluation per 2010 IP Part I.G.1.

[b] Inspection qualifies for multiple Storm Dates per 2010 IP Part I.G.2 and 2022 IP Part I.B.8.b.

129.4 Stormwater Monitoring

Following the installation of baseline control measures, a baseline monitoring stormwater sample was collected on July 11, 2012. Analytical results from this sample yielded TAL exceedances for copper (24.9 µg/L) and zinc (314 µg/L). The complete analytical results are presented in "Stormwater Individual Permit Annual Report, Reporting Period: January 1–December 31, 2012, NPDES Permit No. NM0030759" (LANL 2013, 237680).

Stormwater monitoring was not conducted at 2M-SMA-1.9 in 2022 under the 2010 IP requirements.

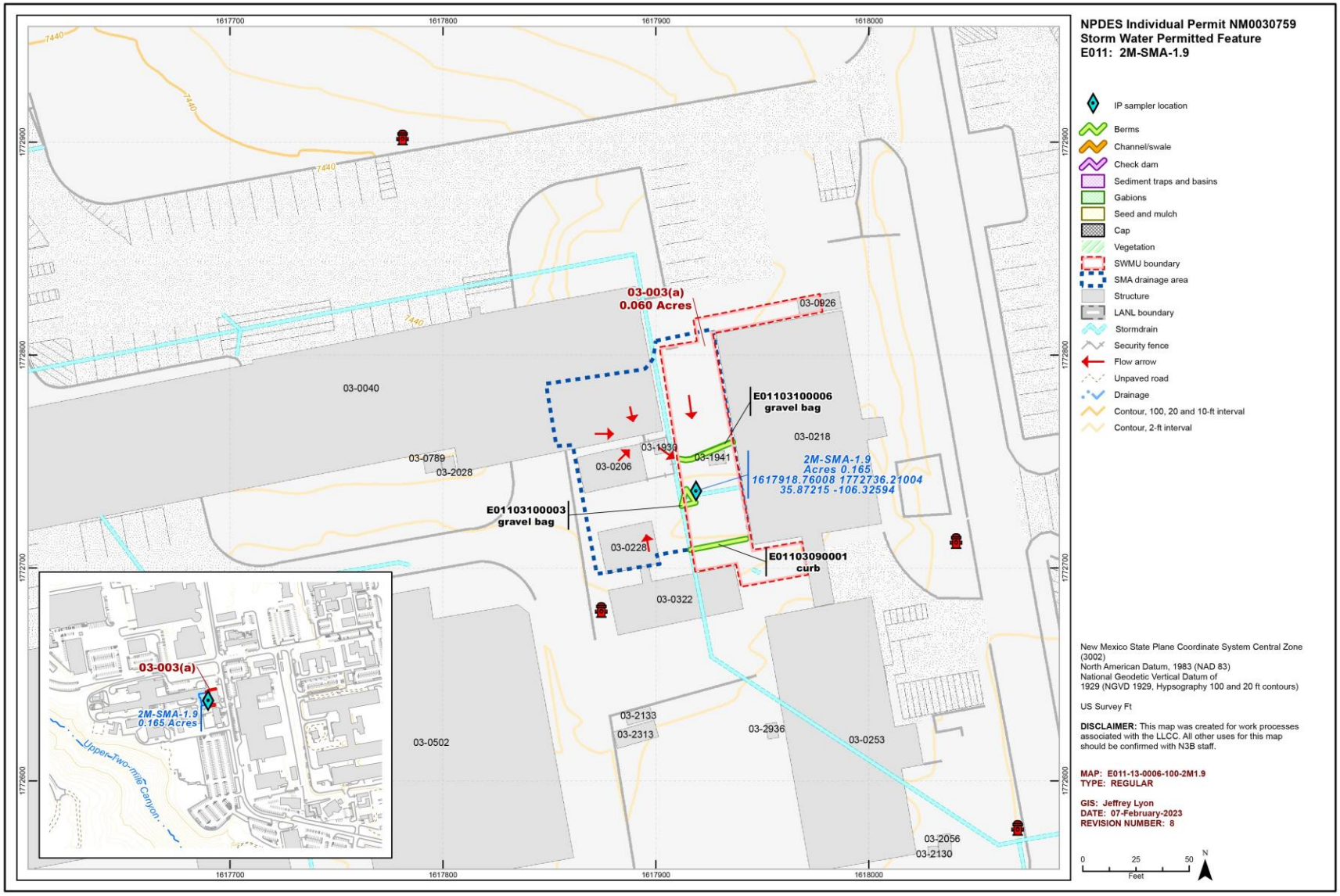

Figure 129-1 2M-SMA-1.9 location map

130.0 2M-SMA-2: SWMUs 03-050(d) and 03-054(b)

Two historical industrial activity areas, Sites 03-050(d) and 03-054(b), are associated with 2M-SMA-2 (permitted feature E012). Summaries of all inspection, monitoring, and maintenance actions conducted in 2022 are provided below. Refer to the "2022 Sampling Implementation Plan, NPDES Permit No. NM0030759" (N3B 2023, 702608) for more information on Consent Order investigation activities, the SSD, and planned stormwater monitoring at the SMA for future monitoring seasons.

130.1 Site Descriptions

03-050(d) (8/30/2017)

SWMU 03-050(d) is an area of potential soil contamination from the deposition of contaminants from exhaust emissions from the air-pollution-control device located on the south side of building 03-102 at TA-3. The device was a shaker-type baghouse situated on a concrete pad. Building 03-102 was constructed in 1957 for machining uranium-235 and uranium-238, lithium hydride, and small quantities of other metals. The baghouse was the primary air-pollution-control device to remove lithium hydride particles from the gas stream to the stack, and it was also used as a secondary air-pollution-control device to remove uranium graphite particulates from the gas stream to the stack. The baghouse ceased operating in 1992 because of a failure detected in a test, which measured the efficiency of the collection system. The baghouse was replaced by HEPA-filter banks. Radionuclide air emissions from the baghouse were monitored from the time it became operational in 1957 until it was decommissioned in 1992. Releases of radioactive uranium particulates through the baghouse fabric were deposited on the concrete pad. The concrete pad underlying the baghouse was subsequently painted to immobilize any existing uranium particulates. Radiological field survey results showed no detectable activity on the concrete pad or surrounding soil.

03-054(b) (6/8/2020)

SWMU 03-054(b) is an outfall located southeast of building 03-1411 and southwest of building 03-316 in TA-03. The 1990 SWMU Report describes SWMU 03-054(b) as an outfall located southwest of building 03-316 that discharges into Twomile Canyon. The outfall received discharge from cooling tower blowdown and cooling water from building 03-102. Engineering drawing AB1264 (pg. 15 of 16) shows the outfall that receives stormwater from surface areas surrounding 26 buildings and from 94 roof drains, and noncontact cooling water from a furnace in building 03-102. The outfall was formerly permitted as NPDES 03A009 outfall to receive discharge water from the cooling tower effluent blowdown from building 03-102; this discharge was rerouted to the TA-46 SWSC treatment plant in 1993. The SWMU 03-052(a) and SWMU 03-052(e) storm drains also discharged to the SWMU 03-054(b) outfall, which discharges to a drainage channel southwest of building 03-316. The unit boundary will be revised to depict an outfall discharge marker, the outlet line from building 03-102, and the storm drainlines from the SWMU 03-052(a) and SWMU 03-054(e) storm drains.

Known or Potential Use of POCs

POCs known to be managed or potentially used at the Sites are listed in Table 130-1.

Table 130-1 POCs Known or Suspected to Have Been Used Historically at the Sites

Site	Potential POC Source	Potential POCs
03-050(d)	Soil contamination from TA-03 exhaust emissions	Metals, inorganic chemicals, uranium-235, uranium-238
03-054(b)	Outfall from building 03-038	Aluminum, chromium, copper, metal pigments

130.2 Control Measures

All active control measures in use at 2M-SMA-2 are listed in Table 130-2. Their locations are shown on the project map (Figure 130-1) located at the end of this SMA update. Future map updates will be posted on the IP website: https://ext.em-la.doe.gov/ips/Home/SiteMonitoringAreaMaps.

Table 130-2 Active Control Measures

Control ID	Control Name	Purpose of Control				Control Status	Install Date
		Run-On	Runoff	Erosion	Sediment		
E01202040015	Established Vegetation	-	X	X	-	B	4-23-2013
E01203090006	Curbing	X	-	-	X	CB	6-1-2009
E01205020014	Sediment Basin	-	X	-	X	EC	10-10-2012

130.3 Inspections and Maintenance

Rain gage RG121.9 recorded five storm events at 2M-SMA-2 during the 2022 season, requiring two post-storm inspections, which are summarized in Table 130-3. No other control-measure inspections, maintenance activities, or facility modifications affecting discharge were conducted at the SMA in 2022.

Table 130-3 Post-Storm Inspections During 2022

Inspection Reference	Storm Date	30-Minute Maximum Intensity (in.)	Inspection Date	Days to Inspection	Inspected within 15 days?
BMP-93078[a,b]	6-25-2022	0.49	7-8-2022	13	Yes
	6-26-2022	0.32		12	Yes
	7-2-2022	0.32		6	Yes
BMP-94574[b]	7-27-2022	1.24	8-4-2022	8	Yes
	7-31-2022	0.32		4	Yes

[a] Inspection also qualifies as the Annual Erosion Evaluation per 2010 IP Part I.G.1.

[b] Inspection qualifies for multiple Storm Dates per 2010 IP Part I.G.2 and 2022 IP Part I.B.8.b.

130.4 Stormwater Monitoring

Following the installation of baseline control measures, two baseline monitoring stormwater samples were collected on July 28 and September 4, 2011. Analytical results from these samples yielded TAL exceedances for copper (5.5 µg/L and 14.9 µg/L), PCB concentration (65 ng/L), and zinc (72.3 µg/L and 140 µg/L). The complete analytical results are presented in "Stormwater Individual Permit Annual Report, Reporting Period: January 1–December 31, 2011, NPDES Permit No. NM0030759" (LANL 2012, 211408).

Following the installation of enhanced control measures at 2M-SMA-2, corrective-action stormwater samples were collected on June 14 and August 18, 2013. Analytical results from these samples yielded TAL exceedances for copper (18.5 µg/L and 19.9 µg/L), PCB concentrations (50 ng/L and 15 ng/L), and zinc (102 µg/L and 123 µg/L). The complete analytical results are presented in "Stormwater Individual Permit Annual Report, Reporting Period: January 1–December 31, 2013, NPDES Permit No. NM0030759" (LANL 2014, 254067).

Stormwater monitoring was not conducted at 2M-SMA-2 in 2022 under the 2010 IP requirements.

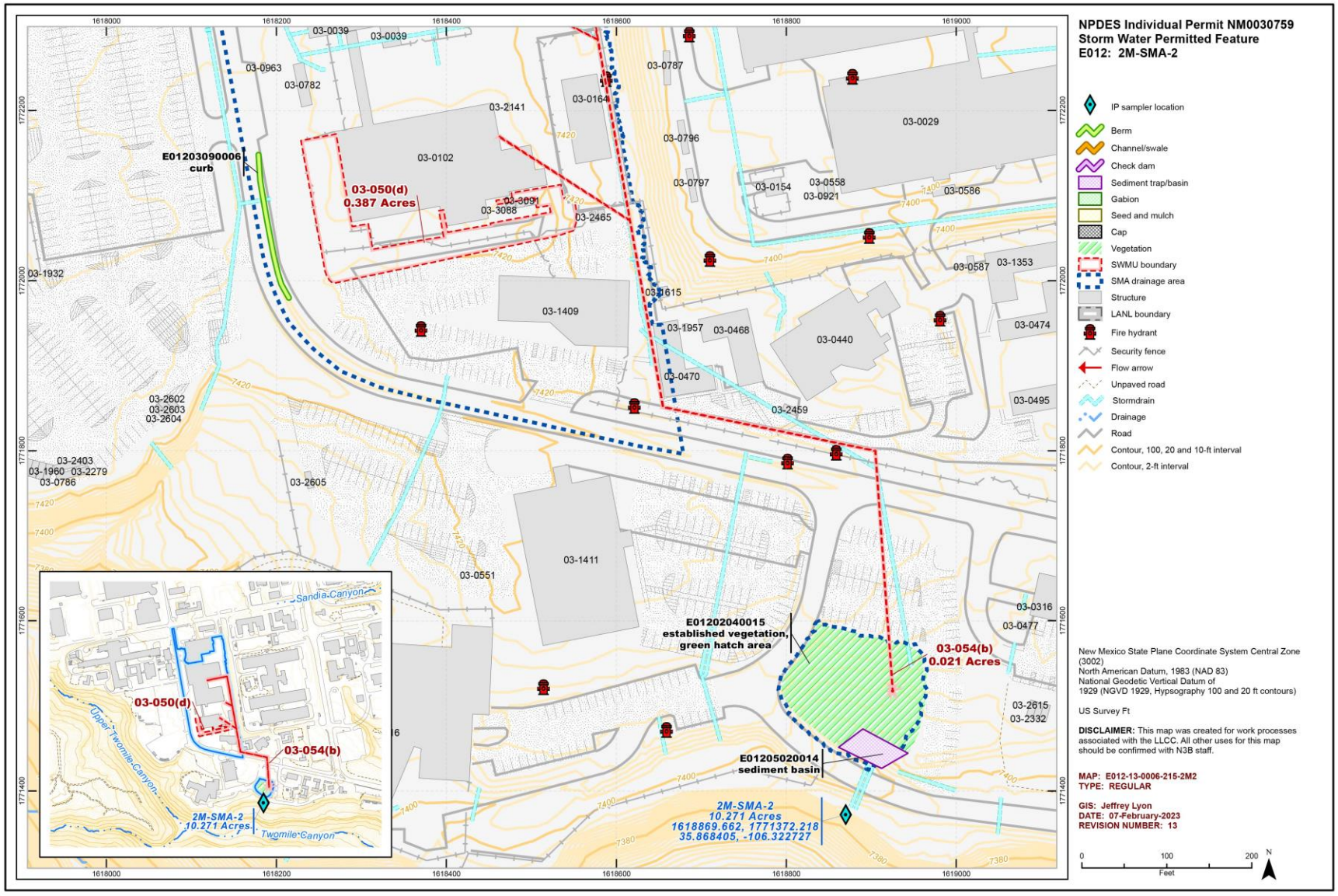

Figure 130-1 2M-SMA-2 location map

131.0 2M-SMA-2.2: AOC 03-003(k)

One historical industrial activity area, Site 03-003(k), is associated with 2M-SMA-2.2 (permitted feature E013). Summaries of all inspection, monitoring, and maintenance actions conducted in 2022 are provided below. Refer to the "2022 Sampling Implementation Plan, NPDES Permit No. NM0030759" (N3B 2023, 702608) for more information on Consent Order investigation activities, the SSD, and planned stormwater monitoring at the SMA for future monitoring seasons.

131.1 Site Descriptions

03-003(k) (8/30/2017)

AOC 03-003(k) consists of area of potential soil contamination associated with the location of a former non-PCB transformer (less than 50 ppm PCB), reportedly staged on the east side of building 03-316 at TA-3. No additional information is available for this Site, including whether there had ever been a release from the transformer. The transformer was removed prior to 1988 and the area where the transformer was situated was graded and paved over when the transportable buildings east of building 03-316 were installed; no documented soil removal. No additional information is available for this Site.

Known or Potential Use of POCs

POCs known to be managed or potentially used at the Site are listed in Table 131-1.

Table 131-1 POCs Known or Suspected to Have Been Used Historically at the Site

Site	Potential POC Source	Potential POCs
03-003(k)	Transformer pad	PCBs, SVOCs

131.2 Control Measures

All active control measures in use at 2M-SMA-2.2 are listed in Table 131-2. Their locations are shown on the project map (Figure 131-1) located at the end of this SMA update. Future map updates will be posted on the IP website: https://ext.em-la.doe.gov/ips/Home/SiteMonitoringAreaMaps.

Table 131-2 Active Control Measures

Control ID	Control Name	Purpose of Control				Control Status	Install Date
		Run-On	Runoff	Erosion	Sediment		
E01303090002	Curbing	X	-	-	-	CB	6-1-2009
E01304020003	Concrete/Asphalt Channel/Swale	-	X	X	-	CB	6-1-2009
E01306010004	Rock Check Dam	-	X	-	X	CB	11-18-2010
E01306010005	Rock Check Dam	-	X	-	X	CB	11-18-2010

131.3 Inspections and Maintenance

Rain gage RG121.9 recorded five storm events at 2M-SMA-2.2 during the 2022 season, requiring two post-storm inspections, which are summarized in Table 131-3. No other control-measure inspections, maintenance activities, or facility modifications affecting discharge were conducted at the SMA in 2022.

Table 131-3 Post-Storm Inspections During 2022

Inspection Reference	Storm Date	30-Minute Maximum Intensity (in.)	Inspection Date	Days to Inspection	Inspected within 15 days?
BMP-93079[a,b]	6-25-2022	0.49	7-8-2022	13	Yes
	6-26-2022	0.32		12	Yes
	7-2-2022	0.32		6	Yes
BMP-94575[b]	7-27-2022	1.24	8-4-2022	8	Yes
	7-31-2022	0.32		4	Yes

[a] Inspection also qualifies as the Annual Erosion Evaluation per 2010 IP Part I.G.1.

[b] Inspection qualifies for multiple Storm Dates per 2010 IP Part I.G.2 and 2022 IP Part I.B.8.b.

131.4 Stormwater Monitoring

Following the installation of baseline control measures, two baseline monitoring stormwater samples were collected on August 13 and September 4, 2011. Analytical results from these samples yielded TAL exceedances for copper (10.1 µg/L and 16.4 µg/L), PCB concentrations (7 ng/L and 10 ng/L), and zinc (90.1 µg/L and 97.2 µg/L). The complete analytical results are presented in "Stormwater Individual Permit Annual Report, Reporting Period: January 1–December 31, 2011, NPDES Permit No. NM0030759" (LANL 2012, 211408).

Following certification of no exposure, a corrective-action investigation stormwater sample was collected on July 1, 2016. The analytical results are presented in "NPDES Permit No.NM0030759 – Analytical Results for Site 03-003(k) in Site Monitoring Area 2M-SMA-2.2 after Certification of a No Exposure Condition" (LANL 2016, 601824).

Stormwater monitoring was not conducted at 2M-SMA-2.2 in 2022 under the 2010 IP requirements.

After completion of the 2022 monitoring season, the drainage area and monitoring location for 2M-SMA-2.2 were modified to a more representative location based on the 2016-2018 SIP reviews, as proposed in the "2022 Sampling Implementation Plan, NPDES Permit No. NM0030759" (N3B 2023, 702608). The sampler coordinates and the SMA drainage area have been updated to reflect that monitoring location on the project map (Figure 131-1) located at the end of this SMA update. Upon approval of the SIP, monitoring will begin at this location in 2023 and additional control measure installations will be completed as necessary.

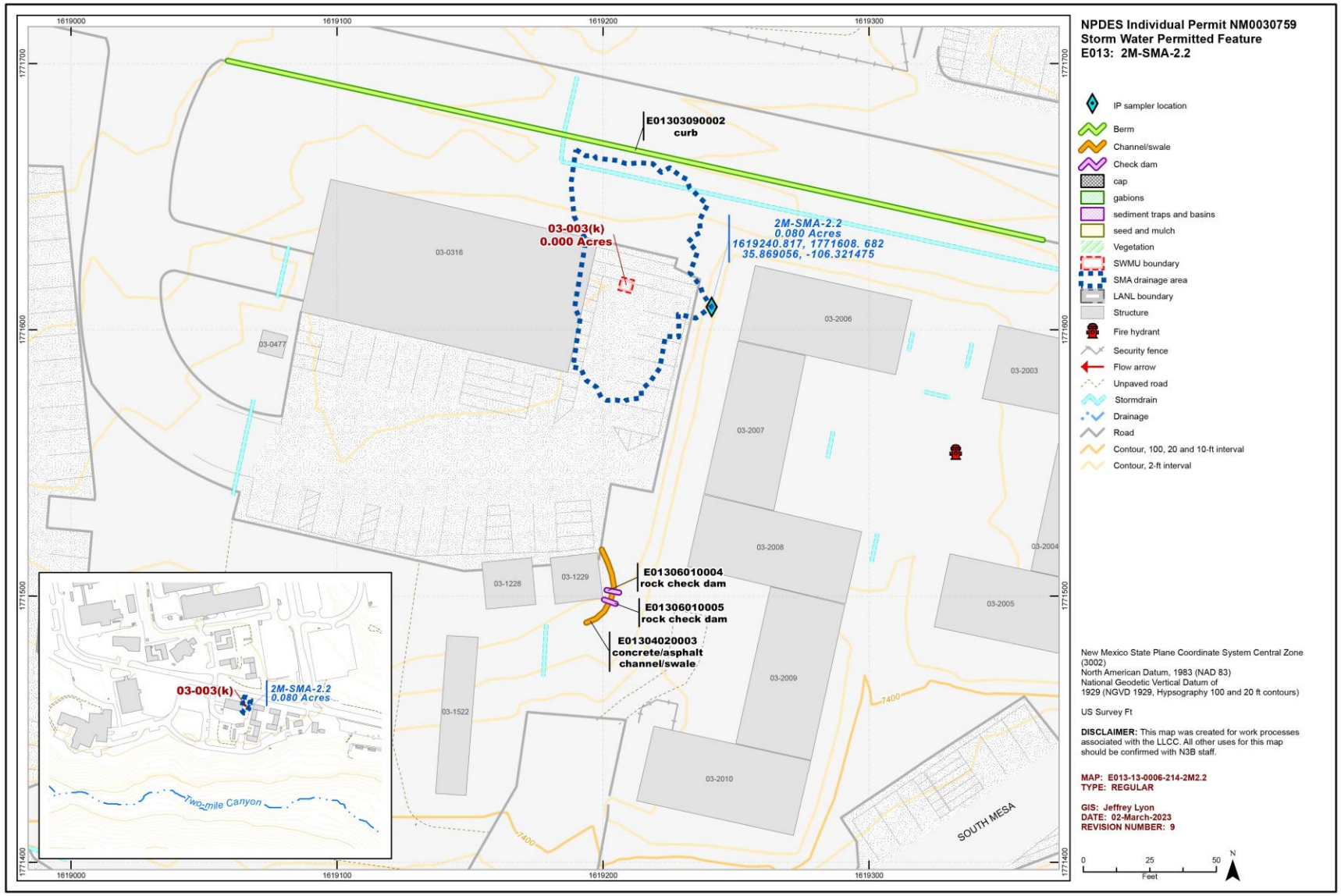

Figure 131-1 2M-SMA-2.2 location map

132.0 2M-SMA-2.5: SWMU 40-001(c)

One historical industrial activity area, Site 40-001(c), is associated with 2M-SMA-2.5 (permitted feature E015). Summaries of all inspection, monitoring, and maintenance actions conducted in 2022 are provided below. Refer to the "2022 Sampling Implementation Plan, NPDES Permit No. NM0030759" (N3B 2023, 702608) for more information on Consent Order investigation activities, the SSD, and planned stormwater monitoring at the SMA for future monitoring seasons.

132.1 Site Descriptions

40-001(c) (2/18/2021)

SWMU 40-001(c) is an active septic system consisting of a septic tank (structure 40-25) located approximately 25 ft east of building 40-11, and inlet and outlet drainlines, two former outfalls, and a leach field at TA-40. Constructed of reinforced concrete, the septic tank measures 4 ft wide × 7 ft long × 6 ft deep, and has a capacity of 540 gal. The septic system was installed in 1950 and serves building 40-11, which houses changing rooms and restrooms. Operators at TA-40 firing sites change into Laboratory-provided protective clothing. Originally, the septic tank discharged through an outlet drainline to the northeast to Twomile Canyon as shown in engineering drawing AB1019 (pg. 2 of 2), as-built drawing ENG-C 1300 (pg. 1 of 6), and a 1988 Site photograph. In 1951, the Twomile 6-in.-diameter vitrified clay pipe (VCP) outlet drainline was rerouted to discharge south to Upper Pajarito Canyon as shown in as-built drawing ENG-C 1300 (pg. 1 of 6) and the 1975 Zia Company Drawing for TA-40 (sheet N-1). In 1988, the septic tank outlet drainline was again rerouted; this time to discharge to a leach field constructed south of the septic tank as shown in engineering drawings ENG-C 45511 (pg. 1 of 5) and AB1019 (pg. 2 of 2). The septic tank is currently active and registered with NMED.

Known or Potential Use of POCs

POCs known to be managed or potentially used at the Site are listed in Table 132-1.

Table 132-1 POCs Known or Suspected to Have Been Used Historically at the Site

Site	Potential POC Source	Potential POCs
40-001(c)	Septic system	Metals, inorganic and organic chemicals, HE

132.2 Control Measures

All active control measures in use at 2M-SMA-2.5 are listed in Table 132-2. Their locations are shown on the project map (Figure 132-1) located at the end of this SMA update. Future map updates will be posted on the IP website: https://ext.em-la.doe.gov/ips/Home/SiteMonitoringAreaMaps.

Table 132-2 Active Control Measures

Control ID	Control Name	Purpose of Control				Control Status	Install Date
		Run-On	Runoff	Erosion	Sediment		
E01502040006	Established Vegetation	-	X	X	-	B	5-7-2013
E01503010004	Earthen Berm	X	-	-	X	CB	8-11-2010
E01503010005	Earthen Berm	-	X	-	X	CB	8-11-2010

132.3 Inspections and Maintenance

Rain gage RG-TA-06 recorded seven storm events at 2M-SMA-2.5 during the 2022 season, requiring three post-storm inspections, which are summarized in Table 132-3. All other control-measure inspections conducted at the SMA in 2022 are summarized in Table 132-4, and maintenance activities conducted during 2022 are summarized in Table 132.5.

Table 132-3 Post-Storm Inspections During 2022

Inspection Reference	Storm Date	30-Minute Maximum Intensity (in.)	Inspection Date	Days to Inspection	Inspected within 15 days?
BMP-93081[a,b]	6-25-2022 6-26-2022 7-4-2022	0.48 0.3 0.26	6-25-2022	12 11 3	Yes Yes Yes
BMP-94220[b]	7-20-2022 7-27-2022	0.3 1.77	7-29-2022	9 2	Yes Yes
SMPLR-93886[b,c]	7-30-2022 7-31-2022	0.45 0.45	8-18-2022	19 18	No No

[a] Inspection also qualifies as the Annual Erosion Evaluation per 2010 IP Part I.G.1.

[b] Inspection qualifies for multiple Storm Dates per 2010 IP Part I.G.2 and 2022 IP Part I.B.8.b.

[c] Due to an administrative error an inspection Work Order was not issued for the July 30, 2022 rain event. The SMA was next visited on August 11, 2022 for a sampler inspection and there were no findings of deficiency noted.

Table 132-4 Other Control-Measure Inspections During 2022

Inspection Type	Inspection Reference	Inspection Date	Summary of findings
FTL assessment for Initial Potential Impact Notification for EX-ID 21X-0793 to excavate, locate and repair a water leak that was discovered surfacing in the roadway on the North side of TA-40-12. Area will be excavated until leak is located. Once located the area will be opened up and piping and components will be repaired or replaced to repair leak. Entire area will not be disturbed only enough to make repair. Site to be restored to as found conditions upon completion.	BMP-87214	1-18-2022	No findings.
Significant event inspection at 2M-SMA-2.5. Inspect Site, SMA, and control measures after completion of soil disturbance associated with water line repairs at TA-40-12.	COMP-92054	4-20-2022	
2M-SMA-2.5 FTL assessment for 22X-0321. Excavate and replace approximately 800 linear feet of 2 inch Cast Iron Pipe and appurtenances with 2 inch PVC Pipe due to continuous issues with water leaks. Line is located inside TA-40 and will be replaced from the intersection of Twomile Mesa RD and TD Site going east ending at TA-40-015.	BMP-92204	6-1-2022	

Table 132-5 Maintenance Activities Conducted During 2022

Maintenance Reference	Maintenance Conducted	Maintenance Date	Response Time	Response Discussion
BMP-92201 (follow up to COMP-92054)	Repaired upper western side of Earthen Berm E01503010004 that had been damaged by vehicle operations related to facility managed site disturbance.	5-9-2022	16 days	Maintenance was performed as soon as practicable.

132.4 Stormwater Monitoring

Following the installation of baseline control measures, a baseline-monitoring stormwater sample was collected on September 9, 2012. Analytical results from this sample yielded no TAL exceedances. The complete analytical results are presented in "Stormwater Individual Permit Annual Report, Reporting Period: January 1–December 31, 2012, NPDES Permit No. NM0030759" (LANL 2013, 237680).

Stormwater monitoring was conducted at 2M-SMA-2.5 under the 2010 IP requirements from March 16 through November 2, 2022, resulting in a monitoring season of 232 days. Eight inspections were performed during the monitoring period and are summarized in Table 132-6.

Rain gage RG-TA-06 recorded 36 rain events exceeding 0.1 in. in 24 hr while the sampling equipment was active. No new confirmation-monitoring samples were collected in 2022.

Table 132-6 Sampler Inspections During 2022

Inspection Reference	Inspection Date	Sample Retrieved?	Date(s) of Rain Events Exceeding 0.1 in. in 24 hr since previous inspection	Rainfall Intensity[a]/ Total[b] (in.)
SMPLR-91529	4-14-2022	No	None	None
SMPLR-92014	4-19-2022	No	None	None
SMPLR-92060	5-18-2022	No	None	None
SMPLR-92474	6-1-2022	No	None	None
SMPLR-92742	7-7-2022	No	6-17-2022 6-18-2022 6-19-2022 6-21-2022 6-22-2022 6-25-2022 6-26-2022[c] 7-1-2022[c] 7-2-2022[c] 7-4-2022[c]	0.07/0.32 0.06/0.17 0.05/0.17 0.06/0.14 0.1/0.6 0.48/1.34 0.3/1.87 0.16/0.64 0.06/0.15 0.26/0.39

Inspection Reference	Inspection Date	Sample Retrieved?	Date(s) of Rain Events Exceeding 0.1 in. in 24 hr since previous inspection	Rainfall Intensity[a]/ Total[b] (in.)
SMPLR-93886	8-18-2022	No	7-14-2022 7-20-2022 7-21-2022 7-24-2022 7-26-2022 7-27-2022 7-29-2022 7-30-2022 7-31-2022[c] 8-1-2022[c] 8-5-2022[c] 8-6-202[c] 8-11-2022[c] 8-16-2022[c]	0.13/0.17 0.3/0.4 0.12/0.21 0.09/0.12 0.09/0.27 1.77/1.86 0.09/0.18 0.45/0.75 0.45/0.99[c] 0.1/0.14[c] 0/1.15[c] 0.23/0.66[c] 0.15/0.19[c] 0.07/0.21[c]
SMPLR-95526	9-29-2022	No	8-18-2022 8-19-2022 8-20-2022 9-9-2022 9-20-2022 9-22-2022	0.03/0.16 0.09/0.22 0.06/0.11 0.12/0.15 0.07/0.11 0.19/0.21
SMPLR-96183	11-2-2022	No	10-2-2022 10-3-2022 10-4-2022 10-7-2022 10-15-2022 10-16-2022	0.09/0.31 0.16/0.2 0.02/0.12 0.06/0.1 0.17/0.86 0.04/0.18

[a] Intensity = Maximum amount of precipitation in any 30-min interval.

[b] Total = Total amount of precipitation in 24 hr.

[c] The sampler had period(s) of inoperability since previous inspection. See CSR comment in the SDPPP Overview Appendix E for more details.

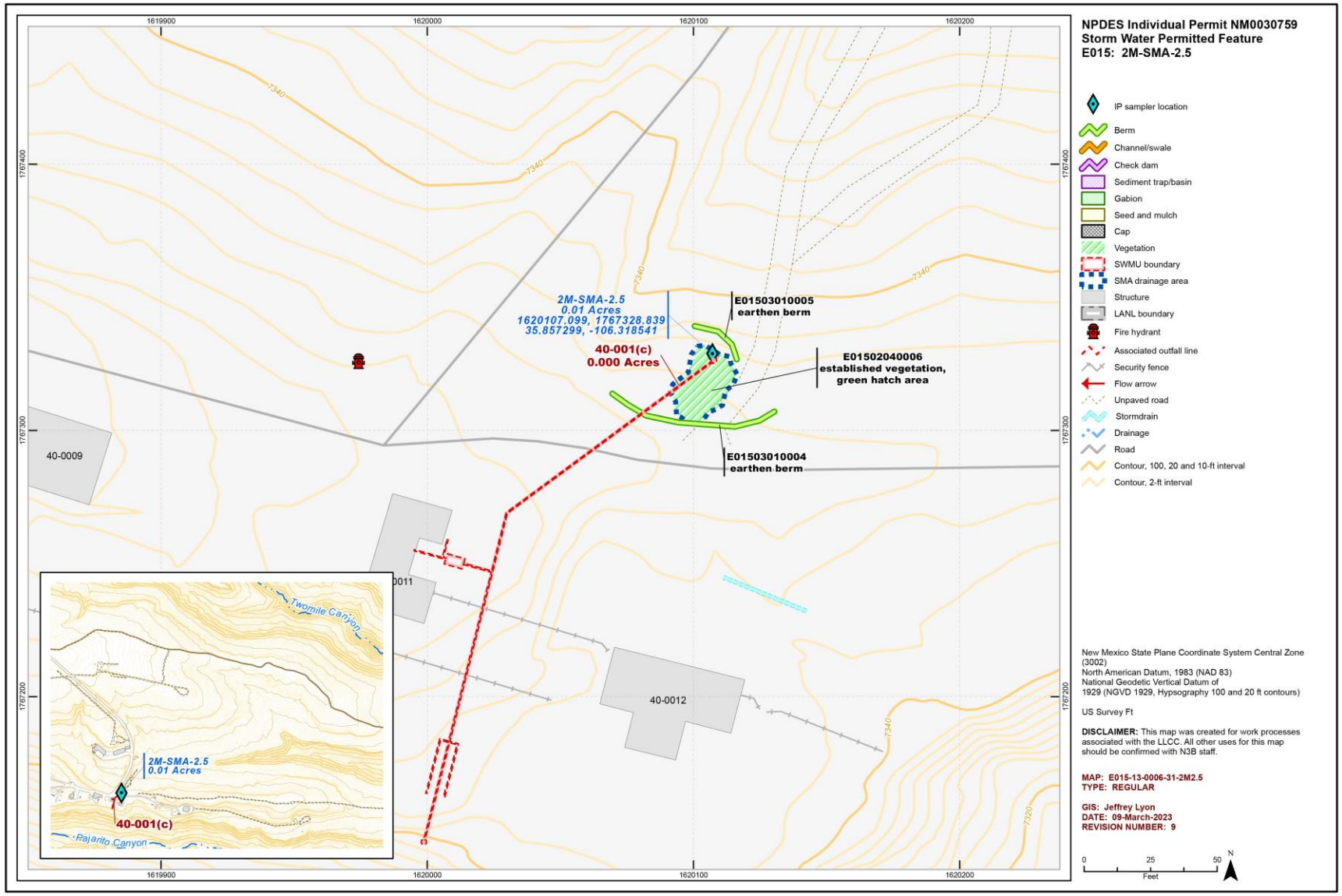

Figure 132-1 2M-SMA-2.5 location map

133.0 2M-SMA-3: SWMUs 07-001(a), 07-001(b), 07-001(c), and 07-001(d)

Four historical industrial activity areas, Sites 07-001(a), 07-001(b), 07-001(c), and 07-001(d), are associated with 2M-SMA-3 (permitted feature E014). Summaries of all inspection, monitoring, and maintenance actions conducted in 2022 are provided below. Refer to the "2022 Sampling Implementation Plan, NPDES Permit No. NM0030759" (N3B 2023, 702608) for more information on Consent Order investigation activities, the SSD, and planned stormwater monitoring at the SMA for future monitoring seasons.

133.1 Site Descriptions

07-001(a) (9/26/2017)

SWMU 07-001(a) is an inactive firing pit located near the east end of TA-06. Former TA-07 is now located in TA-06. The Site consists of a circular depression, surrounded by an annular berm about 4 ft high and approximately 30 ft in diameter. The firing pit was used in the 1950s to destroy scrap detonators and explosives. The materials to be destroyed were mixed with Composition B scraps or flaked TNT and the mixture was detonated. A 1959 memorandum states this method was very effective in destroying detonators, with no intact detonators thrown out of a pit and no undestroyed detonators found during a site survey, although pellets of unexploded PBX were found. The base explosives of the PBX historically used at the Laboratory include HMX, RDX, and TATB. In 1959 this method of destroying detonators was discontinued at this Site.

07-001(b) (9/26/2017)

SWMU 07-001(b) is an inactive firing pit located near the east end of TA-06. Former TA-07 is now located within TA-06. The Site consists of a circular depression, surrounded by an annular berm about 4 ft high and approximately 30 ft in diameter. The firing pit was used in the 1950s to destroy scrap detonators and explosives. The materials to be destroyed were mixed with Composition B scraps or flaked TNT and the mixture was detonated. A 1959 memorandum states this method was very effective in destroying detonators, with no intact detonators thrown out of a pit and no undestroyed detonators found during a site survey, although pellets of unexploded PBX were found. The base explosives of the PBX historically used at the Laboratory include HMX, RDX, and TATB. In 1959 this method of destroying detonators was discontinued at this Site.

07-001(c) (11/30/2017)

SWMU 07-001(c) is in an inactive amphitheater-shaped firing site, approximately 50 ft × 50 ft, located near the eastern boundary of TA-06. Soft metal disks imbedded with bullets have been found at this Site. Little is known about this Site's history, but the Site may have been used briefly to study ballistic initiation of critical mass through the study of projectiles fired at lead plates.

07-001(d) (6/8/2020)

SWMU 07-001(d) is an inactive firing site located near the eastern boundary of TA-06. SWMU 07-001(d) was not included in the 1990 SWMU Report. The OU 1111 RCRA RFI work plan describes SWMU 07-001(d) as an inactive firing site located near the eastern boundary of TA-06 (formerly TA-07). The Site is an approximately 20-ft-diameter × 3-ft-deep crater. Detonator parts have been found near the crater. Little is known about the operating history of this Site, but it is believed to be the location of a one-time "celebratory shot" fired in 1945 after the Japanese surrender at the end of World War II.

Known or Potential Use of POCs

POCs known to be managed or potentially used at the Sites are listed in Table 133-1.

Table 133-1 POCs Known or Suspected to Have Been Used Historically at the Sites

Site	Potential POC Source	Potential POCs
07-001(a)	Firing site	Metals, HE, DU
07-001(b)	Firing site	Metals, HE, DU
07-001(c)	Firing site	Metals, lead, HE, radionuclides
07-001(d)	Firing site	Metals, HE, radionuclides

133.2 Control Measures

All active control measures in use at 2M-SMA-3 are listed in Table 133-2. Their locations are shown on the project map (Figure 133-1) located at the end of this SMA update. Future map updates will be posted on the IP website: https://ext.em-la.doe.gov/ips/Home/SiteMonitoringAreaMaps.

Table 133-2 Active Control Measures

Control ID	Control Name	Purpose of Control				Control Status	Install Date
		Run-On	Runoff	Erosion	Sediment		
E01402040013	Established Vegetation	-	X	X	-	B	5-7-2013
E01403010028	Earthen Berm	-	X	-	X	EC	8-13-2015
E01403010029	Earthen Berm	-	X	-	X	EC	8-13-2015
E01403060030	Straw Wattle	-	X	-	X	EC	8-13-2015
E01403140022	Coir Log	-	X	-	X	EC	8-13-2015
E01403140023	Coir Log	-	X	-	X	EC	8-13-2015
E01403140024	Coir Log	-	X	-	X	EC	8-13-2015
E01403140031	Coir Log	X	-	-	X	B	9-9-2015
E01403140034	Coir Log	X	-	-	X	B	7-14-2021
E01403140035	Coir Log	X	-	-	X	B	7-14-2021
E01406010025	Rock Check Dam	-	X	-	X	EC	8-13-2015
E01406010026	Rock Check Dam	-	X	-	X	EC	8-13-2015
E01406010027	Rock Check Dam	-	X	-	X	EC	8-13-2015

133.3 Inspections and Maintenance

Rain gage RG-TA-06 recorded seven storm events at 2M-SMA-3 during the 2022 season, requiring four post-storm inspections, which are summarized in Table 133-3. No other control-measure inspections, maintenance activities, or facility modifications affecting discharge were conducted at the SMA in 2022.

Table 133-3 Post-Storm Inspections During 2022

Inspection Reference	Storm Date	30-Minute Maximum Intensity (in.)	Inspection Date	Days to Inspection	Inspected within 15 days?
BMP-93081[a,b]	6-25-2022 6-26-2022	0.48 0.3	6-30-2022	5 4	Yes Yes
BMP-93735	7-4-2022	0.26	7-7-2022	3	Yes
BMP-94221[b]	7-20-2022 7-27-2022	0.3 1.77	7-29-2022	9 2	Yes Yes
SMPLR-94836[b,c]	7-30-2022 7-31-2022	0.45 0.45	9-9-2022	42 41	No No

[a] Inspection also qualifies as the Annual Erosion Evaluation per 2010 IP Part I.G.1.

[b] Inspection qualifies for multiple Storm Dates per 2010 IP Part I.G.2 and 2022 IP Part I.B.8.b.

[c] Due to an administrative error an inspection Work Order was not issued for the July 30, 2022 rain event. The SMA was next visited on August 11, 2022 for a sampler inspection and there were no findings of deficiency noted.

133.4 Stormwater Monitoring

Following the installation of baseline control measures, a baseline monitoring stormwater sample was collected on July 12, 2013. Analytical results from this sample yielded TAL exceedances for aluminum (3750 µg/L) and copper (6.05 µg/L). The complete analytical results are presented in "Stormwater Individual Permit Annual Report, Reporting Period: January 1–December 31, 2013, NPDES Permit No. NM0030759" (LANL 2014, 254067).

Enhanced control confirmation-monitoring stormwater samples were collected on July 26 and October 4, 2017. Analytical results from these samples yielded no TAL exceedances. The complete analytical results are presented in "Stormwater Individual Permit Annual Report, Reporting Period: January 1–December 31, 2017, NPDES Permit No. NM0030759" (LANL 2018, 602910).

Stormwater monitoring was conducted at 2M-SMA-3 under the 2010 IP requirements from March 24 through November 15, 2022, resulting in a monitoring season of 237 days. Seven inspections were performed during the monitoring period and are summarized in Table 133-4. Rain gage RG-TA-06 recorded 36 rain events exceeding 0.1 in. in 24 hr while the sampling equipment was active. A sample collected on June 26, 2022 had insufficient volume for analysis under 2010 IP requirements, but it was submitted for investigation analysis for future use under 2022 IP requirements. The SIP will be updated in 2023 with the inclusion of 2022 analytical results into the SSD.

Table 133-4 Sampler Inspections During 2022

Inspection Reference	Inspection Date	Sample Retrieved?	Date(s) of Rain Events Exceeding 0.1 in. in 24 hr since previous inspection	Rainfall Intensity[a]/ Total[b] (in.)
SMPLR-91663	4-20-2022	No	None	None
SMPLR-92125	6-22-2022	No	6-17-2022 6-18-2022 6-19-2022 6-21-2022	0.07/0.32 0.06/0.17 0.05/0.17 0.06/0.14

Inspection Reference	Inspection Date	Sample Retrieved?	Date(s) of Rain Events Exceeding 0.1 in. in 24 hr since previous inspection	Rainfall Intensity[a]/ Total[b] (in.)
SMPLR-92975	6-30-2022	Yes	6-22-2022 6-25-2022 6-26-2022	0.1/0.6 0.48/1.34 0.3/1.87
SMPLR-93620	7-29-2022	No	7-1-2022 7-2-2022 7-4-2022 7-14-2022 7-20-2022 7-21-2022 7-24-2022 7-26-2022 7-27-2022	0.16/0.64 0.06/0.15 0.26/0.39 0.13/0.17 0.3/0.4 0.12/0.21 0.09/0.12 0.09/0.27 1.77/1.86
SMPLR-94836	9-9-2022	No	7-29-2022 7-30-2022 7-31-2022 8-1-2022 8-5-2022 8-6-2022 8-11-2022 8-16-2022 8-18-2022 8-19-2022 8-20-2022	0.09/0.18 0.45/0.75 0.45/0.99 0.1/0.14 0/1.15 0.23/0.66 0.15/0.19 0.07/0.21 0.03/0.16 0.09/0.22 0.06/0.11
SMPLR-95868	10-19-2022	No	9-9-2022 9-20-2022 9-22-2022 10-2-2022 10-3-2022 10-4-2022 10-7-2022 10-15-2022 10-16-2022	0.12/0.15 0.07/0.11 0.19/0.21 0.09/0.31 0.16/0.2 0.02/0.12 0.06/0.1 0.17/0.86 0.04/0.18
SMPLR-96422	11-15-2022	No	None	None

[a] Intensity = Maximum amount of precipitation in any 30-min interval.

[b] Total = Total amount of precipitation in 24 hr.

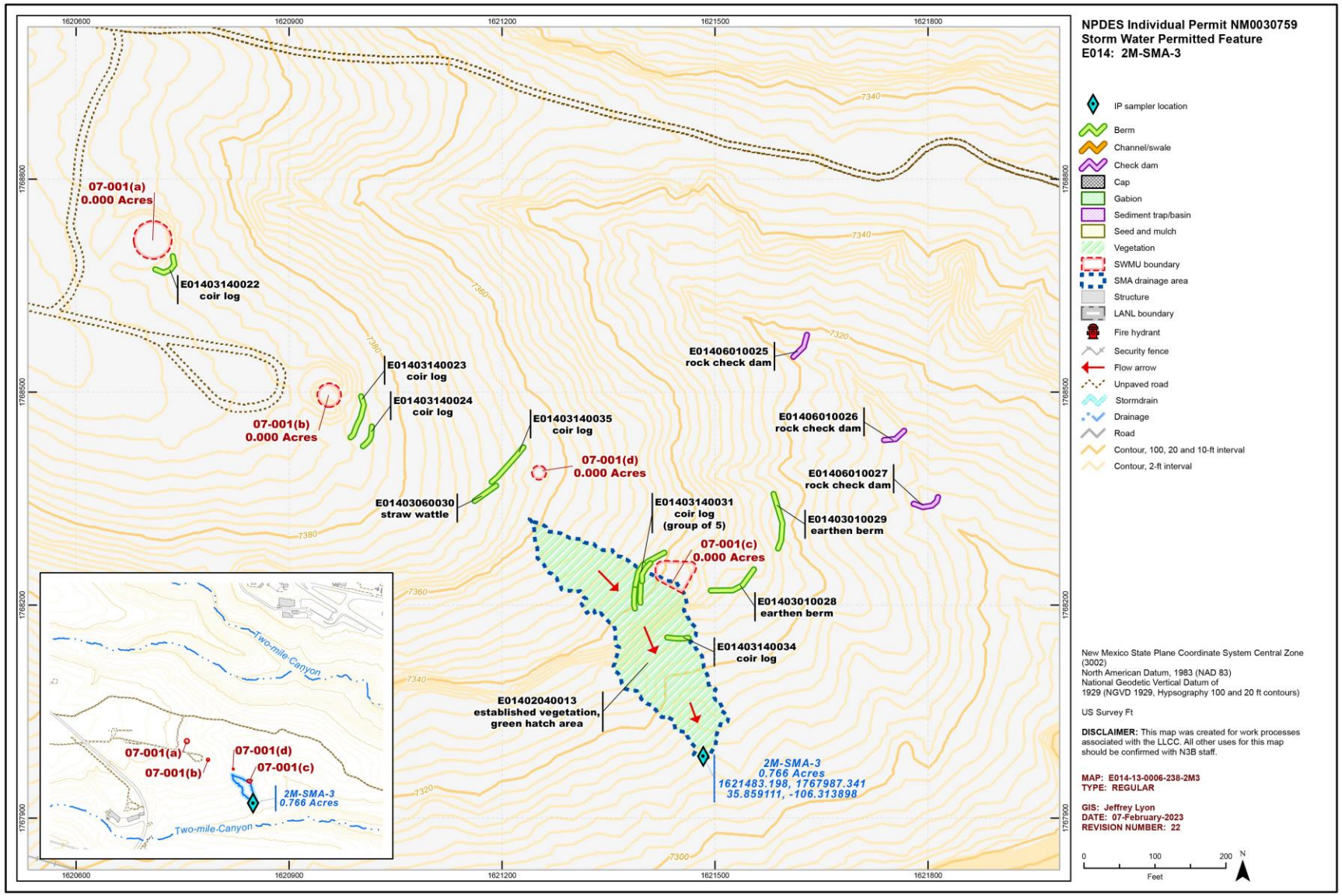

Figure 133-1 2M-SMA-3 location map

134.0 3M-SMA-0.2: SWMU 15-010(b)

One historical industrial activity area, Site 15-010(b), is associated with 3M-SMA-0.2 (permitted feature H001). Summaries of all inspection, monitoring, and maintenance actions conducted in 2022 are provided below. Refer to the "2022 Sampling Implementation Plan, NPDES Permit No. NM0030759" (N3B 2023, 702608) for more information on Consent Order investigation activities, the SSD, and planned stormwater monitoring at the SMA for future monitoring seasons.

134.1 Site Descriptions

15-010(b) (12/21/2021)

SWMU 15-010(b) is an inactive settling tank (structure 15-147) located near former shop building 15-8 in the northwest corner of TA-15. The tank, constructed in 1947 of concrete, measures 5 ft wide × 5 ft long × 5.5 ft deep with an approximate capacity of 900 gal. The tank was originally designed to be a septic tank, but subsequent engineering records confirm the tank was used as a HE settling tank. The settling tank served former building 15-8, which housed HE-machining operations during the 1950s and discharged to an outfall at the edge of Threemile Canyon. The tank is no longer in operation, but the date it ceased to be used is not known.

The approved 2008 IWP proposed removing the tank. However, facility restrictions on the handling of HE prevented removal of the tank, which was found to contain liquid, until the contents were characterized. The liquid contents were sampled for waste characterization purposes, were found to be nonhazardous and nonradioactive, and were removed. The facility requested the tank be closed in place and filled with concrete.

Known or Potential Use of POCs

POCs known to be managed or potentially used at the Site are listed in Table 134-1.

Table 134-1 POCs Known or Suspected to Have Been Used Historically at the Site

Site	Potential POC Source	Potential POCs
15-010(b)	Settling tank	Metals, HE

134.2 Control Measures

All active control measures in use at 3M-SMA-0.2 are listed in Table 134-2. Their locations are shown on the project map (Figure 134-1) located at the end of this SMA update. Future map updates will be posted on the IP website: https://ext.em-la.doe.gov/ips/Home/SiteMonitoringAreaMaps.

Table 134-2 Active Control Measures

Control ID	Control Name	Purpose of Control				Control Status	Install Date
		Run-On	Runoff	Erosion	Sediment		
H00102040006	Established Vegetation	-	X	X	-	B	5-7-2013
H00103010005	Earthen Berm	X	-	-	X	B	9-15-2011
H00103010010	Earthen Berm	-	X	-	X	EC	5-12-2021
H00106010002	Rock Check Dam	-	X	-	X	CB	8-11-2009
H00106010007	Rock Check Dam	-	X	-	X	B	12-4-2015
H00106010008	Rock Check Dam	-	X	-	X	B	12-4-2015
H00106010009	Rock Check Dam	-	X	-	X	B	12-4-2015

134.3 Inspections and Maintenance

Rain gage RG-TA-06 recorded seven storm events at 3M-SMA-0.2 during the 2022 season, requiring three post-storm inspections, which are summarized in Table 134-3. No other control-measure inspections, maintenance activities, or facility modifications affecting discharge were conducted at the SMA in 2022.

Table 134-3 Post-Storm Inspections During 2022

Inspection Reference	Storm Date	30-Minute Maximum Intensity (in.)	Inspection Date	Days to Inspection	Inspected within 15 days?
BMP-93082[a,b]	6-25-2022 6-26-2022 7-4-2022	0.48 0.3 0.26	7-6-2022	11 10 2	Yes Yes Yes
BMP-94222[b]	7-20-2022 7-27-2022	0.3 1.77	7-28-2022	8 1	Yes Yes
SMPLR-93861[b,c]	7-30-2022 7-31-2022	0.45 0.45	8-18-2022	19 18	No No

[a] Inspection also qualifies as the Annual Erosion Evaluation per 2010 IP Part I.G.1.

[b] Inspection qualifies for multiple Storm Dates per 2010 IP Part I.G.2 and 2022 IP Part I.B.8.b.

[c] Due to an administrative error an inspection Work Order was not issued for the July 30, 2022 rain event. The SMA was next visited on August 11, 2022 for a sampler inspection and there were no findings of deficiency noted.

134.4 Stormwater Monitoring

Following the installation of baseline control measures, a stormwater sample was collected on July 15, 2018. Analytical results from the sample collected yielded TAL exceedances for copper (6.72 µg/L), gross-alpha activity (127 pCi/L), and mercury (2.02 µg/L). The complete analytical results are presented in "Stormwater Individual Permit Annual Report, Reporting Period: January 1–December 31, 2018, NPDES Permit No. NM0030759" (N3B 2019, 700320).

Stormwater monitoring was conducted at 3M-SMA-0.2 under the 2010 IP requirements from March 18 through November 9, 2022, resulting in a monitoring season of 237 days. Six inspections were performed during the monitoring period and are summarized in Table 134-4. Rain gage RG-TA-06 recorded 36 rain events exceeding 0.1 in. in 24 hr while the sampling equipment was active. No new confirmation-monitoring samples were collected in 2022 and no sampling operability issues were encountered.

Table 134-4 Sampler Inspections During 2022

Inspection Reference	Inspection Date	Sample Retrieved?	Date(s) of Rain Events Exceeding 0.1 in. in 24 hr since previous inspection	Rainfall Intensity[a]/ Total[b] (in.)
SMPLR-91557	4-20-2022	No	None	None
SMPLR-92120	5-31-2022	No	None	None
SMPLR-92735	7-6-2022	No	6-17-2022 6-18-2022 6-19-2022 6-21-2022 6-22-2022 6-25-2022 6-26-2022 7-1-2022 7-2-2022 7-4-2022	0.07/0.32 0.06/0.17 0.05/0.17 0.06/0.14 0.1/0.6 0.48/1.34 0.3/1.87 0.16/0.64 0.06/0.15 0.26/0.39
SMPLR-93861	8-18-2022	No	7-14-2022 7-20-2022 7-21-2022 7-24-2022 7-26-2022 7-27-2022 7-29-2022 7-30-2022 7-31-2022 8-1-2022 8-5-2022 8-6-2022 8-11-2022 8-16-2022	0.13/0.17 0.3/0.4 0.12/0.21 0.09/0.12 0.09/0.27 1.77/1.86 0.09/0.18 0.45/0.75 0.45/0.99 0.1/0.14 0/1.15 0.23/0.66 0.15/0.19 0.07/0.21
SMPLR-95525	9-28-2022	No	8-18-2022 8-19-2022 8-20-2022 9-9-2022 9-20-2022 9-22-2022	0.03/0.16 0.09/0.22 0.06/0.11 0.12/0.15 0.07/0.11 0.19/0.21
SMPLR-96154	11-9-2022	No	10-2-2022 10-3-2022 10-4-2022 10-7-2022 10-15-2022 10-16-2022	0.09/0.31 0.16/0.2 0.02/0.12 0.06/0.1 0.17/0.86 0.04/0.18

[a] Intensity = Maximum amount of precipitation in any 30-min interval.

[b] Total = Total amount of precipitation in 24 hr.

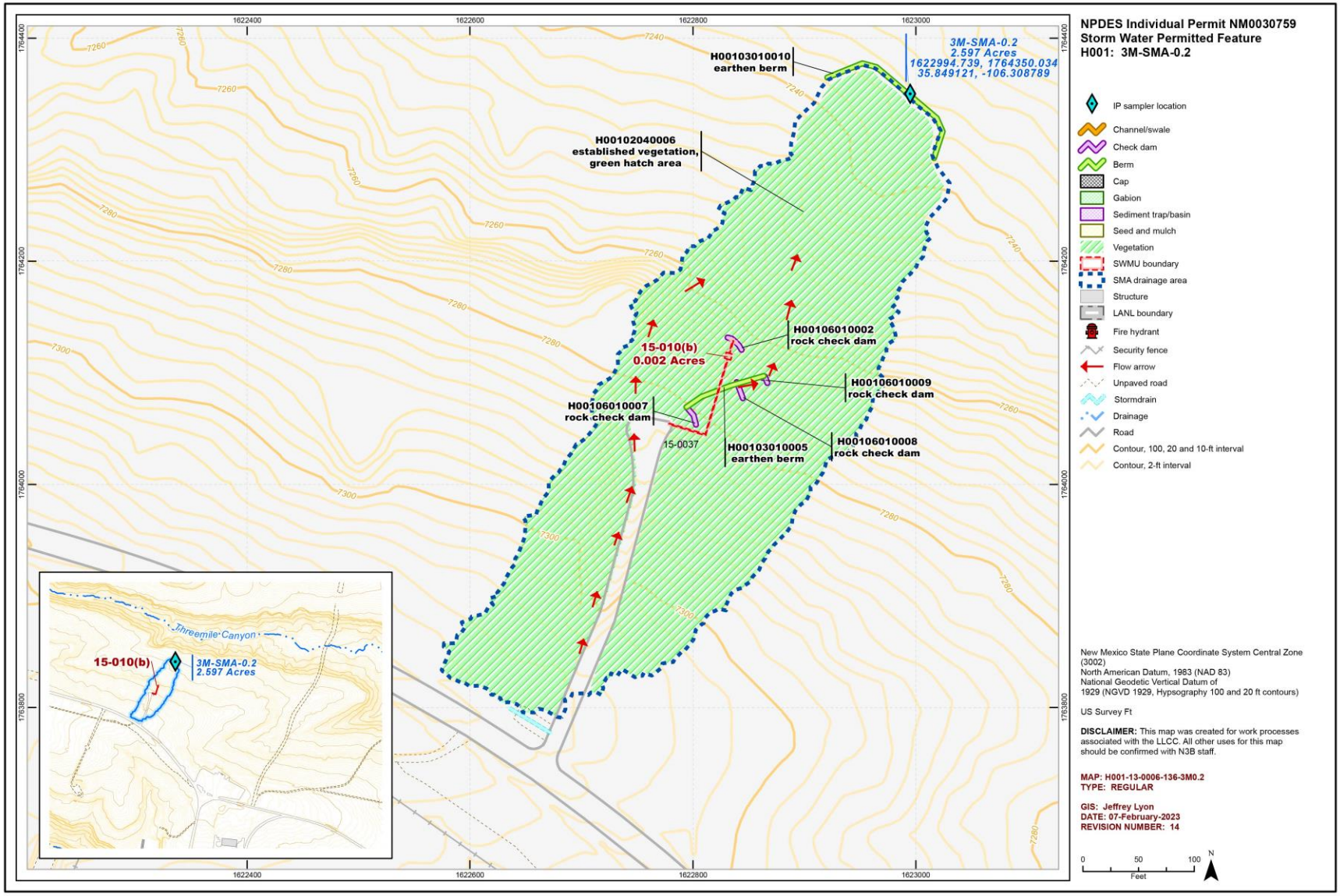

Figure 134-1 3M-SMA-0.2 location map

135.0 3M-SMA-0.4: SWMU 15-006(b)

One historical industrial activity area, Site 15-006(b), is associated with 3M-SMA-0.4 (permitted feature H002). Summaries of all inspection, monitoring, and maintenance actions conducted in 2022 are provided below. Refer to the "2022 Sampling Implementation Plan, NPDES Permit No. NM0030759" (N3B 2023, 702608) for more information on Consent Order investigation activities, the SSD, and planned stormwater monitoring at the SMA for future monitoring seasons.

135.1 Site Descriptions

15-006(b) (no date)

SWMU 15-006(b) is the Ector firing site. Located along the eastern side of TA-15, the firing site was used for dynamic radiography of explosion-driven weapons components. It was originally established in 1973 and was used periodically until 1982. The Ector radiography machine was constructed at this Site, and the Site has operated with this machine from the mid-1980s to the present. Structures associated with the firing site are the firing point chamber (structure 15-276), the multidiagnostic hydrotest (building 15-306), and the blast-protection structure (15-319).

Known or Potential Use of POCs

POCs known to be managed or potentially used at the Site are listed in Table 135-1.

Table 135-1 POCs Known or Suspected to Have Been Used Historically at the Site

Site	Potential POC Source	Potential POCs
15-006(b)	Active firing site	Beryllium, lead, HE, uranium

135.2 Control Measures

All active control measures in use at 3M-SMA-0.4 are listed in Table 135-2. Their locations are shown on the project map (Figure 135-1) located at the end of this SMA update. Future map updates will be posted on the IP website: https://ext.em-la.doe.gov/ips/Home/SiteMonitoringAreaMaps.

Table 135-2 Active Control Measures

Control ID	Control Name	Purpose of Control				Control Status	Install Date
		Run-On	Runoff	Erosion	Sediment		
H00202040005	Established Vegetation	-	X	X	-	B	5-13-2013
H00203010003	Earthen Berm	-	X	-	X	CB	8-5-2010
H00203010004	Earthen Berm	-	X	-	X	B	9-15-2011
H00203100014	Gravel Bags	-	X	-	X	B	3-30-2016
H00203120008	Rock Berm	X	-	-	X	B	10-6-2014
H00203120009	Rock Berm	X	-	-	X	B	10-6-2014
H00203120010	Rock Berm	X	-	-	X	B	10-6-2014
H00203120011	Rock Berm	X	-	-	X	B	10-6-2014
H00203120015	Rock Berm	-	X	-	X	B	3-30-2016
H00203120016	Rock Berm	-	X	-	X	B	3-30-2016

Control ID	Control Name	Purpose of Control				Control Status	Install Date
		Run-On	Runoff	Erosion	Sediment		
H00203140017	Coir Log	-	X	-	X	B	9-19-2018
H00205020007	Sediment Basin	-	X	-	X	B	10-6-2014
H00208020006	Rock Cap	-	-	X	-	B	11-19-2013

135.3 Inspections and Maintenance

Rain gage RG262.4 recorded eight storm events at 3M-SMA-0.4 during the 2022 season, requiring four post-storm inspections, which are summarized in Table 135-3. No other control-measure inspections, maintenance activities, or facility modifications affecting discharge were conducted at the SMA in 2022.

Table 135-3 Post-Storm Inspections During 2022

Inspection Reference	Storm Date	30-Minute Maximum Intensity (in.)	Inspection Date	Days to Inspection	Inspected within 15 days?
BMP-93083[a,b]	6-25-2022 7-4-2022	0.3 0.71	7-7-2022	12 3	Yes Yes
BMP-94039[b]	7-14-2022 7-20-2022 7-26-2022 7-27-2022	0.25 0.25 0.44 0.72	7-28-2022	14 8 2 1	Yes Yes Yes Yes
BMP-94861	7-30-2022	0.69	8-5-2022	6	Yes
BMP-95364	8-11-2022	0.88	8-24-2022	13	Yes

[a] Inspection also qualifies as the Annual Erosion Evaluation per 2010 IP Part I.G.1.

[b] Inspection qualifies for multiple Storm Dates per 2010 IP Part I.G.2 and 2022 IP Part I.B.8.b.

135.4 Stormwater Monitoring

Following the installation of baseline control measures, a baseline monitoring stormwater sample was collected on July 12, 2013. Analytical results from this sample yielded a TAL exceedance for gross-alpha activity (120 pCi/L). The complete analytical results are presented in "Stormwater Individual Permit Annual Report, Reporting Period: January 1–December 31, 2013, NPDES Permit No. NM0030759" (LANL 2014, 254067).

Stormwater monitoring was not conducted at 3M-SMA-0.4 in 2022 under the 2010 IP requirements.

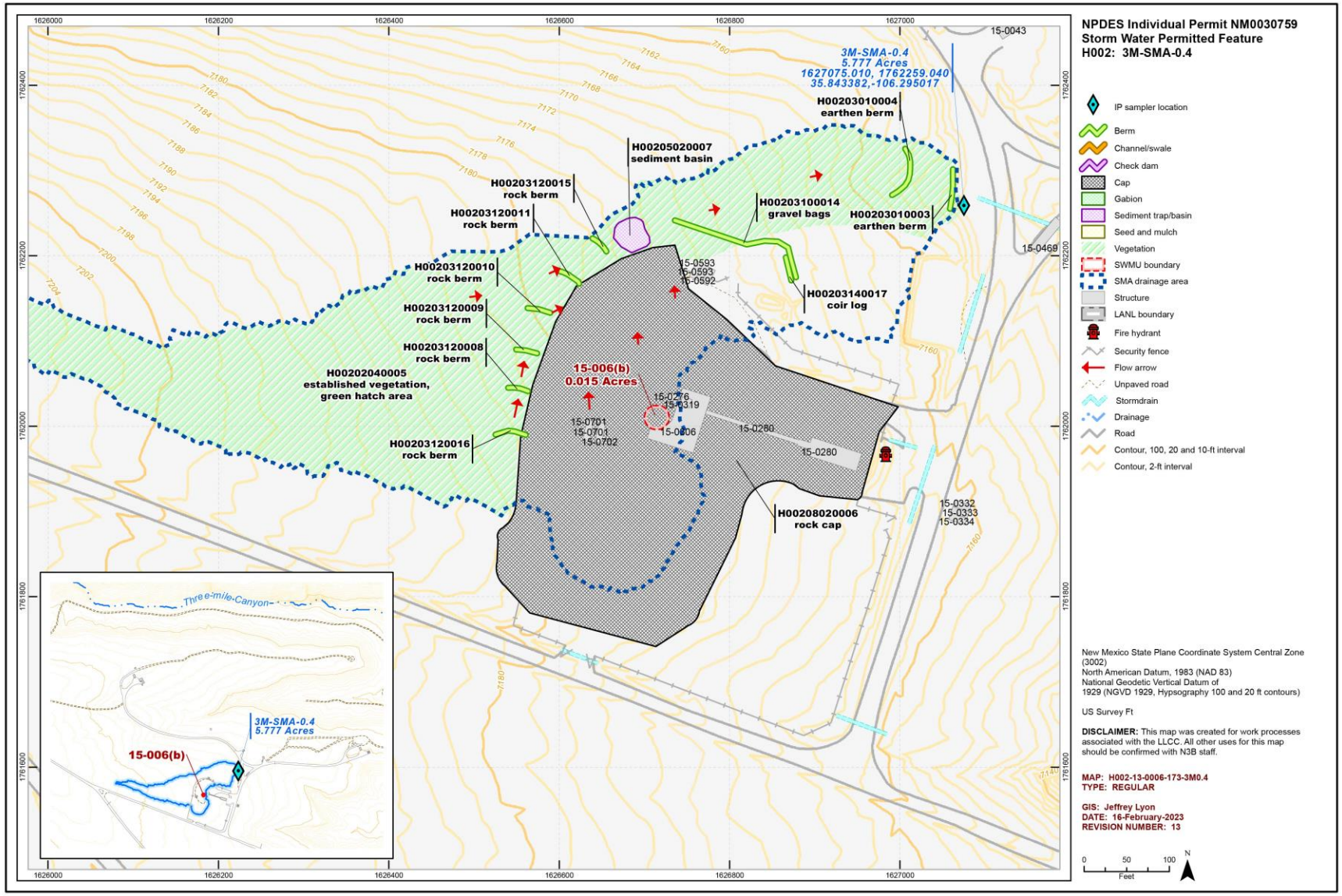

Figure 135-1 3M-SMA-0.4 location map

136.0 3M-SMA-0.5: SWMUs 15-006(c) and 15-009(c)

Two historical industrial activity areas, Sites 15-006(c) and 15-009(c), are associated with 3M-SMA-0.5 (permitted feature H003). Summaries of all inspection, monitoring, and maintenance actions conducted in 2022 are provided below. Refer to the "2022 Sampling Implementation Plan, NPDES Permit No. NM0030759" (N3B 2023, 702608) for more information on Consent Order investigation activities, the SSD, and planned stormwater monitoring at the SMA for future monitoring seasons.

136.1 Site Descriptions

15-006(c) (no date)

SWMU 15-006(c) is the inactive firing site R-44. This firing site, located along the eastern side of TA-15, was originally constructed in 1951 and was used extensively from 1956 to 1978 for diagnostic tests of weapons components. After the PHERMEX and Ector firing sites became operational, firing site R-44 was used only for small experiments. Firing Site R-44 was last used in 1992. Materials used in the tests included uranium, tritium, beryllium, lead, and HE. This firing site is located on a flat open area on a narrow mesa that overlooks Threemile Canyon. Debris from explosives tests has scattered onto the slope and into the canyon.

15-009(c) (12/21/2021)

SWMU 15-009(c) is a former septic system that was located at Firing Site R-44 at TA-15. The septic system consists of a former septic tank (former structure 15-62), inlet and outlet drainlines, a seepage pit, and a former outfall. The septic tank was constructed in 1951 of reinforced concrete with a 540-gal. capacity. The septic system served restroom facilities in firing site control building 15-44. The inlet and outlet drainlines were constructed of cast iron and discharged to an outfall to the south fork of Threemile Canyon. The outfall was located approximately 25 ft downgradient of the septic tank. The septic tank (structure 15-62) was removed during the 2009-2010 Phase I Consent Order investigation and the inlet and outlet drainlines were plugged and left in place. The septic tank excavation was backfilled with soil removed from the excavation and clean fill material from off-Site placed on top to restore the area to its approximate original grade.

Known or Potential Use of POCs

POCs known to be managed or potentially used at the Sites are listed in Table 136-1.

Table 136-1 POCs Known or Suspected to Have Been Used Historically at the Sites

Site	Potential POC Source	Potential POCs
15-006(c)	Firing Site R-44	Beryllium, lead, HE, tritium, uranium
15-009(c)	Septic system	Metals, organic chemicals, radionuclides

136.2 Control Measures

All active control measures in use at 3M-SMA-0.5 are listed in Table 136-2. Their locations are shown on the project map (Figure 136-1) located at the end of this SMA update. Future map updates will be posted on the IP website: https://ext.em-la.doe.gov/ips/Home/SiteMonitoringAreaMaps.

Table 136-2 Active Control Measures

Control ID	Control Name	Purpose of Control				Control Status	Install Date
		Run-On	Runoff	Erosion	Sediment		
H00302040017	Established Vegetation	-	X	X	-	B	5-8-2013
H00303010030	Earthen Berm	-	X	-	X	EC	9-23-2015
H00304060001	Riprap	-	X	X	-	CB	2-13-2006
H00304060004	Riprap	-	X	X	-	CB	6-1-2009
H00304060018	Riprap	-	X	X	-	EC	9-23-2015
H00306010002	Rock Check Dam	-	X	-	X	CB	2-13-2006
H00306010005	Rock Check Dam	X	-	-	X	CB	2-13-2006
H00306010006	Rock Check Dam	X	-	-	X	CB	2-13-2006
H00306010012	Rock Check Dam	X	-	-	X	CB	6-29-2010
H00306010016	Rock Check Dam	X	-	-	X	CB	10-7-2010
H00306010019	Rock Check Dam	-	X	-	X	EC	9-23-2015
H00306010020	Rock Check Dam	-	X	-	X	EC	9-23-2015
H00306010021	Rock Check Dam	-	X	-	X	EC	9-23-2015
H00306010022	Rock Check Dam	-	X	-	X	EC	9-23-2015
H00306010023	Rock Check Dam	-	X	-	X	EC	9-23-2015
H00306010024	Rock Check Dam	-	X	-	X	EC	9-23-2015
H00306010025	Rock Check Dam	-	X	-	X	EC	9-23-2015
H00306010026	Rock Check Dam	-	X	-	X	EC	9-23-2015
H00306010027	Rock Check Dam	-	X	-	X	EC	9-23-2015
H00306010028	Rock Check Dam	-	X	-	X	EC	9-23-2015
H00306010029	Rock Check Dam	-	X	-	X	EC	9-23-2015

136.3 Inspections and Maintenance

Rain gage RG262.4 recorded eight storm events at 3M-SMA-0.5 during the 2022 season, requiring four post-storm inspections, which are summarized in Table 136-3. No other control-measure inspections, maintenance activities, or facility modifications affecting discharge were conducted at the SMA in 2022.

Table 136-3 Post-Storm Inspections During 2022

Inspection Reference	Storm Date	30-Minute Maximum Intensity (in.)	Inspection Date	Days to Inspection	Inspected within 15 days?
BMP-93084[a]	6-25-2022	0.3	6-30-2022	5	Yes
BMP-93738[b]	7-4-2022 7-14-2022	0.71 0.25	7-15-2022	11 1	Yes Yes
BMP-94224[b]	7-20-2022 7-26-2022 7-27-2022	0.25 0.44 0.72	7-28-2022	8 2 1	Yes Yes Yes

Inspection Reference	Storm Date	30-Minute Maximum Intensity (in.)	Inspection Date	Days to Inspection	Inspected within 15 days?
BMP-95365[b]	7-30-2022 8-11-2022	0.69 0.88	8-18-2022	19 7	No Yes

[a] Inspection also qualifies as the Annual Erosion Evaluation per 2010 IP Part I.G.1.

[b] Inspection qualifies for multiple Storm Dates per 2010 IP Part I.G.2 and 2022 IP Part I.B.8.b.

136.4 Stormwater Monitoring

Following the installation of baseline control measures, a baseline-monitoring stormwater sample was collected on July 9, 2014. Analytical results from this sample yielded TAL exceedances for copper (4.35 µg/L) and gross-alpha activity (29.5 pCi/L). The complete analytical results are presented in "Stormwater Individual Permit Annual Report, Reporting Period: January 1–December 31, 2014, NPDES Permit No. NM0030759" (LANL 2015, 600241).

Stormwater monitoring was conducted at 3M-SMA-0.5 under the 2010 IP requirements from April 1 through November 18, 2022, resulting in a monitoring season of 232 days. Seven inspections were performed during the monitoring period and are summarized in Table 136-4.

Rain gage RG262.4 recorded 31 rain events exceeding 0.1 in. in 24 hr while the sampling equipment was active. A corrective-action confirmation-monitoring sample was collected on July 27, 2022. Analytical results from this sample yielded TAL exceedances for copper (5.85 µg/L) and gross-alpha activity (304 pCi/L), and the complete analytical results are presented in Appendix B of the Overview. The SIP will be updated in 2023 with the inclusion of 2022 analytical results into the SSD.

Table 136-4 Sampler Inspections During 2022

Inspection Reference	Inspection Date	Sample Retrieved?	Date(s) of Rain Events Exceeding 0.1 in. in 24 hr since previous inspection	Rainfall Intensity[a]/ Total[b] (in.)
SMPLR-91790	5-3-2022	No	None	None
SMPLR-92338	6-3-2022	No	None	None
SMPLR-92746	6-30-2022	No	6-17-2022 6-18-2022 6-19-2022 6-21-2022 6-22-2022 6-25-2022 6-26-2022 6-27-2022	0.07/0.35 0.06/0.19 0.09/0.28 0.08/0.18 0.11/0.67 0.3/1.52 0.19/1.33 0.07/0.15
SMPLR-93617	7-28-2022	Yes	7-1-2022 7-4-2022 7-14-2022 7-20-2022 7-26-2022 7-27-2022	0.2/0.61 0.71/1.04 0.25/0.26 0.25/0.3 0.44/0.63 0.72/0.85
SMPLR-94800	9-8-2022	No	7-29-2022 7-30-2022	0.07/0.22 0.69/0.87

Inspection Reference	Inspection Date	Sample Retrieved?	Date(s) of Rain Events Exceeding 0.1 in. in 24 hr since previous inspection	Rainfall Intensity[a]/ Total[b] (in.)
			7-31-2022 8-6-2022 8-11-2022 8-16-2022 8-19-2022 8-20-2022 8-21-2022	0.09/0.12 0.22/0.32 0.88/0.89 0.16/0.54 0.12/0.28 0.05/0.31 0.11/0.13
SMPLR-95839	10-21-2022	No	9-9-2022 9-22-2022 10-2-2022 10-3-2022 10-4-2022 10-15-2022 10-16-2022 10-17-2022	0.12/0.18 0.14/0.24 0.08/0.24 0.07/0.15 0.03/0.17 0.14/0.82 0.05/0.16 0.05/0.11
SMPLR-96424	11-18-2022	No	None	None

[a] Intensity = Maximum amount of precipitation in any 30-min interval.

[b] Total = Total amount of precipitation in 24 hr.

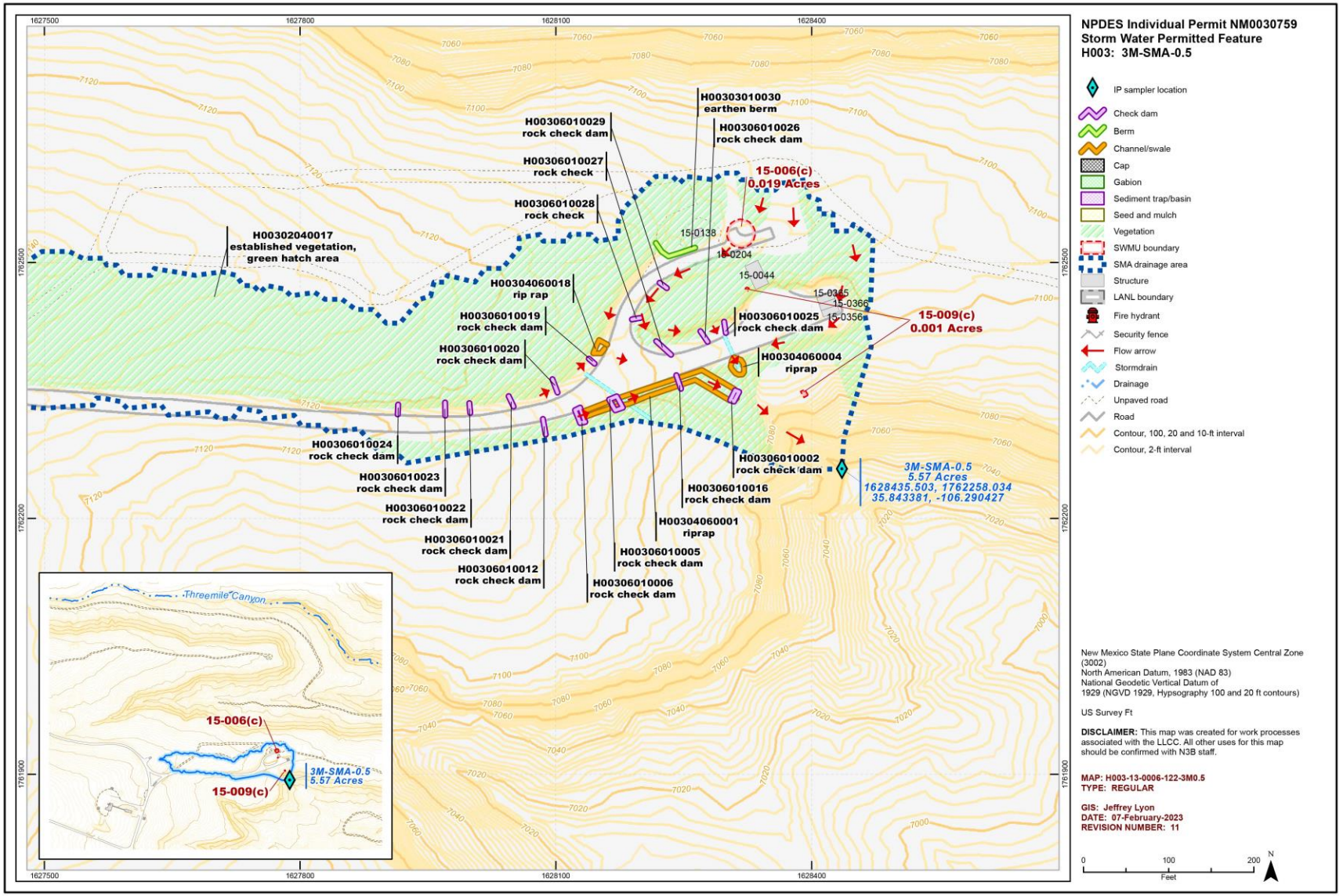

Figure 136-1 3M-SMA-0.5 location map

137.0 3M-SMA-0.6: SWMU 15-008(b)

One historical industrial activity area, Site 15-008(b), is associated with 3M-SMA-0.6 (permitted feature H004). Summaries of all inspection, monitoring, and maintenance actions conducted in 2022 are provided below. Refer to the "2022 Sampling Implementation Plan, NPDES Permit No. NM0030759" (N3B 2023, 702608) for more information on Consent Order investigation activities, the SSD, and planned stormwater monitoring at the SMA for future monitoring seasons.

137.1 Site Descriptions

15-008(b) (12/21/2021)

SWMU 15-008(b) is a former surface disposal area located north of inactive Firing Site R-44 [SWMU 15-006(c)] and extending along the edge of the mesa and downslope into Threemile Canyon at TA-15. The surface disposal area covers approximately 8.5 acres. Soil and debris generated from activities at the R-44 firing site were disposed of at SWMU 15-008(b). Activities at the firing site began in 1951. The firing site was used extensively until 1978 and sporadically until 1992 when firing site activities ceased.

Known or Potential Use of POCs

POCs known to be managed or potentially used at the Site are listed in Table 137-1.

Table 137-1 POCs Known or Suspected to Have Been Used Historically at the Site

Site	Potential POC Source	Potential POCs
15-008(b)	Surface disposal area	Beryllium, copper, lead, HE, uranium

137.2 Control Measures

All active control measures in use at 3M-SMA-0.6 are listed in Table 137-2. Their locations are shown on the project map (Figure 137-1) located at the end of this SMA update. Future map updates will be posted on the IP website: https://ext.em-la.doe.gov/ips/Home/SiteMonitoringAreaMaps.

Table 137-2 Active Control Measures

Control ID	Control Name	Purpose of Control				Control Status	Install Date
		Run-On	Runoff	Erosion	Sediment		
H00401050036	Gravel Mulch	X	X	X	-	B	2-24-2020
H00402040029	Established Vegetation	-	X	X	-	B	5-8-2013
H00403010030	Earthen Berm	-	X	-	X	B	10-25-2017
H00403060008	Straw Wattle	X	-	-	X	CB	9-23-2009
H00403060031	Straw Wattle	X	-	-	X	B	2-24-2020
H00403060032	Straw Wattle	-	X	-	X	B	2-24-2020
H00403060033	Straw Wattle	-	X	-	X	B	2-24-2020
H00403060034	Straw Wattle	-	X	-	X	B	2-24-2020
H00403060035	Straw Wattle	-	X	-	X	B	2-24-2020

137.3 Inspections and Maintenance

Rain gage RG245.5 recorded six storm events at 3M-SMA-0.6 during the 2022 season, requiring three post-storm inspections, which are summarized in Table 137-3. No other control-measure inspections, maintenance activities, or facility modifications affecting discharge were conducted at the SMA in 2022.

Table 137-3 Post-Storm Inspections During 2022

Inspection Reference	Storm Date	30-Minute Maximum Intensity (in.)	Inspection Date	Days to Inspection	Inspected within 15 days?
BMP-93085[a]	6-25-2022	0.33	7-7-2022	12	Yes
BMP-94455[b]	7-26-2022 7-27-2022	0.29 0.74	7-28-2022	2 1	Yes Yes
BMP-95366[b]	7-30-2022 8-11-2022 8-16-2022	0.58 0.54 0.5	8-18-2022	19 7 2	No Yes Yes

[a] Inspection also qualifies as the Annual Erosion Evaluation per 2010 IP Part I.G.1.

[b] Inspection qualifies for multiple Storm Dates per 2010 IP Part I.G.2 and 2022 IP Part I.B.8.b.

137.4 Stormwater Monitoring

Through calendar year 2022, stormwater flow has not been sufficient for full-volume sample collection at 3M-SMA-0.6.

Stormwater monitoring was conducted at 3M-SMA-0.6 under the 2010 IP requirements from April 1 through November 7, 2022, resulting in a monitoring season of 221 days. Six inspections were performed during the monitoring period and are summarized in Table 137-4. Rain gage RG245.5 recorded 35 rain events exceeding 0.1 in. in 24 hr while the sampling equipment was active. No new confirmation-monitoring samples were collected in 2022 and no sampling operability issues were encountered.

Table 137-4 Sampler Inspections During 2022

Inspection Reference	Inspection Date	Sample Retrieved?	Date(s) of Rain Events Exceeding 0.1 in. in 24 hr since previous inspection	Rainfall Intensity[a]/ Total[b] (in.)
SMPLR-91789	5-3-2022	No	None	None
SMPLR-92337	6-3-2022	No	None	None
SMPLR-92745	7-7-2022	No	6-17-2022 6-18-2022 6-19-2022 6-21-2022 6-22-2022 6-25-2022 6-26-2022 6-27-2022 7-1-2022 7-4-2022	0.08/0.33 0.1/0.21 0.07/0.28 0.08/0.17 0.12/0.63 0.33/1.54 0.14/1.15 0.08/0.15 0.16/0.4 0.23/0.38

Inspection Reference	Inspection Date	Sample Retrieved?	Date(s) of Rain Events Exceeding 0.1 in. in 24 hr since previous inspection	Rainfall Intensity[a]/ Total[b] (in.)
SMPLR-93887	8-18-2022	No	7-14-2022 7-20-2022 7-21-2022 7-26-2022 7-27-2022 7-29-2022 7-30-2022 7-31-2022 8-6-2022 8-7-2022 8-11-2022 8-16-2022	0.19/0.2 0.19/0.21 0.09/0.14 0.29/0.62 0.74/0.93 0.07/0.24 0.58/0.91 0.14/0.32 0.32/0.38 0.1/0.11 0.54/0.56 0.5/0.97
SMPLR-95527	9-29-2022	No	8-18-2022 8-19-2022 8-20-2022 8-21-2022 8-23-2022 9-9-2022 9-22-2022	0.05/0.1 0.14/0.23 0.05/0.29 0.1/0.12 0.3/0.3 0.11/0.17 0.14/0.24
SMPLR-96185	11-7-2022	No	10-2-2022 10-3-2022 10-4-2022 10-15-2022 10-16-2022 10-17-2022	0.07/0.21 0.04/0.12 0.04/0.17 0.13/0.73 0.04/0.15 0.04/0.1

[a] Intensity = Maximum amount of precipitation in any 30-min interval.

[b] Total = Total amount of precipitation in 24 hr.

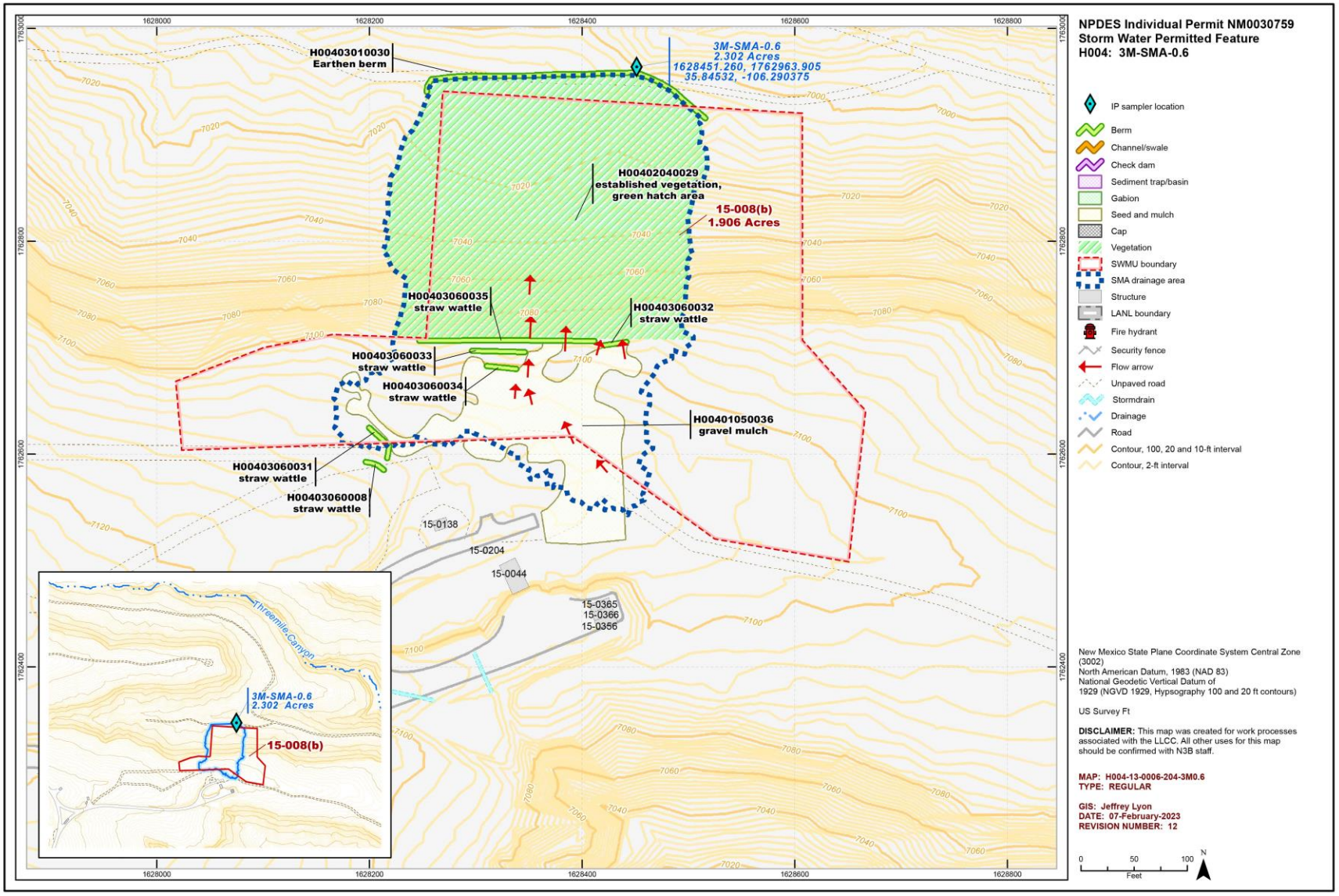

Figure 137-1 3M-SMA-0.6 location map

138.0 3M-SMA-2.6: SWMUs 36-008 and C-36-003

Two historical industrial activity areas, Sites 36-008 and C-36-003, are associated with 3M-SMA-2.6 (permitted feature H005). Summaries of all inspection, monitoring, and maintenance actions conducted in 2022 are provided below. Refer to the "2022 Sampling Implementation Plan, NPDES Permit No. NM0030759" (N3B 2023, 702608) for more information on Consent Order investigation activities, the SSD, and planned stormwater monitoring at the SMA for future monitoring seasons.

138.1 Site Descriptions

36-008 (9/3/2019)

SWMU 36-008 is a surface disposal area located north of building 36-1 at TA-36. The disposal area is on the south rim of Threemile Canyon and extends down the steeply sloping edge of the mesa. The approximately 1 to 2 acres disposal area was discovered in June 2000 after the Cerro Grande fire burned through the area. The dates the Site was used for disposal are not known. The materials strewn over the Site appeared to be associated with activities conducted in building 36-1, which housed an office, laboratory, and x-ray developing operations. It is possible the disposal area may have been used as early as 1950, when building 36-1 became operational. Surface debris included laboratory glassware, metal cans, metal pipe, and miscellaneous metal fragments. As part of Cerro Grande fire response efforts, visible debris was removed from the surface disposal area. Approximately 5 yd^3 of debris was removed from the Site, segregated, and staged for disposal; in addition, stormwater BMPs were installed to prevent erosion.

C-36-003 (9/3/2019)

SWMU C-36-003 is a former NPDES-permitted outfall (EPA 06A106) and associated outlet drainline located north of building 36-1 on the south rim of Threemile Canyon at TA-36. The outfall became operational shortly after building 36-1 became operational in 1950. The outfall served the sink and floor drains on the first floor of the building and the floor, sink, and equipment drain in the photo-processing unit on the second floor of the building. When operational, a steady stream of liquid was discharged to the outfall that flowed down the drainage for approximately 35 ft. In 1993, the floor and sink drains discharging to the outfall were rerouted to the TA-46 SWSC plant. In 1994, it was confirmed the photo-processing unit was no longer plumbed to the outfall. The outfall was removed from the NPDES permit in 2001.

Known or Potential Use of POCs

POCs known to be managed or potentially used at the Sites are listed in Table 138-1.

Table 138-1 POCs Known or Suspected to Have Been Used Historically at the Sites

Site	Potential POC Source	Potential POCs
36-008	Surface disposal area	Metals
C-36-003	Outfall from building 36-1	Chromium, silver, inorganic and organic chemicals

138.2 Control Measures

All active control measures in use at 3M-SMA-2.6 are listed in Table 138-2. Their locations are shown on the project map (Figure 138-1) located at the end of this SMA update. Future map updates will be posted on the IP website: https://ext.em-la.doe.gov/ips/Home/SiteMonitoringAreaMaps.

Table 138-2 Active Control Measures

Control ID	Control Name	Purpose of Control				Control Status	Install Date
		Run-On	Runoff	Erosion	Sediment		
H00502040007	Established Vegetation	-	X	X	-	B	5-2-2013
H00503120005	Rock Berm	X	-	-	X	CB	5-5-2010
H00504040003	Culvert	X	-	-	-	CB	7-7-2010
H00506010006	Rock Check Dam	-	X	-	X	CB	2-23-2011

138.3 Inspections and Maintenance

Rain gage RG245.5 recorded six storm events at 3M-SMA-2.6 during the 2022 season, requiring four post-storm inspections, which are summarized in Table 138-3. Maintenance activities conducted at the SMA are summarized in Table 138-4. No other control-measure inspections or facility modifications affecting discharge were conducted at the SMA in 2022.

Table 138-3 Post-Storm Inspections During 2022

Inspection Reference	Storm Date	30-Minute Maximum Intensity (in.)	Inspection Date	Days to Inspection	Inspected within 15 days?
BMP-93086[a]	6-25-2022	0.33	6-30-2022	5	Yes
BMP-94455[b]	7-26-2022 7-27-2022 7-30-2022	0.29 0.74 0.58	8-2-2022	7 6 3	Yes Yes Yes
BMP-95367	8-11-2022	0.54	8-16-2022	5	Yes
BMP-95477	8-16-2022	0.5	8-29-2022	13	Yes

[a] Inspection also qualifies as the Annual Erosion Evaluation per 2010 IP Part I.G.1.

[b] Inspection qualifies for multiple Storm Dates per 2010 IP Part I.G.2 and 2022 IP Part I.B.8.b.

Table 138-4 Maintenance Activities Conducted During 2022

Maintenance Reference	Maintenance Conducted	Maintenance Date	Response Time	Response Discussion
BMP-95477	Cleaned out needle cast debris from inlet of Culvert H00504040003 at inspection.	8-29-2022	0 days	Maintenance was performed as soon as practicable.

138.4 Stormwater Monitoring

Through calendar year 2022, stormwater flow has not been sufficient for full-volume sample collection at 3M-SMA-2.6.

Stormwater monitoring was conducted at 3M-SMA-2.6 under the 2010 IP requirements from April 1 through October 26, 2022, resulting in a monitoring season of 209 days. Six inspections were performed during the monitoring period and are summarized in Table 138-5. Rain gage RG245.5 recorded 35 rain events exceeding 0.1 in. in 24 hr while the sampling equipment was active. No new confirmation-monitoring samples were collected in 2022 and no sampling operability issues were encountered.

Table 138-5 Sampler Inspections During 2022

Inspection Reference	Inspection Date	Sample Retrieved?	Date(s) of Rain Events Exceeding 0.1 in. in 24 hr since previous inspection	Rainfall Intensity[a]/ Total[b] (in.)
SMPLR-91781	5-2-2022	No	None	None
SMPLR-92267	5-26-2022	No	None	None
SMPLR-92582	6-30-2022	No	6-17-2022 6-18-2022 6-19-2022 6-21-2022 6-22-2022 6-25-2022 6-26-2022 6-27-2022	0.08/0.33 0.1/0.21 0.07/0.28 0.08/0.17 0.12/0.63 0.33/1.54 0.14/1.15 0.08/0.15
SMPLR-93552	8-11-2022	No	7-1-2022 7-4-2022 7-14-2022 7-20-2022 7-21-2022 7-26-2022 7-27-2022 7-29-2022 7-30-2022 7-31-2022 8-6-2022 8-7-2022	0.16/0.4 0.23/0.38 0.19/0.2 0.19/0.21 0.09/0.14 0.29/0.62 0.74/0.93 0.07/0.24 0.58/0.91 0.14/0.32 0.32/0.38 0.1/0.11
SMPLR-95353	9-21-2022	No	8-11-2022 8-16-2022 8-18-2022 8-19-2022 8-20-2022 8-21-2022 8-23-2022 9-9-2022	0.54/0.56 0.5/0.97 0.05/0.1 0.14/0.23 0.05/0.29 0.1/0.12 0.3/0.3 0.11/0.17
SMPLR-96046	10-26-2022	No	9-22-2022 10-2-2022 10-3-2022 10-4-2022 10-15-2022 10-16-2022 10-17-2022	0.14/0.24 0.07/0.21 0.04/0.12 0.04/0.17 0.13/0.73 0.04/0.15 0.04/0.1

[a] Intensity = Maximum amount of precipitation in any 30-min interval.

[b] Total = Total amount of precipitation in 24 hr.

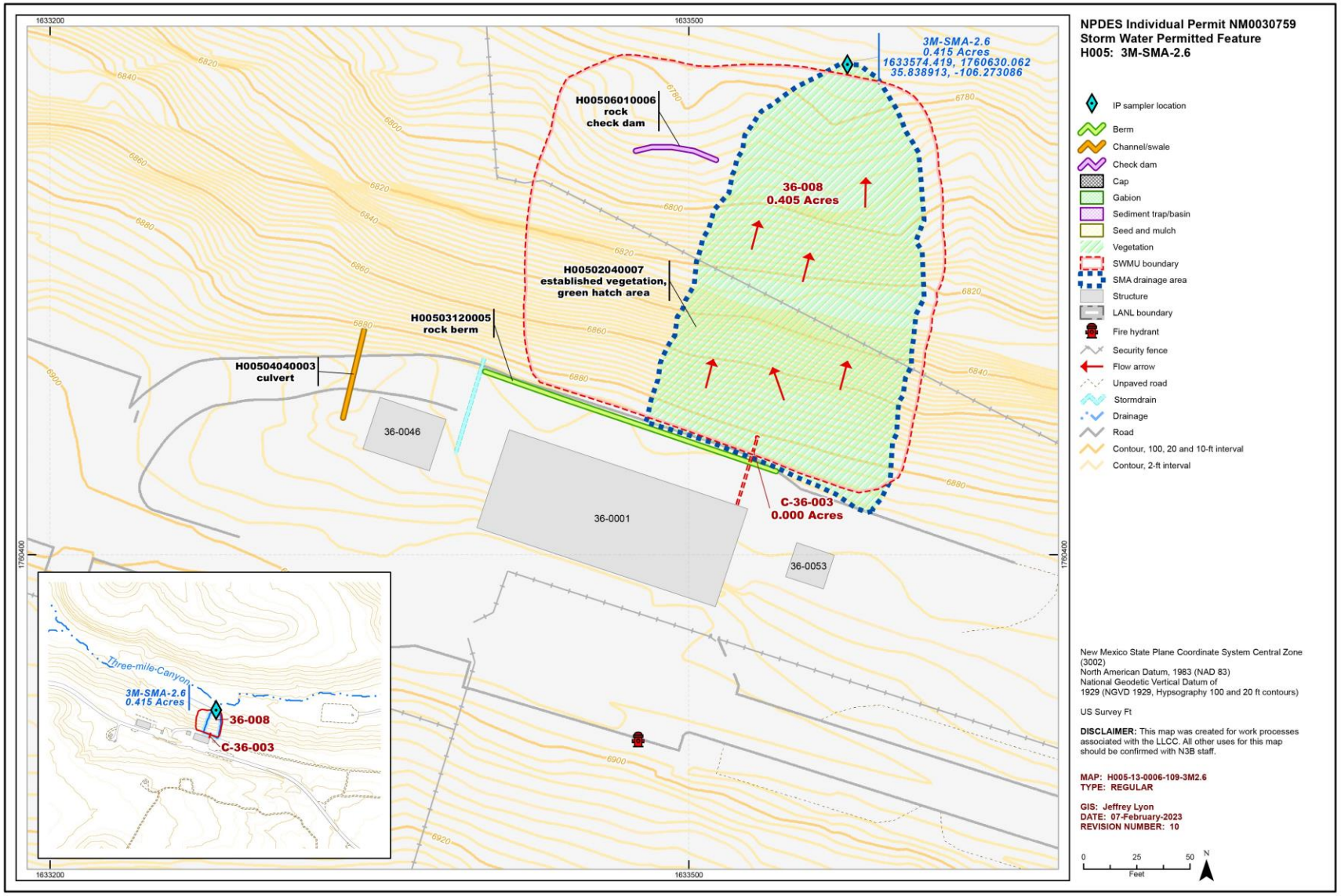

Figure 138-1 3M-SMA-2.6 location map

139.0 3M-SMA-4: SWMUs 18-002(b) and 18-003(c) and AOC 18-010(f)

Three historical industrial activity areas, Sites 18-002(b), 18-003(c), and 18-010(f), are associated with 3M-SMA-4 (permitted feature H006). Summaries of all inspection, monitoring, and maintenance actions conducted in 2022 are provided below. Refer to the "2022 Sampling Implementation Plan, NPDES Permit No. NM0030759" (N3B 2023, 702608) for more information on Consent Order investigation activities, the SSD, and planned stormwater monitoring at the SMA for future monitoring seasons.

139.1 Site Descriptions

18-002(b) (12/6/2017)

SWMU 18-002(b) is an inactive firing site in Threemile Canyon (AOC C-00-012) near the location of former building 18-32 (Kiva 2) at TA-18. The firing site was used from 1944 to 1945 for shots consisting of no more than a few pounds of HE. The Site consisted of a 2-ft-long × 2-ft-wide × 2-ft-deep firing chamber (former structure 18-4) constructed of 1-in.-thick steel and an aboveground armored bunker (structure 18-5), commonly called a "battleship," used to protect shot instrumentation. The top of the firing chamber was open and set flush with the ground west of structure 18-5. A ground-level wooden structure (former structure 18-6), located east of structure 18-5, was the battery building for the firing site cable conduit system. It contained racks of lead-acid batteries. Structure 18-4 was removed in 1945 and structure 18-6 was dismantled in 1951, and structure 18-5 was used as a calibration laboratory in the 1950s and 1960s. Structure 18-5 was subsequently decommissioned and is no longer used; however, the structure is considered a contributing historical building as part of the planned Manhattan Project National Historical Park.

Three additional inactive firing points, located west of structure 18-5, are also associated with SWMU 18-002(b). Firing Point C was 51 ft west of structure 18-5 and on its midline. Former building 18-32, Kiva 2 (also known as CASA 2), was a critical assembly building constructed over the location of Firing Point C in 1951. From 1955 to 1972, non-Rover Program critical assembly work was carried out in Kiva 2. Reactor mockups of various sizes and shapes were constructed using materials including deuterium oxide, uranium carbide, enriched uranium, graphite, niobium, and zirconium hydride. Beryllium oxide was also used in some mockups, and cadmium might also have been used. Unclad uranium [DU, enriched, etc.] and neutron flux were present throughout former building 18-32, and a critical assembly was melted within the structure. Building 18-32 was decommissioned in 2008 and underwent D&D in 2011 and 2012.

Firing Point G was 145 ft west of structure 18-5 and on its midline. Former building 18-122 was a metal building constructed directly northwest of former Firing Point G in 1960. The building functioned as a warehouse for former building 18-32 (CASA 2); the building had fixed uranium contamination (DU and/or natural) throughout and was a posted radiological control area. Hydraulic oil, solvent and rags were accumulated in a SAA formerly located in this building. Building 18-122 was decommissioned in 2008 and underwent D&D in 2011 and 2012.

Firing Points C and G were used in firing operations involving smaller charges than the third firing point. The third firing point located west of the other three firing points, Medium Firing Point, was built to handle HE charges of up to 2 tons. It was located 478 ft west of structure 18-5 and 15 ft south of its midline. A flat, graded area west of former building 18-32 marks the former location of this firing point. The firing points were all removed in the late 1940s, before the construction of former building 18-32 in 1951.

18-003(c) (12/29/2017)

SWMU 18-003(c) is an inactive septic system consisting of a reinforced concrete septic tank (structure 18-42), inlet and outlet drainlines, a drain field, and an outfall at TA-18. The septic tank is located approximately 15 ft east of former building 18-128 and approximately 90 ft northeast of former building 18-32. The tank measures 6 ft in diameter × 5 ft deep and has a capacity of 650 gal. The inlet line leading to the tank is approximately 130 ft in length, and the total length of the outlet line is approximately 115 ft. The drain field begins approximately 60 ft east of the septic tank and extends east 55 ft. The drain field consists of four drainlines spaced approximately 10 ft apart. Each line is approximately 75 ft long. An outfall, located at the distal end of the drain field, discharged into the Threemile Canyon stream channel (AOC C-00-012). The SWMU 18-003(c) septic system received sanitary waste from three restrooms and a janitorial sink in former building 18-32 from 1952 to 1995.

18-010(f) (1/5/2018)

AOC 18-010(f) is a former outfall that received discharges from the roof and floor drains in former building 18-32 at TA-18. The roof and floor drains discharged into a storm drain that exited the former building under the pavement from the northeast corner of former building 18-32. The storm drainline discharged to an outfall, approximately 100 ft north of former building 18-32, on a sandy, grassy bank on the south side of the stream channel in Threemile Canyon (AOC C-00-012). Former building 18-32 was built in 1951 and used for nuclear critical assembly work. The date this outfall became operational is unknown, but it is likely that the outfall was operational from the time building 18-32 was constructed in 1951 until it underwent D&D in 2011 and 2012.

Known or Potential Use of POCs

POCs known to be managed or potentially used at the Sites are listed in Table 139-1.

Table 139-1 POCs Known or Suspected to Have Been Used Historically at the Sites

Site	Potential POC Source	Potential POCs
18-002(b)	Firing Site	Barium, beryllium, cadmium, lead, HE, uranium (depleted and enriched), inorganic and organic chemicals
18-003(c)	Outfall	Organic chemicals, radionuclides, uranium, beryllium
18-010(f)	Outfall	Lead, uranium

139.2 Control Measures

All active control measures in use at 3M-SMA-4 are listed in Table 139-2. Their locations are shown on the project map (Figure 139-1) located at the end of this SMA update. Future map updates will be posted on the IP website: https://ext.em-la.doe.gov/ips/Home/SiteMonitoringAreaMaps.

Table 139-2 Active Control Measures

Control ID	Control Name	Purpose of Control				Control Status	Install Date
		Run-On	Runoff	Erosion	Sediment		
H00602040010	Established Vegetation	-	X	X	-	B	5-2-2013
H00604020009	Concrete/Asphalt Channel/Swale	X	-	X	-	CB	5-25-2010
H00604060005	Riprap	X	-	X	-	CB	5-25-2010
H00604060013	Riprap	-	X	X	-	EC	9-30-2015

Control ID	Control Name	Purpose of Control				Control Status	Install Date
		Run-On	Runoff	Erosion	Sediment		
H00604060015	Riprap	-	X	X	-	EC	9-30-2015
H00606010011	Rock Check Dam	-	X	-	X	EC	9-30-2015
H00607010002	Gabion	X	-	-	X	CB	1-1-2000
H00607010012	Gabion	-	X	-	X	EC	9-30-2015
H00607010014	Gabion	-	X	-	X	EC	9-30-2015

139.3 Inspections and Maintenance

Rain gage RG245.5 recorded six storm events at 3M-SMA-4 during the 2022 season, requiring four post-storm inspections, which are summarized in Table 139-3. No other control-measure inspections, maintenance activities, or facility modifications affecting discharge were conducted at the SMA in 2022.

Table 139-3 Post-Storm Inspections During 2022

Inspection Reference	Storm Date	30-Minute Maximum Intensity (in.)	Inspection Date	Days to Inspection	Inspected within 15 days?
BMP-93087[a]	6-25-2022	0.33	6-30-2022	5	Yes
BMP-94457[b]	7-26-2022 7-27-2022 7-30-2022	0.29 0.74 0.58	8-2-2022	7 6 3	Yes Yes Yes
BMP-95368	8-11-2022	0.54	8-16-2022	5	Yes
BMP-95478	8-16-2022	0.5	8-30-2022	14	Yes

[a] Inspection also qualifies as the Annual Erosion Evaluation per 2010 IP Part I.G.1.

[b] Inspection qualifies for multiple Storm Dates per 2010 IP Part I.G.2 and 2022 IP Part I.B.8.b.

139.4 Stormwater Monitoring

Following the installation of baseline control measures, a baseline monitoring stormwater sample was collected on July 29, 2014. Analytical results from this sample yielded TAL exceedances for copper (4.72 µg/L) and gross-alpha activity (259 pCi/L). The complete analytical results are presented in "Stormwater Individual Permit Annual Report, Reporting Period: January 1–December 31, 2014, NPDES Permit No. NM0030759" (LANL 2015, 600241).

Following certification of enhanced control installation, a confirmation-monitoring stormwater sample was collected on July 26, 2017. Analytical results from this sample yielded a TAL exceedance for copper (8.11 µg/L) and the complete analytical results are presented in "Stormwater Individual Permit Annual Report, Reporting Period: January 1–December 31, 2017, NPDES Permit No. NM0030759" (LANL 2018, 602910).

Stormwater monitoring was not conducted at 3M-SMA-4 in 2022 under the 2010 IP requirements.

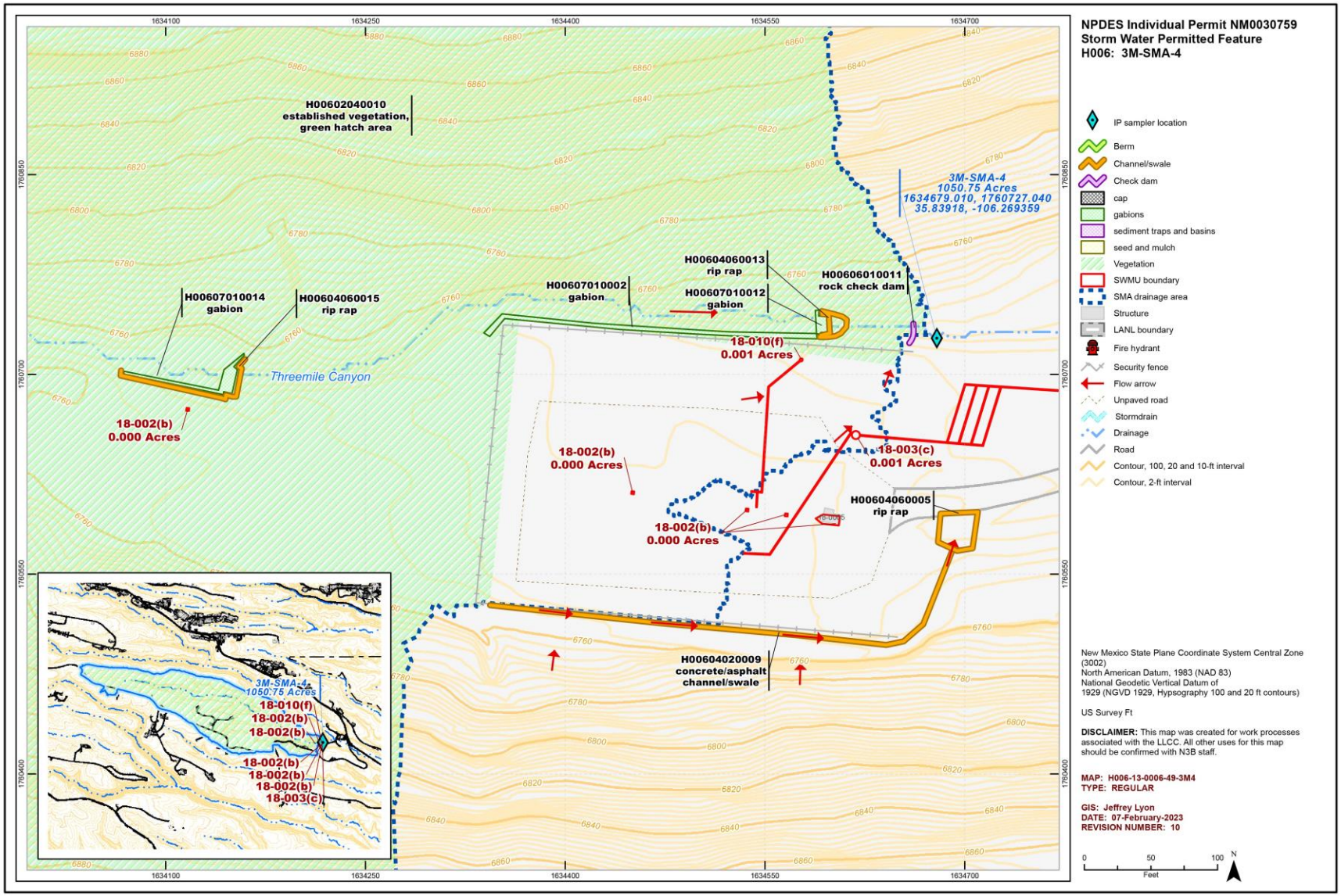

Figure 139-1 3M-SMA-4 location map

140.0 PJ-SMA-1.05: SWMU 09-013

One historical industrial activity area, Site 09-013, is associated with PJ-SMA-1.05 (permitted feature J001). Summaries of all inspection, monitoring, and maintenance actions conducted in 2022 are provided below. Refer to the "2022 Sampling Implementation Plan, NPDES Permit No. NM0030759" (N3B 2023, 702608) for more information on Consent Order investigation activities, the SSD, and planned stormwater monitoring at the SMA for future monitoring seasons.

140.1 Site Descriptions

09-013 (2/13/2018)

SWMU 09-013 is MDA M, which consisted of two former surface disposal areas, a main area and a smaller satellite area, at TA-09. The main area occupied approximately 3.2 acres and was located approximately 1600 ft southwest of building 22-120. The satellite area was located approximately 750 ft northwest of the main area and measured approximately 150 ft wide × 260 ft long. MDA M was created during the demolition of the Old Anchor Ranch East and West sites. Structures were flash burned to remove any HE residue and deposited over the surface of the MDA. Debris from the construction of current TA-08 and TA-09 facilities (1949–1965) and other sites (1960–1965) were also deposited at MDA M. Materials present at the MDA included metal debris, wood debris, laboratory appliances and fixtures, and metal and glass containers. The main disposal area was surrounded by an earth berm that eroded through by surface-water runoff. MDA M has been inactive since 1965. All visible debris/waste, and contaminated soil were removed from MDA M during an EC conducted in 1995–1996.

Known or Potential Use of POCs

POCs known to be managed or potentially used at the Site are listed in Table 140-1.

Table 140-1 POCs Known or Suspected to Have Been Used Historically at the Site

Site	Potential POC Source	Potential POCs
09-013	MDA M	Metals, asbestos, PCBs, SVOCs, HE, uranium

140.2 Control Measures

All active control measures in use at PJ-SMA-1.05 are listed in Table 140-2. Their locations are shown on the project map (Figure 140-1) located at the end of this SMA update. Future map updates will be posted on the IP website: https://ext.em-la.doe.gov/ips/Home/SiteMonitoringAreaMaps.

Table 140-2 Active Control Measures

Control ID	Control Name	Purpose of Control				Control Status	Install Date
		Run-On	Runoff	Erosion	Sediment		
J00102040019	Established Vegetation	-	X	X	-	B	4-23-2013
J00103010018	Earthen Berm	-	X	-	X	B	8-27-2012
J00103010020	Earthen Berm	-	X	-	X	EC	8-10-2015
J00103010021	Earthen Berm	-	X	-	X	EC	8-10-2015
J00103010022	Earthen Berm	-	X	-	X	EC	8-10-2015

Control ID	Control Name	Purpose of Control				Control Status	Install Date
		Run-On	Runoff	Erosion	Sediment		
J00104050008	Water Bar	-	X	X	-	CB	11-4-2009
J00104050012	Water Bar	X	-	X	-	B	4-4-2011
J00104050013	Water Bar	X	-	X	-	B	4-4-2011
J00104050014	Water Bar	X	-	X	-	B	4-4-2011

140.3 Inspections and Maintenance

Rain gage RG240 recorded six storm events at PJ-SMA-1.05 during the 2022 season, requiring four post-storm inspections, which are summarized in Table 140-3. Maintenance activities conducted at the SMA are summarized in Table 140-4. No other control-measure inspections or facility modifications affecting discharge were conducted at the SMA in 2022.

Table 140-3 Post-Storm Inspections During 2022

Inspection Reference	Storm Date	30-Minute Maximum Intensity (in.)	Inspection Date	Days to Inspection	Inspected within 15 days?
BMP-92916 [a]	6-18-2022	0.27	6-22-2022	4	Yes
BMP-92979[b]	6-22-2022 6-25-2022 6-26-2022	0.28 0.27 0.31	7-5-2022	13 10 9	Yes Yes Yes
BMP-94283	7-20-2022	0.74	7-28-2022	8	Yes
SMPLR-94801[c]	7-31-2022	0.46	9-8-2022	40	No

[a] Inspection also qualifies as the Annual Erosion Evaluation per 2010 IP Part I.G.1.

[b] Inspection qualifies for multiple Storm Dates per 2010 IP Part I.G.2 and 2022 IP Part I.B.8.b.

[c] Due to an administrative error an inspection Work Order was not issued for the July 30, 2022 rain event. The SMA was next visited on August 11, 2022 for a sampler inspection and there were no findings of deficiency noted.

Table 140-4 Maintenance Activities Conducted During 2022

Maintenance Reference	Maintenance Conducted	Maintenance Date	Response Time	Response Discussion
BMP-93530 (follow up to BMP-92916)	Removed accumulated sediment from Water Bar J00104050008 and filled in small eroded area that had developed. Material was placed up gradient of control.	7-13-2022	21 days	Maintenance was performed as soon as practicable.

140.4 Stormwater Monitoring

Following the installation of baseline control measures, a baseline monitoring stormwater sample was collected on September 13, 2013. Analytical results from this sample yielded a TAL exceedance for PCB concentration (9 ng/L). The complete analytical results are presented in "Stormwater Individual Permit Annual Report, Reporting Period: January 1–December 31, 2013, NPDES Permit No. NM0030759" (LANL 2014, 254067).

Stormwater monitoring was conducted at PJ-SMA-1.05 under the 2010 IP requirements from March 18 through November 15, 2022, resulting in a monitoring season of 243 days. Six inspections were performed during the monitoring period and are summarized in Table 140-5. Rain gage RG240 recorded 42 rain events exceeding 0.1 in. in 24 hr while the sampling equipment was active. No new confirmation-monitoring samples were collected in 2022 and no sampling operability issues were encountered.

Table 140-5 Sampler Inspections During 2022

Inspection Reference	Inspection Date	Sample Retrieved?	Date(s) of Rain Events Exceeding 0.1 in. in 24 hr since previous inspection	Rainfall Intensity[a]/ Total[b] (in.)
SMPLR-91574	4-15-2022	No	None	None
SMPLR-92031	6-21-2022	No	6-17-2022 6-18-2022 6-19-2022	0.05/0.25 0.27/0.45 0.05/0.23
SMPLR-92946	7-28-2022	No	6-21-2022 6-22-2022 6-25-2022 6-26-2022 6-27-2022 6-30-2022 7-1-2022 7-2-2022 7-4-2022 7-14-2022 7-20-2022 7-21-2022 7-24-2022 7-26-2022 7-27-2022	0.08/0.18 0.28/0.89 0.27/1.09 0.31/2.02 0.04/0.1 0.19/0.23 0.12/0.37 0.24/0.34 0.21/0.53 0.1/0.2 0.74/0.93 0.09/0.14 0.13/0.18 0.11/0.26 0.08/0.18
SMPLR-94801	9-8-2022	No	7-29-2022 7-31-2022 8-1-2022 8-6-2022 8-7-2022 8-11-2022 8-16-2022 8-18-2022 8-19-2022 8-20-2022 8-21-2022 8-22-2022 8-31-2022	0.07/0.25 0.46/1.1 0.21/0.22 0.43/0.92 0.47/0.49 0.06/0.1 0.09/0.27 0.09/0.3 0.07/0.21 0.06/0.31 0.12/0.14 0.07/0.15 0.12/0.14

Inspection Reference	Inspection Date	Sample Retrieved?	Date(s) of Rain Events Exceeding 0.1 in. in 24 hr since previous inspection	Rainfall Intensity[a]/ Total[b] (in.)
SMPLR-95840	10-19-2022	No	9-9-2022 9-10-2022 9-20-2022 9-22-2022 10-2-2022 10-3-2022 10-4-2022 10-15-2022 10-16-2022 10-17-2022	0.14/0.23 0.1/0.1 0.09/0.14 0.17/0.23 0.05/0.13 0.06/0.11 0.02/0.12 0.18/1.03 0.05/0.23 0.04/0.11
SMPLR-96421	11-15-2022	No	10-23-2022	0.04/0.1

[a] Intensity = Maximum amount of precipitation in any 30-min interval.

[b] Total = Total amount of precipitation in 24 hr.

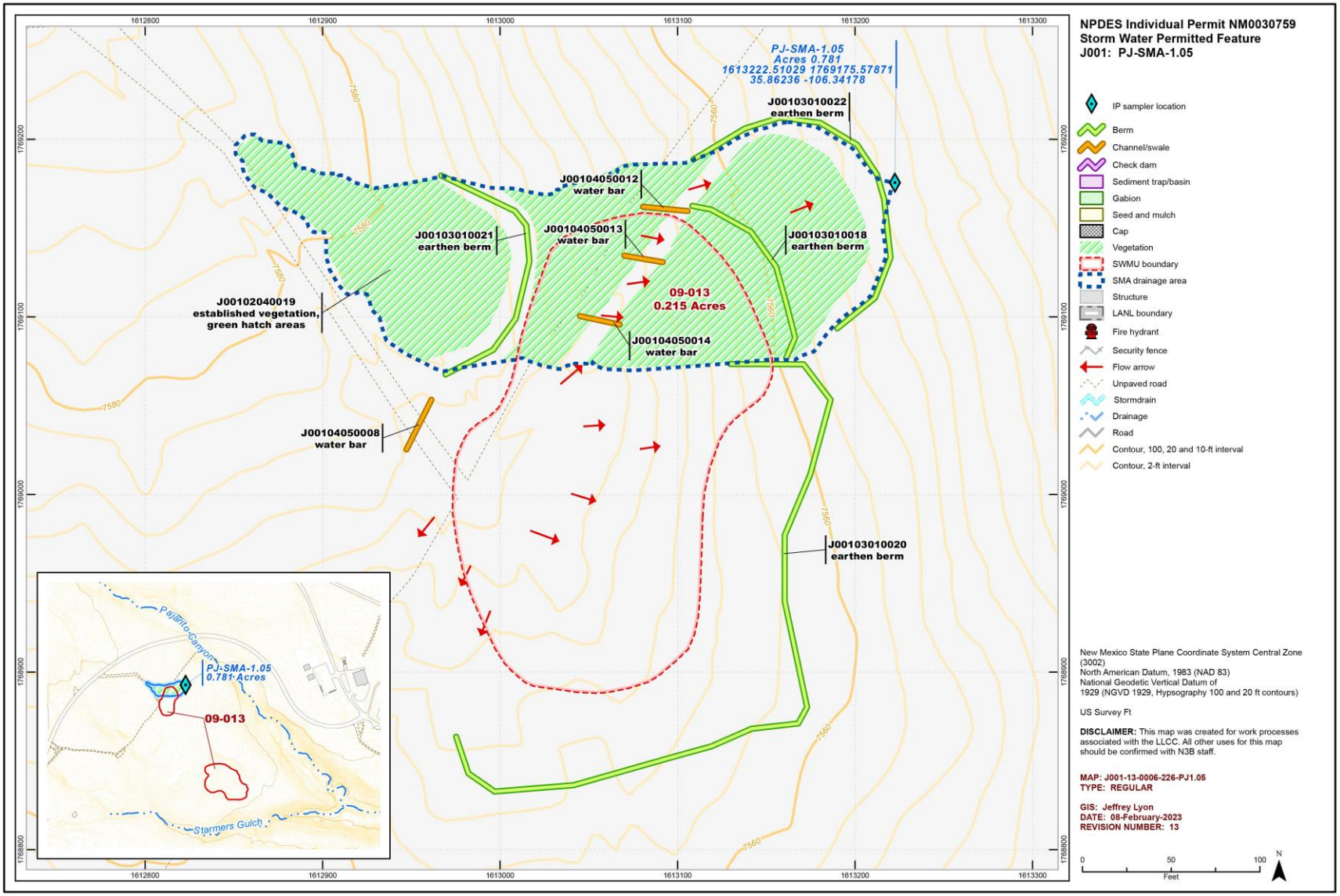

Figure 140-1 PJ-SMA-1.05 location map

141.0 PJ-SMA-2: SWMU 09-009

One historical industrial activity area, Site 09-009, is associated with PJ-SMA-2 (permitted feature J002). Summaries of all inspection, monitoring, and maintenance actions conducted in 2022 are provided below. Refer to the "2022 Sampling Implementation Plan, NPDES Permit No. NM0030759" (N3B 2023, 702608) for more information on Consent Order investigation activities, the SSD, and planned stormwater monitoring at the SMA for future monitoring seasons.

141.1 Site Descriptions

09-009 (2/13/2018)

SWMU 09-009 consists of a decommissioned surface impoundment and two decommissioned sand filters (structure 09-218), associated inlet and outlet drainlines, and a former outfall at TA-09. The surface impoundment is located approximately 120 ft northeast of building 09-40, the sand filters are approximately 120 ft northeast of the surface impoundment, and the former outfall is located approximately 300 ft to the northwest of the impoundment. The former surface impoundment measures 32 ft wide × 60 ft long × 7 ft deep; the sides are constructed of concrete, and the bottom of bentonite. The sand filters, which cover a total area measuring approximately 33 ft wide × 60 ft long × 4 ft deep, have a flexible membrane liner (butyl rubber) and are surrounded by a concrete curb. The surface impoundment was constructed in 1961 to treat sanitary waste from buildings 09-20, 09-21, 09-28, 09-29, 09-32, 09-33, 09-34, 09-35, 09-37, and 09-38 and discharged to a set of two sand filters northeast of the impoundment. After flowing through the sand filters, effluent was discharged to an outfall approximately 300 ft to the northwest. The outfall was permitted under the Laboratory's NPDES in 1974 as outfall 55502S. In 1986, the sewer lines from TA-08 were connected to the surface impoundment and discharges from the impoundment were tied into the drainline that discharged to NPDES-permitted outfall 05A-066. Discharges from TA-08 included effluent from building 08-24, where the strontium-90 spill occurred in 1954. The surface impoundment and sand filter system were decommissioned when the TA-46 SWSC came online in 1992. Outfalls 55502 and 05A-066 were removed from the Laboratory's NPDES permit in the late 1990s. All active buildings formerly connected to the impoundment continue to discharge sanitary wastewater to the SWSC.

Known or Potential Use of POCs

POCs known to be managed or potentially used at the Site are listed in Table 141-1.

Table 141-1 POCs Known or Suspected to Have Been Used Historically at the Site

Site	Potential POC Source	Potential POCs
09-009	Surface impoundment	Metals, organic chemicals, strontinum-90

141.2 Control Measures

All active control measures in use at PJ-SMA-2 are listed in Table 141-2. Their locations are shown on the project map (Figure 141-1) located at the end of this SMA update. Future map updates will be posted on the IP website: https://ext.em-la.doe.gov/ips/Home/SiteMonitoringAreaMaps.

Table 141-2 Active Control Measures

Control ID	Control Name	Purpose of Control				Control Status	Install Date
		Run-On	Runoff	Erosion	Sediment		
J00202040022	Established Vegetation	-	X	X	-	B	5-8-2013
J00203010006	Earthen Berm	X	-	-	X	CB	11-5-2009
J00203010007	Earthen Berm	X	-	-	X	CB	11-5-2009
J00203010008	Earthen Berm	X	-	-	X	CB	11-5-2009
J00203010009	Earthen Berm	X	-	-	X	CB	11-5-2009
J00203010015	Earthen Berm	X	-	-	X	B	8-1-2012
J00204050026	Water Bar	X	-	X	-	B	10-6-2015
J00206010014	Rock Check Dam	-	X	-	X	CB	11-5-2009
J00206010019	Rock Check Dam	X	-	-	X	B	10-10-2012
J00206010020	Rock Check Dam	X	-	-	X	B	10-10-2012
J00206010021	Rock Check Dam	X	-	-	X	B	10-10-2012
J00206010024	Rock Check Dam	X	-	-	X	B	7-14-2015
J00206010025	Rock Check Dam	X	-	-	X	B	7-14-2015
J00206010027	Rock Check Dam	X	-	-	X	B	10-6-2015
J00206010028	Rock Check Dam	X	-	-	X	B	10-6-2015
J00208030029	Concrete/Asphalt Cap	-	X	-	-	B	10-6-2015

141.3 Inspections and Maintenance

Rain gage RG253 recorded nine storm events at PJ-SMA-2 during the 2022 season, requiring four post-storm inspections, which are summarized in Table 141-3. All other control-measure inspections conducted at the SMA during 2022 are summarized in Table 141-4. No maintenance activities, or facility modifications affecting discharge were conducted at the SMA in 2022.

Table 141-3 Post-Storm Inspections During 2022

Inspection Reference	Storm Date	30-Minute Maximum Intensity (in.)	Inspection Date	Days to Inspection	Inspected within 15 days?
BMP-92929[a,b]	6-18-2022	0.38	7-1-2022	13	Yes
	6-22-2022	0.29		9	Yes
	6-25-2022	0.42		6	Yes
	6-26-2022	0.3		5	Yes
BMP-93722[b]	7-2-2022	0.25	7-12-2022	10	Yes
	7-4-2022	0.8		8	Yes
BMP-94347	7-20-2022	0.66	7-21-2022	1	Yes
BMP-95003[b]	7-30-2022	0.4	8-4-2022	4	Yes
	7-31-2022				Yes

[a] Inspection also qualifies as the Annual Erosion Evaluation per 2010 IP Part I.G.1.

[b] Inspection qualifies for multiple Storm Dates per 2010 IP Part I.G.2 and 2022 IP Part I.B.8.b.

Table 141-4 Other Control-Measure Inspections During 2022

Inspection Type	Inspection Reference	Inspection Date	Summary of findings
TAL Exceedance inspection for PJ-SMA-2. MEX sample collected 7/31/22. Total Aluminum (6.9x), Copper (5.3x), Zinc (1.8x).	COMP-96395	12-19-2022	No deficiency noted.

141.4 Stormwater Monitoring

Stormwater monitoring was conducted at PJ-SMA-2 under the 2010 IP requirements from March 22 through October 28, 2022, resulting in a monitoring season of 220 days. Seven inspections were performed during the monitoring period and are summarized in Table 141-5.

Rain gage RG253 recorded 41 rain events exceeding 0.1 in. in 24 hr while the sampling equipment was active. A baseline confirmation-monitoring sample was collected on July 31, 2022. Analytical results from this sample yielded TAL exceedances for aluminum (4840 µg/L), copper (23.1 µg/L), and zinc (95.6 µg/L). The complete results are presented in Appendix B of the Overview. The SIP will be updated in 2023 with the inclusion of 2022 analytical results into the SSD.

Table 141-5 Sampler Inspections During 2022

Inspection Reference	Inspection Date	Sample Retrieved?	Date(s) of Rain Events Exceeding 0.1 in. in 24 hr since previous inspection	Rainfall Intensity[a]/ Total[b] (in.)
SMPLR-91591	4-19-2022	No	None	None
SMPLR-92080	6-3-2022	No	None	None
SMPLR-92753	7-7-2022	No	6-17-2022 6-18-2022 6-19-2022 6-21-2022 6-22-2022 6-25-2022 6-26-2022 6-27-2022 7-1-2022 7-2-2022 7-4-2022	0.06/0.33 0.38/0.55 0.05/0.23 0.08/0.19 0.29/0.91 0.42/1.4 0.3/2.02 0.05/0.11 0.15/0.32 0.25/0.35 0.8/1.49
SMPLR-93893	7-21-2022	No	7-14-2022 7-20-2022	0.06/0.12 0.66/0.8
SMPLR-94402	8-2-2022[c]	Yes	7-21-2022 7-24-2022 7-26-2022 7-27-2022 7-29-2022 7-30-2022 7-31-2022 8-1-2022[c]	0.13/0.13 0.15/0.25 0.08/0.18 0.14/0.24 0.12/0.29 0.59/0.64 0.4/0.87 0.2/0.24

Inspection Reference	Inspection Date	Sample Retrieved?	Date(s) of Rain Events Exceeding 0.1 in. in 24 hr since previous inspection	Rainfall Intensity[a]/ Total[b] (in.)
SMPLR-95208	9-13-2022	No	8-6-2022 8-7-2022 8-11-2022 8-16-2022 8-18-2022 8-19-2022 8-20-2022 8-21-2022 8-22-2022 8-31-2022 9-9-2022	0.44/1.41 0.39/0.42 0.18/0.18 0.08/0.25 0.09/0.26 0.08/0.19 0.05/0.3 0.13/0.16 0.13/0.25 0.24/0.25 0.16/0.27
SMPLR-95895	10-28-2022	No	9-13-2022 9-20-2022 9-22-2022 10-2-2022 10-3-2022 10-9-2022 10-15-2022 10-16-2022 10-17-2022	0.05/0.12 0.11/0.15 0.2/0.22 0.07/0.18 0.07/0.15 0.18/0.19 0.17/1.13 0.06/0.22 0.05/0.14

[a] Intensity = Maximum amount of precipitation in any 30-min interval.

[b] Total = Total amount of precipitation in 24 hr.

[c] The sampler had period(s) of inoperability since previous inspection. See CSR comment in the SDPPP Overview Appendix E for more details.

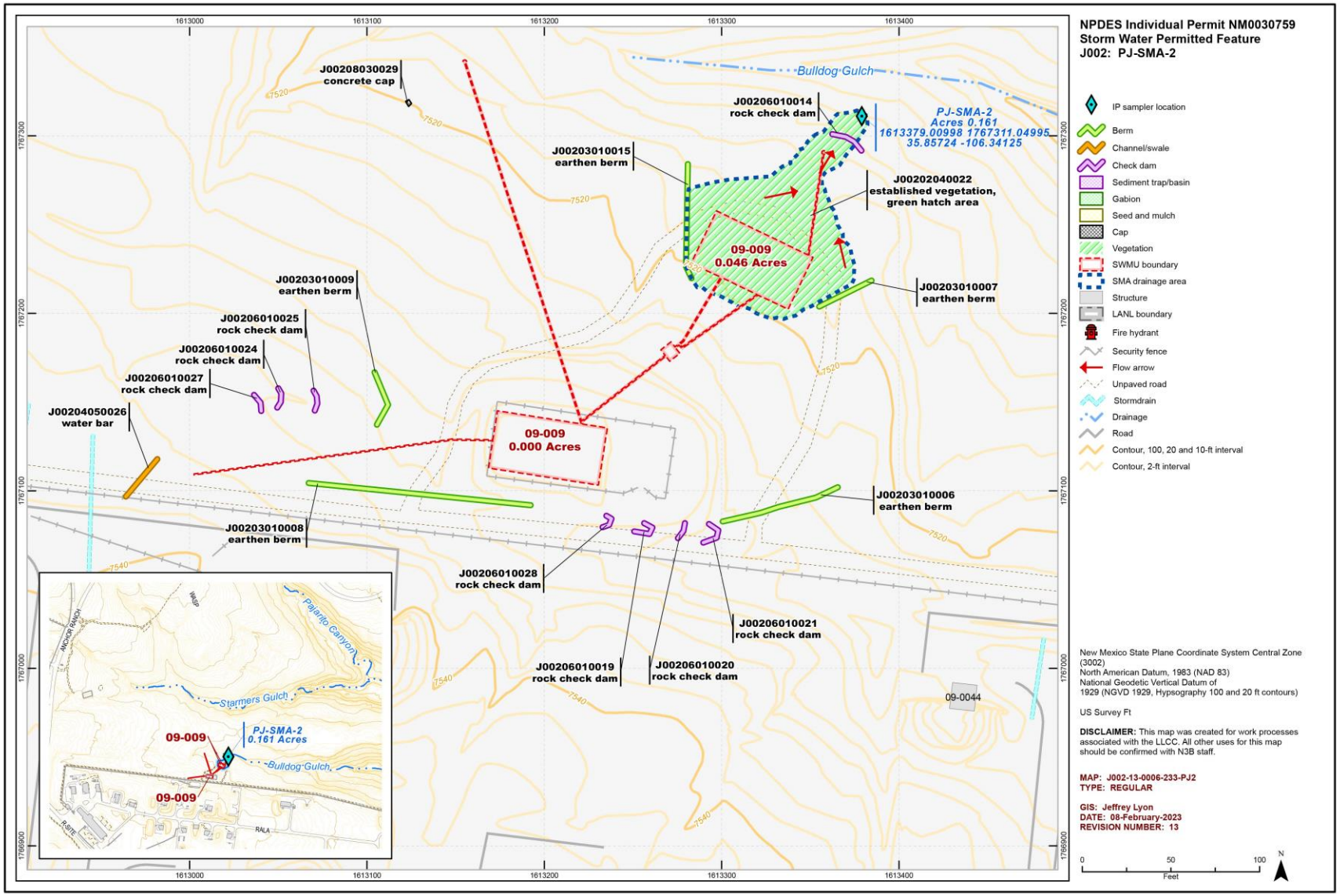

Figure 141-1 PJ-SMA-2 location map

142.0 PJ-SMA-3.05: SWMU 09-004(o)

One historical industrial activity area, Site 09-004(o), is associated with PJ-SMA-3.05 (permitted feature J003). Summaries of all inspection, monitoring, and maintenance actions conducted in 2022 are provided below. Refer to the "2022 Sampling Implementation Plan, NPDES Permit No. NM0030759" (N3B 2023, 702608) for more information on Consent Order investigation activities, the SSD, and planned stormwater monitoring at the SMA for future monitoring seasons.

142.1 Site Descriptions

09-004(o) (2/1/2018)

SWMU 09-004(o) is an active HE sump (structure 09-198) located northeast of building 09-48, and associated inlet and outlet drainlines, and a former outfall at TA-09. The sump, installed between 1950 and 1952, is constructed reinforced concrete with an aluminum liner, and receives industrial waste from building 09-48. Activities in the building involve HE machining. The sump collects settling HE particles that are not filtered out by the building's waste system. Originally, effluent from the sump was discharged to a NPDES-permitted outfall (EPA 05A068) in Pajarito Canyon. The outfall was removed from the permit in the late 1990s; the sump contents are pumped out by a specially equipped truck and treated offsite. The sump is equipped with an overfill alarm and is regularly inspected.

Known or Potential Use of POCs

POCs known to be managed or potentially used at the Site are listed in Table 142-1.

Table 142-1 POCs Known or Suspected to Have Been Used Historically at the Site

Site	Potential POC Source	Potential POCs
09-004(o)	Settling tank	Aluminum, inorganic and organic chemicals, HE

142.2 Control Measures

Enhanced controls were certified on June 16, 2022 and submitted to EPA on June 27, 2022, as part of corrective action, as described in "NPDES Permit No. NM0030759 – Certification of Installation of Enhanced Control Measures for CHQ-SMA-6, PJ-SMA-3.05, and PJ-SMA-11" (N3B 2022, 702165). Photographs of the enhanced controls are available at https://ext.em-la.doe.gov/IPS/Home/ConstructionCertifications.

All active control measures in use at PJ-SMA-3.05 are listed in Table 142-2. Their locations are shown on the project map (Figure 142-1) located at the end of this SMA update. Future map updates will be posted on the IP website: https://ext.em-la.doe.gov/ips/Home/SiteMonitoringAreaMaps.

Table 142-2 Active Control Measures

Control ID	Control Name	Purpose of Control				Control Status	Install Date
		Run-On	Runoff	Erosion	Sediment		
J00302040012	Established Vegetation	-	X	X	-	B	5-8-2013
J00303010010	Earthen Berm	X	-	-	X	EC	6-11-2012
J00303010011	Earthen Berm	-	X	-	X	EC	6-11-2012
J00303140013	Coir Log	-	X	-	X	EC	3-15-2022
J00303200014	Compost Log	-	X	-	X	EC	3-15-2022

142.3 Inspections and Maintenance

Rain gage RG257 recorded five storm events at PJ-SMA-3.05 during the 2022 season, requiring three post-storm inspections, which are summarized in Table 142-3. All other control-measure inspections conducted at the SMA in 2022 are summarized in Table 142-4. No maintenance activities or facility modifications affecting discharge were conducted at the SMA in 2022.

Table 142-3 Post-Storm Inspections During 2022

Inspection Reference	Storm Date	30-Minute Maximum Intensity (in.)	Inspection Date	Days to Inspection	Inspected within 15 days?
BMP-93192[a,b]	6-25-2022 7-4-2022	0.47 0.33	7-7-2022	12 3	Yes Yes
BMP-94288	7-20-2022	0.34	7-21-2022	1	Yes
BMP-94703[b]	7-27-2022 7-30-2022	0.35 0.56	8-4-2022	8 5	Yes Yes

[a] Inspection also qualifies as the Annual Erosion Evaluation per 2010 IP Part I.G.1.

[b] Inspection qualifies for multiple Storm Dates per 2010 IP Part I.G.2 and 2022 IP Part I.B.8.b.

Table 142-4 Other Control-Measure Inspections During 2022

Inspection Type	Inspection Reference	Inspection Date	Summary of Findings
PJ-SMA-3.05 enhanced control measure installation verification.	BMP-91951	8-25-2022	No action recommended.
TAL Exceedance inspection. CAM5-2 sample 1 collected 7/20/22. Analytical data pending, conduct field visit of site condition after sample.	COMP-93988	8-25-2022	No action recommended.

142.4 Stormwater Monitoring

Following the installation of baseline control measures, a baseline monitoring stormwater sample was collected on August 19, 2011. Analytical results from this sample yielded TAL exceedances for cyanide (0.02 mg/L) and gross-alpha activity (65.9 pCi/L). The complete analytical results are presented in "Stormwater Individual Permit Annual Report, Reporting Period: January 1–December 31, 2011, NPDES Permit No. NM0030759" (LANL 2012, 211408).

Following the installation of enhanced control measures at PJ-SMA-3.05, corrective-action stormwater samples were collected on September 3, 2018, and July 27, 2021. Analytical results from these samples yielded TAL exceedances for copper (4.95 µg/L) and gross-alpha activity (40.8 pCi/L and 27 pCi/L). The complete analytical results are presented in "Stormwater Individual Permit Annual Report, Reporting Period: January 1–December 31, 2018, NPDES Permit No. NM0030759" (N3B 2019, 700320) and "Stormwater Individual Permit Annual Report, Reporting Period: January 1–December 31, 2021, NPDES Permit No. NM0030759" (N3B 2022, 701895)

Stormwater monitoring was conducted at PJ-SMA-3.05 under the 2010 IP requirements after the certification of enhanced control installation from July 12 through August 8, 2022, resulting in a monitoring season of 27 days. Two inspections were performed during the monitoring period and are summarized in Table 142-5.

Rain gage RG257 recorded 10 rain events exceeding 0.1 in. in 24 hr while the sampling equipment was active. Corrective-action confirmation-monitoring samples were collected on July 20 and August 6, 2022. Analytical results from the July 20 sample yielded TAL exceedances for copper (23.1 µg/L) and gross-alpha activity (16.8 pCi/L) and the August 6 sample had no TAL exceedances. The complete analytical results are presented in Appendix B of the Overview. The SIP will be updated in 2023 with the inclusion of 2022 analytical results into the SSD.

Table 142-5 Sampler Inspections During 2022

Inspection Reference	Inspection Date	Sample Retrieved?	Date(s) of Rain Events Exceeding 0.1 in. in 24 hr since previous inspection	Rainfall Intensity[a]/ Total[b] (in.)
SMPLR-93970	7-21-2022	Yes	7-20-2022	0.34/0.45
SMPLR-94399	8-8-2022	Yes	7-21-2022 7-24-2022 7-26-2022 7-27-2022 7-29-2022 7-30-2022 7-31-2022 8-1-2022 8-6-2022	0.09/0.16 0.11/0.15 0.1/0.24 0.35/0.46 0.11/0.25 0.56/0.94 0.16/0.38 0.05/0.12 0.36/0.91

[a] Intensity = Maximum amount of precipitation in any 30-min interval.

[b] Total = Total amount of precipitation in 24 hr.

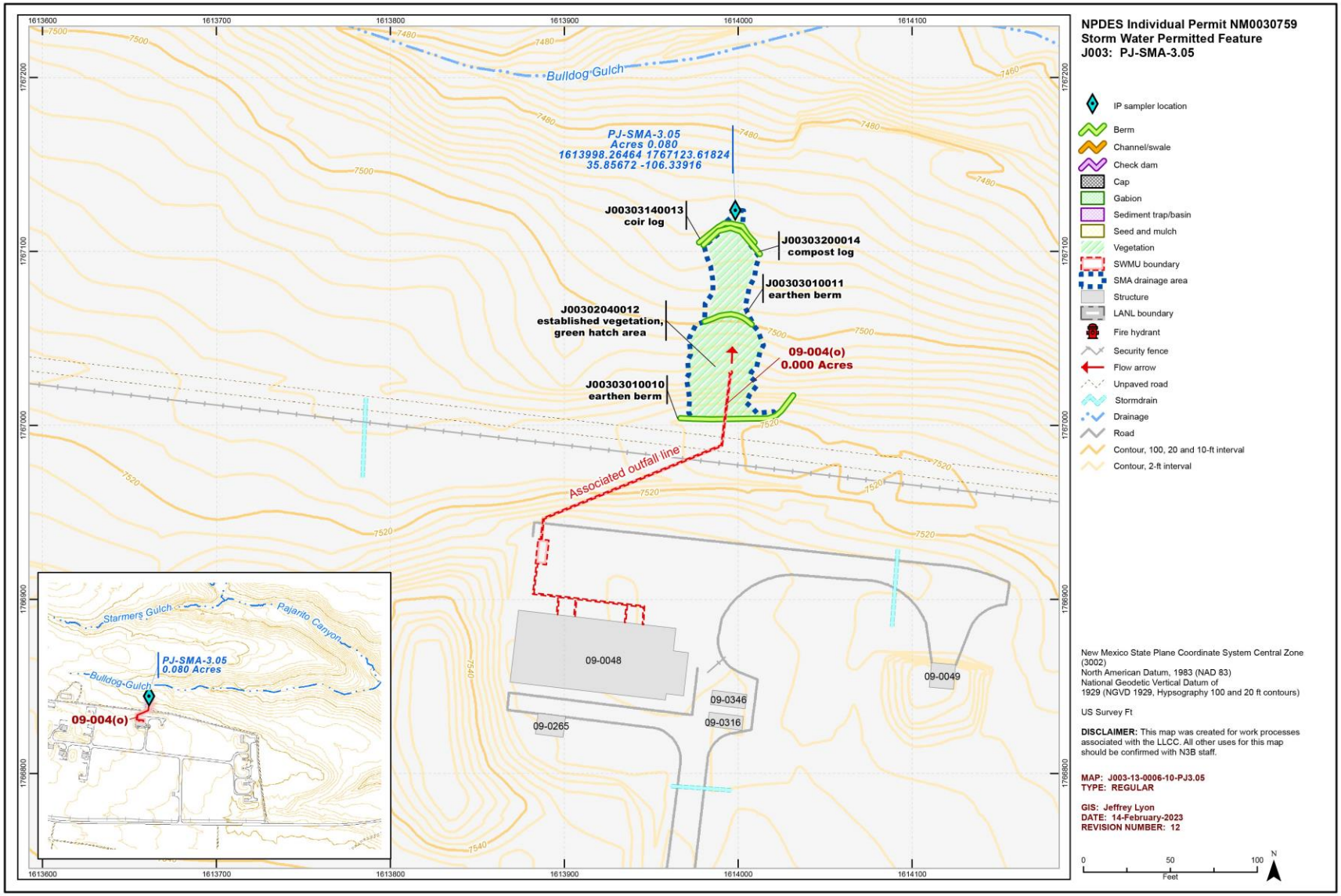

Figure 142-1 PJ-SMA-3.05 location map

143.0 PJ-SMA-4.05: SWMU 09-005(g)

One historical industrial activity area, Site 09-005(g), is associated with PJ-SMA-4.05 (permitted feature J004). Summaries of all inspection, monitoring, and maintenance actions conducted in 2022 are provided below. Refer to the "2022 Sampling Implementation Plan, NPDES Permit No. NM0030759" (N3B 2023, 702608) for more information on Consent Order investigation activities, the SSD, and planned stormwater monitoring at the SMA for future monitoring seasons.

143.1 Site Descriptions

09-005(g) (2/1/2018)

SWMU 09-005(g) is an inactive septic system located approximately 100 ft southeast of building 09-50 at TA-09. The septic system consists of a septic tank (structure 09-109), inlet and outlet drainlines, a drain field, and a former NPDES-permitted outfall (EPA 04A155) that received sanitary waste from building 09-50, an active shipping and receiving facility. Installed between 1950 and 1952, the septic tank (structure 09-109) measures approximately 5 ft wide × 8 ft long × 4 ft deep, with a capacity of 750-gal. and originally discharged to the same industrial waste line as the SWMU 09-004(g) sump. In 1989, discharges from the septic system were rerouted to bypass the industrial waste line and discharge to an absorption trench (i.e., drain field). The precise location of the drain field is not known. The outfall was removed from the NPDES permit in the late 1990s. There is no documentation to confirm the inlet drainline from the building to the septic tank has been either plugged or disconnected, although the outlet drainline was plugged in 1989. The septic tank is currently listed as abandoned in the LANL Archibus facility information database, indicating it is not in use.

Known or Potential Use of POCs

POCs known to be managed or potentially used at the Site are listed in Table 143-1.

Table 143-1 POCs Known or Suspected to Have Been Used Historically at the Site

Site	Potential POC Source	Potential POCs
09-005(g)	Settling tank	Metals, organic chemicals, HE

143.2 Control Measures

All active control measures in use at PJ-SMA-4.05 are listed in Table 143-2. Their locations are shown on the project map (Figure 143-1) located at the end of this SMA update. Future map updates will be posted on the IP website: https://ext.em-la.doe.gov/ips/Home/SiteMonitoringAreaMaps.

Table 143-2 Active Control Measures

Control ID	Control Name	Purpose of Control				Control Status	Install Date
		Run-On	Runoff	Erosion	Sediment		
J00402040008	Established Vegetation	-	X	X	-	B	5-8-2013
J00403010007	Earthen Berm	X	-	-	X	B	10-31-2011
J00406010006	Rock Check Dam	-	X	-	X	CB	10-27-2009

143.3 Inspections and Maintenance

Rain gage RG257 recorded five storm events at PJ-SMA-4.05 during the 2022 season, requiring four post-storm inspections, which are summarized in Table 143-3. No other control-measure inspections, maintenance activities, or facility modifications affecting discharge were conducted at the SMA in 2022.

Table 143-3 Post-Storm Inspections During 2022

Inspection Reference	Storm Date	30-Minute Maximum Intensity (in.)	Inspection Date	Days to Inspection	Inspected within 15 days?
BMP-93191[a,b]	6-25-2022 7-4-2022	0.47 0.33	7-7-2022	12 3	Yes Yes
BMP-94287	7-20-2022	0.34	7-21-2022	1	Yes
BMP-94702	7-27-2022	0.35	7-28-2022	1	Yes
BMP-94947	7-30-2022	0.56	12-16-2022	140	No

[a] Inspection also qualifies as the Annual Erosion Evaluation per 2010 IP Part I.G.1.

[b] Inspection qualifies for multiple Storm Dates per 2010 IP Part I.G.2 and 2022 IP Part I.B.8.b.

143.4 Stormwater Monitoring

Following the installation of baseline control measures, a baseline-monitoring stormwater sample was collected on September 13, 2013. Analytical results from this sample yielded a TAL exceedance for gross-alpha activity (47.2 pCi/L). The complete analytical results are presented in "Stormwater Individual Permit Annual Report, Reporting Period: January 1–December 31, 2013, NPDES Permit No. NM0030759" (LANL 2014, 254067).

Stormwater monitoring was not conducted at PJ-SMA-4.05 in 2022 under the 2010 IP requirements.

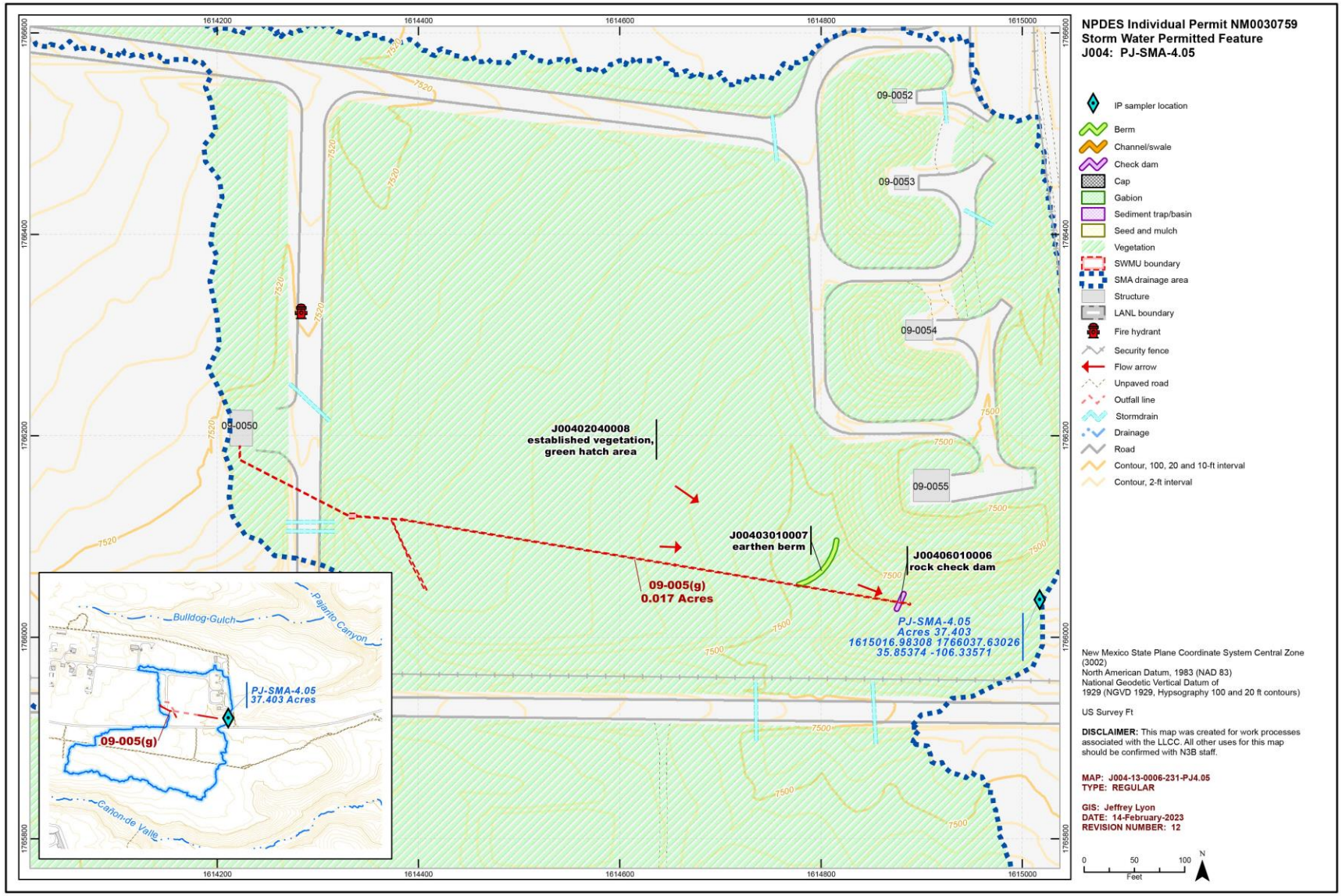

Figure 143-1 PJ-SMA-4.05 location map

144.0 PJ-SMA-5: SWMU 22-015(c)

One historical industrial activity area, Site 22-015(c), is associated with PJ-SMA-5 (permitted feature J005). Summaries of all inspection, monitoring, and maintenance actions conducted in 2022 are provided below. Refer to the "2022 Sampling Implementation Plan, NPDES Permit No. NM0030759" (N3B 2023, 702608) for more information on Consent Order investigation activities, the SSD, and planned stormwater monitoring at the SMA for future monitoring seasons.

144.1 Site Descriptions

22-015(c) (2/18/2021)

SWMU 22-015(c) is a former NPDES-permitted outfall (06A077) located approximately 80 ft south of building 22-52, and associated outlet drainline and floor drains in building 22-52 at TA-22. The outfall received discharges from the floor drains in building 22-52, which were connected to the outfall south of building 22-52 via a 6-in.-diameter VCP outlet drainline. Engineering drawing ENG-R 1227 indicates the outfall daylighted in a channel that drained to a pond located near the edge of the mesa 80 ft south of building 22-52. Drainage from the pond eventually discharged into Pajarito Canyon. Beginning in 1952, building 22-52 was used as a plating laboratory and in 1974 standard printed-circuit etching operations began in the building. Although most waste from the plating and etching operations at building 22-52 was collected manually, depleted ferric chloride solution from the rinse tanks was discharged to the outfall from 1974 to 1977. Discharge to the outfall was discontinued in 1977, when all liquid wastes were collected in drums and sent offsite for treatment.

Known or Potential Use of POCs

POCs known to be managed or potentially used at the Site are listed in Table 144-1.

Table 144-1 POCs Known or Suspected to Have Been Used Historically at the Site

Site	Potential POC Source	Potential POCs
22-015(c)	Outfall from building 22-52	Arsenic, cadmium, chromium, copper, lead, nickel, silver, thallium, zinc, cyanide

144.2 Control Measures

All active control measures in use at PJ-SMA-5 are listed in Table 144-2. Their locations are shown on the project map (Figure 144-1) located at the end of this SMA update. Future map updates will be posted on the IP website: https://ext.em-la.doe.gov/ips/Home/SiteMonitoringAreaMaps.

Table 144-2 Active Control Measures

Control ID	Control Name	Purpose of Control				Control Status	Install Date
		Run-On	Runoff	Erosion	Sediment		
J00502040015	Established Vegetation	-	X	X	-	B	4-23-2013
J00503010025	Earthen Berm	-	X	-	X	EC	2-10-2015
J00503030019	Log Berm	X	-	-	X	EC	2-10-2015
J00503120026	Rock Berm	-	X	-	X	EC	2-10-2015
J00503120027	Rock Berm	-	X	-	X	EC	2-10-2015

Control ID	Control Name	Purpose of Control				Control Status	Install Date
		Run-On	Runoff	Erosion	Sediment		
J00503120028	Rock Berm	-	X	-	X	EC	2-10-2015
J00503200033	Compost Log	-	X	-	X	EC	9-29-2020
J00503200034	Compost Log	-	X	-	X	EC	9-29-2020
J00503200035	Compost Log	-	X	-	X	EC	9-29-2020
J00503200036	Compost Log	-	X	-	X	EC	9-29-2020
J00504010003	Earthen Channel/Swale	X	-	X	-	CB	5-1-2008
J00504010032	Earthen Channel/Swale	-	X	X	-	B	8-24-2018
J00504040016	Culvert	X	-	X	-	EC	2-10-2015
J00504060017	Riprap	X	-	X	-	EC	2-10-2015
J00504060020	Riprap	X	-	X	-	EC	2-10-2015
J00506010018	Rock Check Dam	X	-	-	X	EC	2-10-2015
J00506010021	Rock Check Dam	X	-	-	X	EC	2-10-2015
J00506010022	Rock Check Dam	-	X	-	X	EC	2-10-2015
J00506010023	Rock Check Dam	-	X	-	X	EC	2-10-2015
J00506010024	Rock Check Dam	-	X	-	X	EC	2-10-2015
J00506030004	Juniper Bales	X	-	-	X	CB	5-1-2008

144.3 Inspections and Maintenance

Rain gage RG-TA-06 recorded seven storm events at PJ-SMA-5 during the 2022 season, requiring three post-storm inspections, which are summarized in Table 144-3. All other control-measure inspections conducted at the SMA are summarized in Table 144-4. No maintenance activities or facility modifications affecting discharge were conducted at the SMA in 2022.

Table 144-3 Post-Storm Inspections During 2022

Inspection Reference	Storm Date	30-Minute Maximum Intensity (in.)	Inspection Date	Days to Inspection	Inspected within 15 days?
BMP-93189[a,b]	6-25-2022 6-26-022 7-4-2022	0.48 0.3 0.26	7-5-2022	10 9 1	Yes Yes Yes
BMP-94285	7-20-2022	0.3	7-27-2022	7	Yes
BMP-94700[b]	7-27-2022 7-30-2022 7-31-2022	1.77 0.45 0.45	8-1-2022	5 2 1	Yes Yes Yes

[a] Inspection also qualifies as the Annual Erosion Evaluation per 2010 IP Part I.G.1.

[b] Inspection qualifies for multiple Storm Dates per 2010 IP Part I.G.2 and 2022 IP Part I.B.8.b.

Table 144-4 Other Control-Measure Inspections During 2022

Inspection Type	Inspection Reference	Inspection Date	Summary of Findings
TAL Exceedance inspection. CAM5-2 sample 2 collected 7/26/22. Analytical data pending, conduct field visit of site condition after sample.	COMP-93987	8-19-2022	No action recommended.

144.4 Stormwater Monitoring

Following the installation of baseline control measures, a baseline monitoring stormwater sample was collected on October 12, 2012. Analytical results from this sample yielded a TAL exceedance for copper (75.5 µg/L). The complete analytical results are presented in "Stormwater Individual Permit Annual Report, Reporting Period: January 1–December 31, 2012, NPDES Permit No. NM0030759" (LANL 2013, 237680).

Following the 2015 installation of enhanced control measures, a corrective-action stormwater sample was collected on September 3, 2018. Analytical result from this sample yielded a TAL exceedance for copper (651 µg/L). The complete analytical results are presented in "Stormwater Individual Permit Annual Report, Reporting Period: January 1–December 31, 2018, NPDES Permit No. NM0030759" (N3B 2019, 700320).

Following the 2020 installation of enhanced control measures, a corrective-action stormwater sample was collected on May 30, 2021. Analytical result from this sample yielded a TAL exceedance for copper (549 µg/L). The complete analytical results are presented in "Stormwater Individual Permit Annual Report, Reporting Period: January 1–December 31, 2021, NPDES Permit No. NM0030759" (N3B 2022, 701895).

Stormwater monitoring was conducted at PJ-SMA-5 under the 2010 IP requirements from March 22 through October 27, 2022, resulting in a monitoring season of 220 days. Nine inspections were performed during the monitoring period and are summarized in Table 144-5.

Rain gage RG-TA-06 recorded 36 rain events exceeding 0.1 in. in 24 hours while the sampling equipment was active. A corrective-action confirmation-monitoring sample was collected on July 26, 2022. Analytical results from this sample yielded a TAL exceedances for copper (141 µg/L), and the complete results are presented in Appendix B of the Overview. The SIP will be updated in 2023 with the inclusion of 2022 analytical results into the SSD.

Table 144-5 Sampler Inspections During 2022

Inspection Reference	Inspection Date	Sample Retrieved?	Date(s) of Rain Events Exceeding 0.1 in. in 24 hr since previous inspection	Rainfall Intensity[a]/ Total[b] (in.)
SMPLR-91590	4-20-2022	No	None	None
SMPLR-92152	5-24-2022	No	None	None
SMPLR-92532	6-14-2022	No	None	None
SMPLR-92874	6-23-2022	No	6-17-2022 6-18-2022 6-19-2022 6-21-2022 6-22-2022	0.07/0.32 0.06/0.17 0.05/0.17 0.06/0.14 0.1/0.6

Inspection Reference	Inspection Date	Sample Retrieved?	Date(s) of Rain Events Exceeding 0.1 in. in 24 hr since previous inspection	Rainfall Intensity[a]/ Total[b] (in.)
SMPLR-93026	6-28-2022	No	6-25-2022 6-26-2022	0.48/1.34 0.3/1.87
SMPLR-93471	7-5-2022	No	7-1-2022 7-2-2022 7-4-2022	0.16/0.64 0.06/0.15 0.26/0.39
SMPLR-93832	7-27-2022	Yes	7-14-2022 7-20-2022 7-21-2022 7-24-2022 7-26-2022	0.13/0.17 0.3/0.4 0.12/0.21 0.09/0.12 0.09/0.27
SMPLR-94548	9-9-2022	No	7-27-2022 7-29-2022 7-30-2022 7-31-2022 8-1-2022 8-5-2022 8-6-2022 8-11-2022 8-16-2022 8-18-2022 8-19-2022 8-20-2022	1.77/1.86 0.09/0.18 0.45/0.75 0.45/0.99 0.1/0.14 0/1.15 0.23/0.66 0.15/0.19 0.07/0.21 0.03/0.16 0.09/0.22 0.06/0.11
SMPLR-95872	10-27-2022	No	9-9-2022 9-20-2022 9-22-2022 10-2-2022 10-3-2022 10-4-2022 10-7-2022 10-15-2022 10-16-2022	0.12/0.15 0.07/0.11 0.19/0.21 0.09/0.31 0.16/0.2 0.02/0.12 0.06/0.1 0.17/0.86 0.04/0.18

[a] Intensity = Maximum amount of precipitation in any 30-min interval.

[b] Total = Total amount of precipitation in 24 hr.

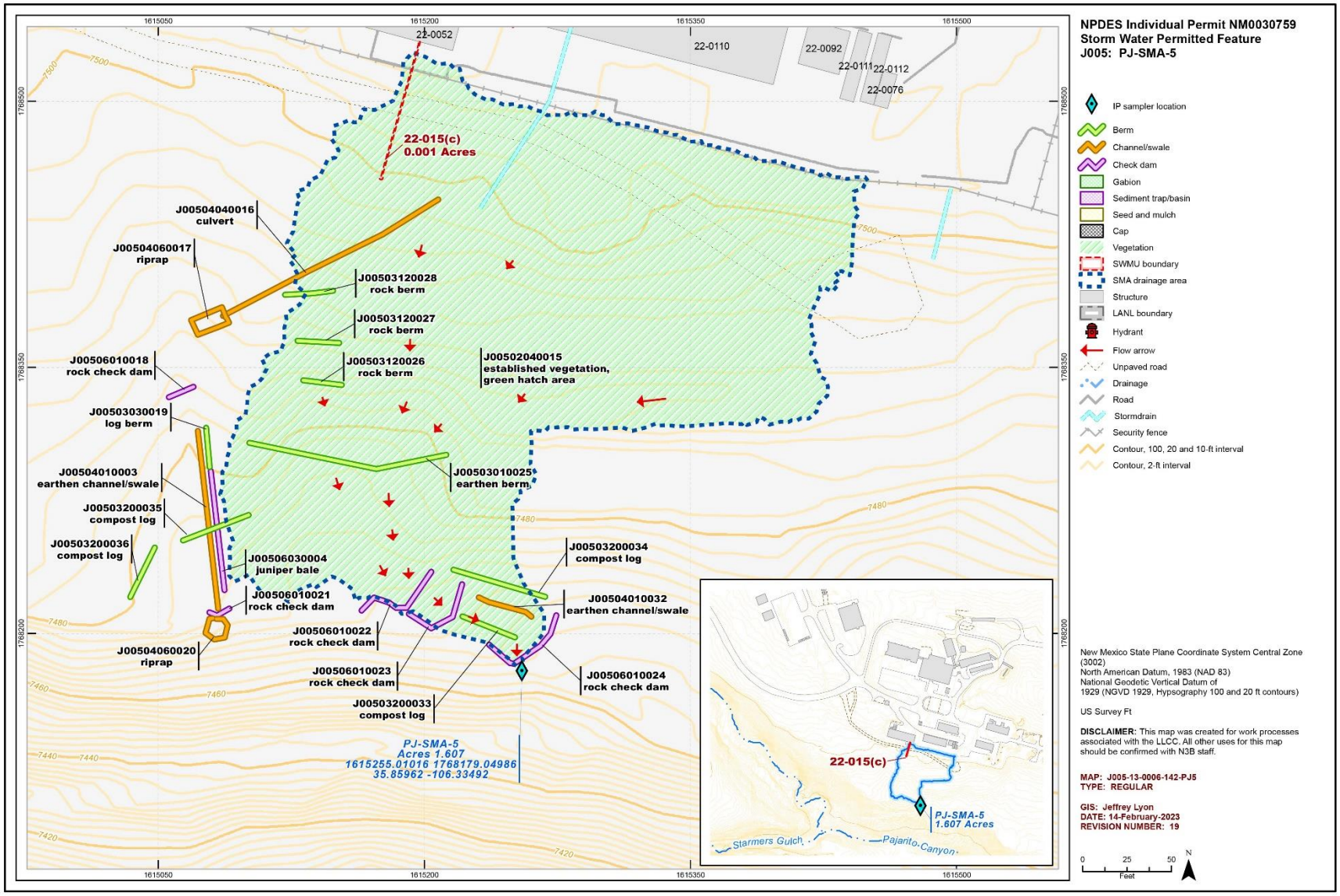

Figure 144-1 PJ-SMA-5 location map

145.0 PJ-SMA-5.1: SWMU 22-010(b)

One historical industrial activity area, Site 22-010(b), is associated with PJ-SMA-5.1 (permitted feature J006). Summaries of all inspection, monitoring, and maintenance actions conducted in 2022 are provided below. Refer to the "2022 Sampling Implementation Plan, NPDES Permit No. NM0030759" (N3B 2023, 702608) for more information on Consent Order investigation activities, the SSD, and planned stormwater monitoring at the SMA for future monitoring seasons.

145.1 Site Descriptions

22-010(b) (2/18/2021)

SWMU 22-010(b) is an inactive septic system located approximately 90 ft south of building 22-1 at TA-22. The septic system consists of a septic tank (structure 22-51), inlet and outlet drainlines, distribution boxes, a leach field, a subsurface sand filter, and a former outfall. Septic tank 22-51 was installed in 1948 to supplement and ultimately replace the SWMU 22-016 septic system that originally served buildings 22-1, an HE assembly building which also housed a PETN recrystallization room and laundry for protective clothing, and building 22-4, an office and fabrication building, and discharged to an outfall directly south of the septic tank. The inactive septic tank has a capacity of 8,775 gal.

The SWMU 22-010(b) septic tank was installed in tandem with, and upgradient of, the original septic tank and tied into the same outlet drainline; building 22-5 (a shop and laboratory building) was tied in and the leach field was added at that time (engineering drawings ENG-R1227 and ENG-R1228). In the 1950s, buildings 22-32 (a guard shack) and 22-52 (a plating and circuit etching shop) were constructed and tied into the SWMU 22-010(b) septic system. In 1984, buildings 22-90 (an office building), 22-91 (an assembly building), and 22-93 (a detonator development building) were constructed and tied into the system. In 1973, a subsurface sand filter was constructed (approximately 200 ft southeast of the leach field) to replace the leach field; the leach field was abandoned in place. Engineering Drawing ENG C-49252 shows the sand filter discharged through a 6-in.-diameter VCP drainline that extends south 120 ft before terminating at an outfall in Pajarito Canyon. The sand filter operated until the 1990s when the TA-22 sewer lines were tied into to the LANL SWSC; the SWMU 22-010(b) septic system was abandoned in place.

Known or Potential Use of POCs

POCs known to be managed or potentially used at the Site are listed in Table 145-1.

Table 145-1 POCs Known or Suspected to Have Been Used Historically at the Site

Site	Potential POC Source	Potential POCs
22-010(b)	Septic system	Metals, chromium, silver, inorganic chemicals, organic chemicals, SVOCs, HE

145.2 Control Measures

All active control measures in use at PJ-SMA-5.1 are listed in Table 145-2. Their locations are shown on the project map (Figure 145-1) located at the end of this SMA update. Future map updates will be posted on the IP website: https://ext.em-la.doe.gov/ips/Home/SiteMonitoringAreaMaps.

Table 145-2 Active Control Measures

Control ID	Control Name	Purpose of Control				Control Status	Install Date
		Run-On	Runoff	Erosion	Sediment		
J00602040010	Established Vegetation	-	X	X	-	B	4-23-2013
J00603010011	Earthen Berm	X	-	-	X	B	11-5-2013
J00608030012	Concrete/Asphalt Cap	-	X	X	-	B	11-5-2013

145.3 Inspections and Maintenance

Rain gage RG-TA-06 recorded seven storm events at PJ-SMA-5.1 during the 2022 season, requiring three post-storm inspections, which are summarized in Table 145-3. No other control-measure inspections, maintenance activities, or facility modifications affecting discharge were conducted at the SMA in 2022.

Table 145-3 Post-Storm Inspections During 2022

Inspection Reference	Storm Date	30-Minute Maximum Intensity (in.)	Inspection Date	Days to Inspection	Inspected within 15 days?
BMP-93190[a,b]	6-25-2022 6-26-2022 7-4-2022	0.48 0.3 0.26	7-5-2022	10 9 1	Yes Yes Yes
BMP-94286	7-20-2022	0.3	7-27-2022	7	Yes
BMP-94701[b]	7-27-2022 7-30-2022 7-31-2022	1.77 0.45 0.45	8-1-2022	5 2 1	Yes Yes Yes

[a] Inspection also qualifies as the Annual Erosion Evaluation per 2010 IP Part I.G.1.

[b] Inspection qualifies for multiple Storm Dates per 2010 IP Part I.G.2 and 2022 IP Part I.B.8.b.

145.4 Stormwater Monitoring

Following the installation of baseline control measures, two baseline stormwater samples were collected on August 21 and September 7, 2011. Analytical results from these samples yielded TAL exceedances for copper (8.2 µg/L and 11.1 µg/L), gross-alpha activity (38.4 pCi/L and 43.5 pCi/L), and zinc (50.6 µg/L and 59.4 µg/L). The complete analytical results are presented in "Stormwater Individual Permit Annual Report, Reporting Period: January 1–December 31, 2011, NPDES Permit No. NM0030759" (LANL 2012, 211408).

Stormwater monitoring was conducted at PJ-SMA-5.1 under the 2010 IP requirements from March 18 through October 27, 2022, resulting in a monitoring season of 224 days. Eight inspections were performed during the monitoring period and are summarized in Table 145-4.

Rain gage RG-TA-06 recorded 36 rain events exceeding 0.1 in. in 24 hours while the sampling equipment was active. No new confirmation-monitoring samples were collected in 2022.

Table 145-4 Sampler Inspections During 2022

Inspection Reference	Inspection Date	Sample Retrieved?	Date(s) of Rain Events Exceeding 0.1 in. in 24 hr since previous inspection	Rainfall Intensity[a]/ Total[b] (in.)
SMPLR-91564	4-15-2022	No	None [c]	None
SMPLR-92028	5-24-2022	No	None	None
SMPLR-92529	6-14-2022	No	None	None
SMPLR-92868	6-27-2022	No	6-17-2022[c] 6-18-2022[c] 6-19-2022[c] 6-21-2022[c] 6-22-2022[c] 6-25-2022[c] 6-26-2022[c]	0.07/0.32 0.06/0.17 0.05/0.17 0.06/0.14 0.1/0.6 0.48/1.34 0.3/1.87
SMPLR-93454	7-5-2022	No	7-1-2022[c] 7-2-2022[c] 7-4-2022[c]	0.16/0.64 0.06/0.15 0.26/0.39
SMPLR-93821	8-1-2022	No	7-14-2022 7-20-2022 7-21-2022 7-24-2022 7-26-2022 7-27-2022 7-29-2022 7-30-2022 7-31-2022	0.13/0.17 0.3/0.4 0.12/0.21 0.09/0.12 0.09/0.27 1.77/1.86 0.09/0.18 0.45/0.75 0.45/0.99
SMPLR-95160	9-13-2022	No	8-1-2022 8-5-2022 8-6-2022 8-11-2022 8-16-2022 8-18-2022 8-19-2022 8-20-2022 9-9-2022	0.1/0.14 0/1.15 0.23/0.66 0.15/0.19 0.07/0.21 0.03/0.16 0.09/0.22 0.06/0.11 0.12/0.15
SMPLR-95889	10-27-2022	No	9-20-2022 9-22-2022 10-2-2022 10-3-2022 10-4-2022 10-7-2022 10-15-2022 10-16-2022	0.07/0.11 0.19/0.21 0.09/0.31 0.16/0.2 0.02/0.12 0.06/0.1 0.17/0.86 0.04/0.18

[a] Intensity = Maximum amount of precipitation in any 30-min interval.

[b] Total = Total amount of precipitation in 24 hr.

[c] The sampler had period(s) of inoperability since previous inspection. See CSR comment in the SDPPP Overview Appendix E for more details.

After completion of the 2022 monitoring season at PJ-SMA-5.1, the SMA drainage area and monitoring location was modified to a more representative location based on the 2016-2018 SIP reviews, as proposed in the "2022 Sampling Implementation Plan, NPDES Permit No. NM0030759" (N3B 2023, 702608). The sampler coordinates and the SMA drainage area have been updated to reflect that monitoring location on the project map (Figure 145-1) located at the end of this SMA update. Upon approval of the SIP, monitoring will begin at this location in 2023.

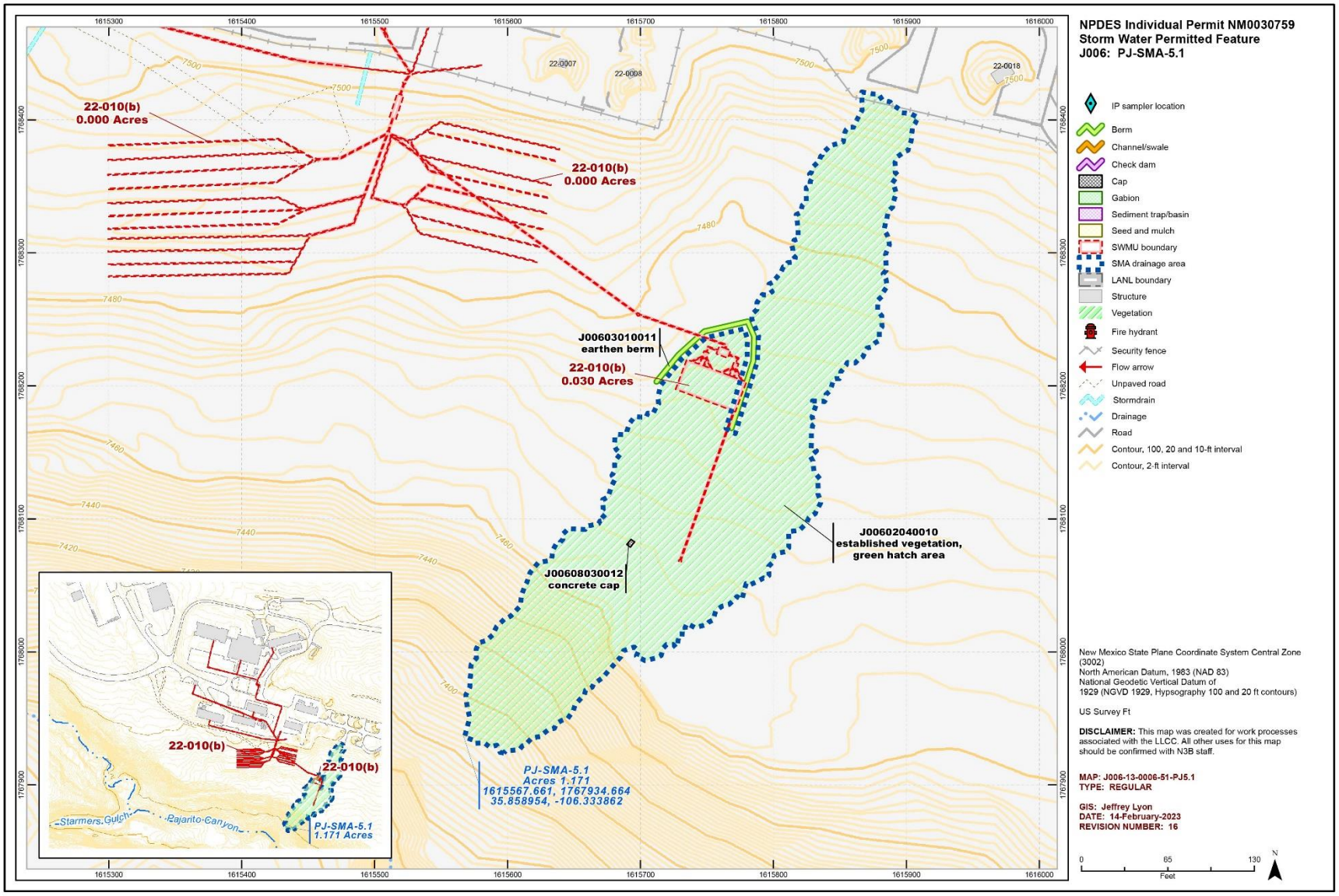

Figure 145-1 PJ-SMA-5.1 location map

146.0 PJ-SMA-6: SWMU 40-010

One historical industrial activity area, Site 40-010, is associated with PJ-SMA-6 (permitted feature J007). Summaries of all inspection, monitoring, and maintenance actions conducted in 2022 are provided below. Refer to the "2022 Sampling Implementation Plan, NPDES Permit No. NM0030759" (N3B 2023, 702608) for more information on Consent Order investigation activities, the SSD, and planned stormwater monitoring at the SMA for future monitoring seasons.

146.1 Site Descriptions

40-010 (2/16/2018)

SWMU 40-010 is a surface disposal area located on the edge of Pajarito Canyon, approximately 200 ft south of former building 40-72 at TA-40. The surface disposal area extends about 150 ft along the canyon edge and 140 ft down the canyon hillside. The area contained various debris including 20 empty 30-gal. drums. This area also contains debris from farm and home implements that predate Manhattan Project activities. All 20 drums and exposed debris were removed during Post-Cerro Grande fire activities conducted in 2000, with the exception of the pre-Manhattan Project debris, which is considered to be of archaeological importance and was therefore not removed.

SWMU 40-010 is not listed in the 1990 SWMU Report. SWMU 40-010 was one of 27 newly identified SWMUs added to the LANL HWFP by the EPA in 1993.

Known or Potential Use of POCs

POCs known to be managed or potentially used at the Site are listed in Table 146-1.

Table 146-1 POCs Known or Suspected to Have Been Used Historically at the Site

Site	Potential POC Source	Potential POCs
40-010	Surface disposal area	Metals, inorganic and organic chemicals

146.2 Control Measures

All active control measures in use at PJ-SMA-6 are listed in Table 146-2. Their locations are shown on the project map (Figure 146-1) located at the end of this SMA update. Future map updates will be posted on the IP website: https://ext.em-la.doe.gov/ips/Home/SiteMonitoringAreaMaps.

Table 146-2 Active Control Measures

Control ID	Control Name	Purpose of Control				Control Status	Install Date
		Run-On	Runoff	Erosion	Sediment		
J00702040018	Established Vegetation	-	X	X	-	B	5-7-2013
J00703010009	Earthen Berm	-	X	-	X	B	10-31-2011
J00703010010	Earthen Berm	-	X	-	X	B	10-31-2011
J00703010011	Earthen Berm	-	X	-	X	B	10-31-2011
J00703120012	Rock Berm	X	-	-	X	B	11-2-2011
J00706010002	Rock Check Dam	X	-	-	X	CB	9-20-2005
J00706010004	Rock Check Dam	X	-	-	X	CB	10-28-2009

146.3 Inspections and Maintenance

Rain gage RG-TA-06 recorded seven storm events at PJ-SMA-6 during the 2022 season, requiring two post-storm inspections, which are summarized in Table 146-3. No other control-measure inspections, maintenance activities, or facility modifications affecting discharge were conducted at the SMA in 2022.

Table 146-3 Post-Storm Inspections During 2022

Inspection Reference	Storm Date	30-Minute Maximum Intensity (in.)	Inspection Date	Days to Inspection	Inspected within 15 days?
BMP-93197[a,b]	6-25-2022 6-26-2022 7-4-2022	0.48 0.3 0.26	7-7-2022	12 11 3	Yes Yes Yes
BMP-94293[b]	7-20-2022 7-27-2022 7-30-2022 7-31-2022	0.3 1.77 0.45 0.45	8-2-2022	13 6 3 2	Yes Yes Yes Yes

[a] Inspection also qualifies as the Annual Erosion Evaluation per 2010 IP Part I.G.1.

[b] Inspection qualifies for multiple Storm Dates per 2010 IP Part I.G.2 and 2022 IP Part I.B.8.b.

146.4 Stormwater Monitoring

Following the installation of baseline control measures, a baseline stormwater sample was collected on July 8, 2014. Analytical results from this sample yielded a TAL exceedance for gross-alpha activity (81.6 pCi/L). The complete analytical results are presented in "Stormwater Individual Permit Annual Report, Reporting Period: January 1–December 31, 2014, NPDES Permit No. NM0030759" (LANL 2015, 600241).

Stormwater monitoring was not conducted at PJ-SMA-6 in 2022 under the 2010 IP requirements.

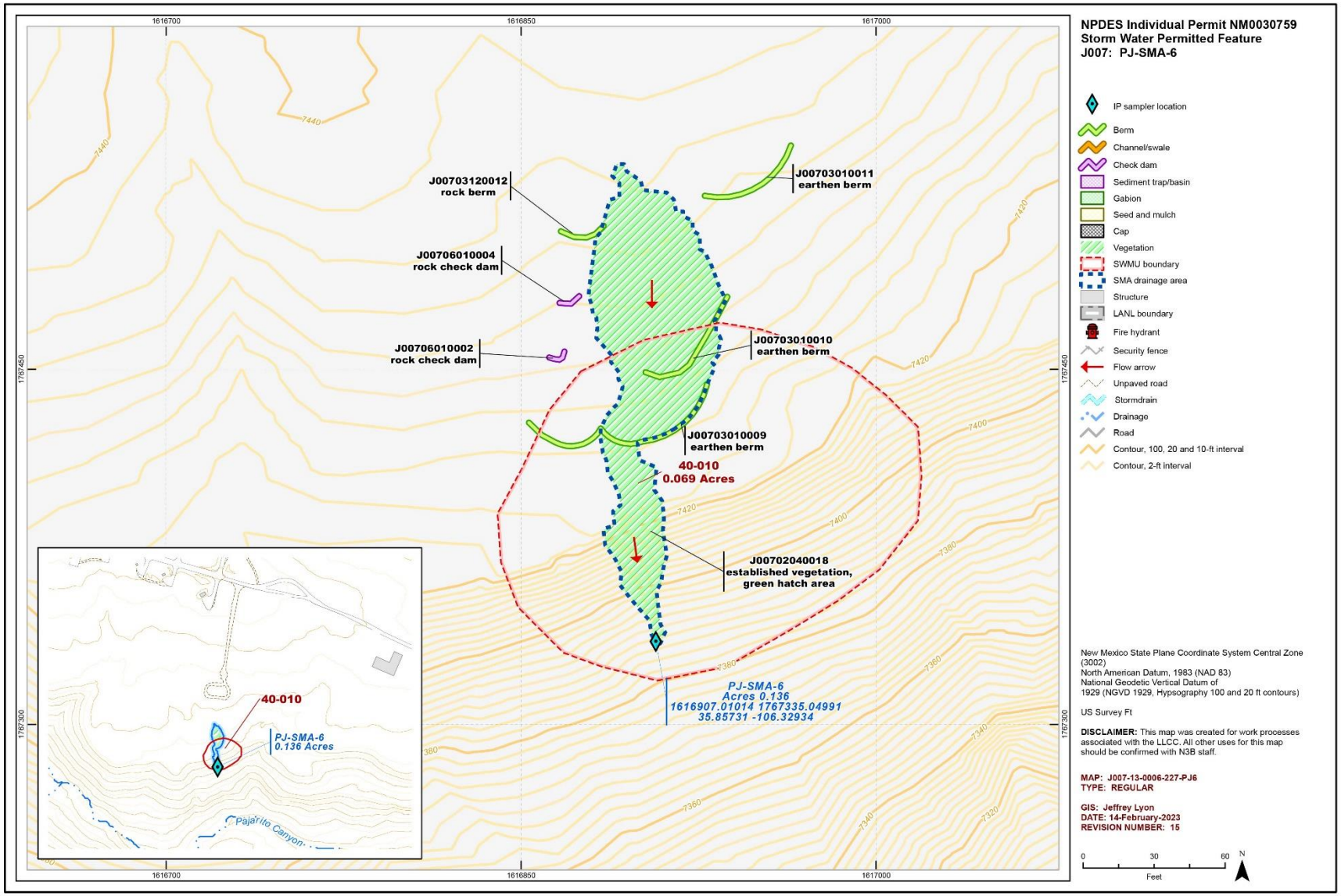

Figure 146-1 PJ-SMA-6 location map

147.0 PJ-SMA-7: SWMU 40-006(c)

One historical industrial activity area, Site 40-006(c), is associated with PJ-SMA-7 (permitted feature J008). Summaries of all inspection, monitoring, and maintenance actions conducted in 2022 are provided below. Refer to the "2022 Sampling Implementation Plan, NPDES Permit No. NM0030759" (N3B 2023, 702608) for more information on Consent Order investigation activities, the SSD, and planned stormwater monitoring at the SMA for future monitoring seasons.

147.1 Site Descriptions

40-006(c) (2/18/2021)

SWMU 40-006(c) is the location of a firing site that constituted the southern portion of building 40-5 on the north edge of Pajarito Canyon at the west end of Trap Door Site Rd at TA-40. SWMU 40-006(c) is listed as deferred in Appendix A of the 2016 Consent Order; therefore investigation of this Site is deferred until the Site is decommissioned.

The 1990 SWMU Report describes SWMU 40-006(c) as an active firing site consisting of a concrete pad located on the south side of building 40-5 at TA-40. As-constructed drawing ENG-C 12199 (pg. 30 of 132) and engineering drawings ENG-R 3120 (pg. 1 of 1) and ENG-R 2337 (pg. 1 of 1) show the firing site consisted of a 16-ft long × 8-ft wide reinforced concrete and steel firing chamber that allowed observation of the test shots, a partially protected area on the south side of the building where shots were prepared, and a 16-ft long × 15-ft wide open firing concrete pad connected to the south of the building where larger shots were fired. Beginning in 1950, the original firing site was used to test detonators as seen in a 1958 aerial photograph. In 1992, the SWMU 40-006(c) firing site was modified. The firing pad and the top 6 in. of soil were removed and a containment system consisting of a containment large vessel with a high-efficiency particulate filtration system was installed for gaseous emissions. The new firing chamber has been and continues to be used only to test and develop small explosive devices within the containment vessel. The 1994 as-built drawing AB31 (pg. 3 of 3) shows the addition to the building 40-5 that currently encapsulates the boundary of the original firing site. Historically, the firing site included an open firing pad connected to the south of the building where the larger shots which could use up to 85 lb of HE were fired. In the past after each shot, large pieces of debris were removed and disposed of, and sand and remaining debris were pushed to the edge of Upper Pajarito Canyon as shown in the 2018 Orthographic GIS Layer and PRS website photographs. This practice created a sand berm near the canyon edge. The unit boundary will be revised to depict the correct dimensions and accurate location of the firing site that previously encompassed the southern portion of the original footprint of building 40-5 and the concrete pad located adjacent to the south side of the original building 40-5 footprint. The boundary for SWMU 40-006(c) is now located within the current footprint of building 40-5. The SWMU 40-006(c) debris disposal area on the edge and slope side of the northern rim of Upper Pajarito Canyon directly south of building 40-5 is depicted as an associated feature in GIS.

Known or Potential Use of POCs

POCs known to be managed or potentially used at the Site are listed in Table 147-1.

Table 147-1 POCs Known or Suspected to Have Been Used Historically at the Site

Site	Potential POC Source	Potential POCs
40-006(c)	Firing site	Barium, copper, lead, thallium, zinc, nitrates, PAHs, HE

147.2 Control Measures

All active control measures in use at PJ-SMA-7 are listed in Table 147-2. Their locations are shown on the project map (Figure 147-1) located at the end of this SMA update. Future map updates will be posted on the IP website: https://ext.em-la.doe.gov/ips/Home/SiteMonitoringAreaMaps.

Table 147-2 Active Control Measures

Control ID	Control Name	Purpose of Control				Control Status	Install Date
		Run-On	Runoff	Erosion	Sediment		
J00802040006	Established Vegetation	-	X	X	-	B	5-7-2013
J00803010004	Earthen Berm	-	X	-	X	CB	11-3-2009
J00804010002	Earthen Channel/Swale	X	-	X	-	CB	6-1-2009
J00804040003	Culvert	X	-	X	-	CB	6-1-2009

147.3 Inspections and Maintenance

Rain gage RG-TA-06 recorded seven storm events at PJ-SMA-7 during the 2022 season, requiring three post-storm inspections, which are summarized in Table 147-3. No other control-measure inspections, maintenance activities, or facility modifications affecting discharge were conducted at the SMA in 2022.

Table 147-3 Post-Storm Inspections During 2022

Inspection Reference	Storm Date	30-Minute Maximum Intensity (in.)	Inspection Date	Days to Inspection	Inspected within 15 days?
BMP-93198[a,b]	6-25-2022 6-26-2022	0.48 0.3	6-28-2022	3 2	Yes Yes
BMP-93770	7-4-2022	0.26	7-7-2022	3	Yes
BMP-94294[b]	7-20-2022 7-27-2022 7-30-2022 7-31-2022	0.3 1.77 0.45 0.45	8-2-2022	13 6 3 2	Yes Yes Yes yes

[a] Inspection also qualifies as the Annual Erosion Evaluation per 2010 IP Part I.G.1.

[b] Inspection qualifies for multiple Storm Dates per 2010 IP Part I.G.2 and 2022 IP Part I.B.8.b.

147.4 Stormwater Monitoring

Through calendar year 2022, stormwater flow has not been sufficient for full-volume sample collection at PJ-SMA-7.

Stormwater monitoring was conducted at PJ-SMA-7 under the 2010 IP requirements from March 23 through November 2, 2022, resulting in a monitoring season of 225 days. Six inspections were performed during the monitoring period and are summarized in Table 147-4.

Rain gage RG-TA-06 recorded 36 rain events exceeding 0.1 in. in 24 hours while the sampling equipment was active. No new confirmation-monitoring samples were collected in 2022 and no sampling operability issues were encountered.

Table 147-4 Sampler Inspections During 2022

Inspection Reference	Inspection Date	Sample Retrieved?	Date(s) of Rain Events Exceeding 0.1 in. in 24 hr since previous inspection	Rainfall Intensity[a]/ Total[b] (in.)
SMPLR-91649	4-14-2022	No	None	None
SMPLR-92020	6-1-2022	No	None	None
SMPLR-92752	6-28-2022	No	6-17-2022 6-18-2022 6-19-2022 6-21-2022 6-22-2022 6-25-2022 6-26-2022	0.07/0.32 0.06/0.17 0.05/0.17 0.06/0.14 0.1/0.6 0.48/1.34 0.3/1.87
SMPLR-93467	8-11-2022	No	7-1-2022 7-2-2022 7-4-2022 7-14-2022 7-20-2022 7-21-2022 7-24-2022 7-26-2022 7-27-2022 7-29-2022 7-30-2022 7-31-2022 8-1-2022 8-5-2022 8-6-2022	0.16/0.64 0.06/0.15 0.26/0.39 0.13/0.17 0.3/0.4 0.12/0.21 0.09/0.12 0.09/0.27 1.77/1.86 0.09/0.18 0.45/0.75 0.45/0.99 0.1/0.14 0/1.15 0.23/0.66
SMPLR-95362	9-21-2022	No	8-11-2022 8-16-2022 8-18-2022 8-19-2022 8-20-2022 9-9-2022 9-20-2022	0.15/0.19 0.07/0.21 0.03/0.16 0.09/0.22 0.06/0.11 0.12/0.15 0.07/0.11
SMPLR-96049	11-2-2022	No	9-22-2022 10-2-2022 10-3-2022 10-4-2022 10-7-2022 10-15-2022 10-16-2022	0.19/0.21 0.09/0.31 0.16/0.2 0.02/0.12 0.06/0.1 0.17/0.86 0.04/0.18

[a] Intensity = Maximum amount of precipitation in any 30-min interval.

[b] Total = Total amount of precipitation in 24 hr.

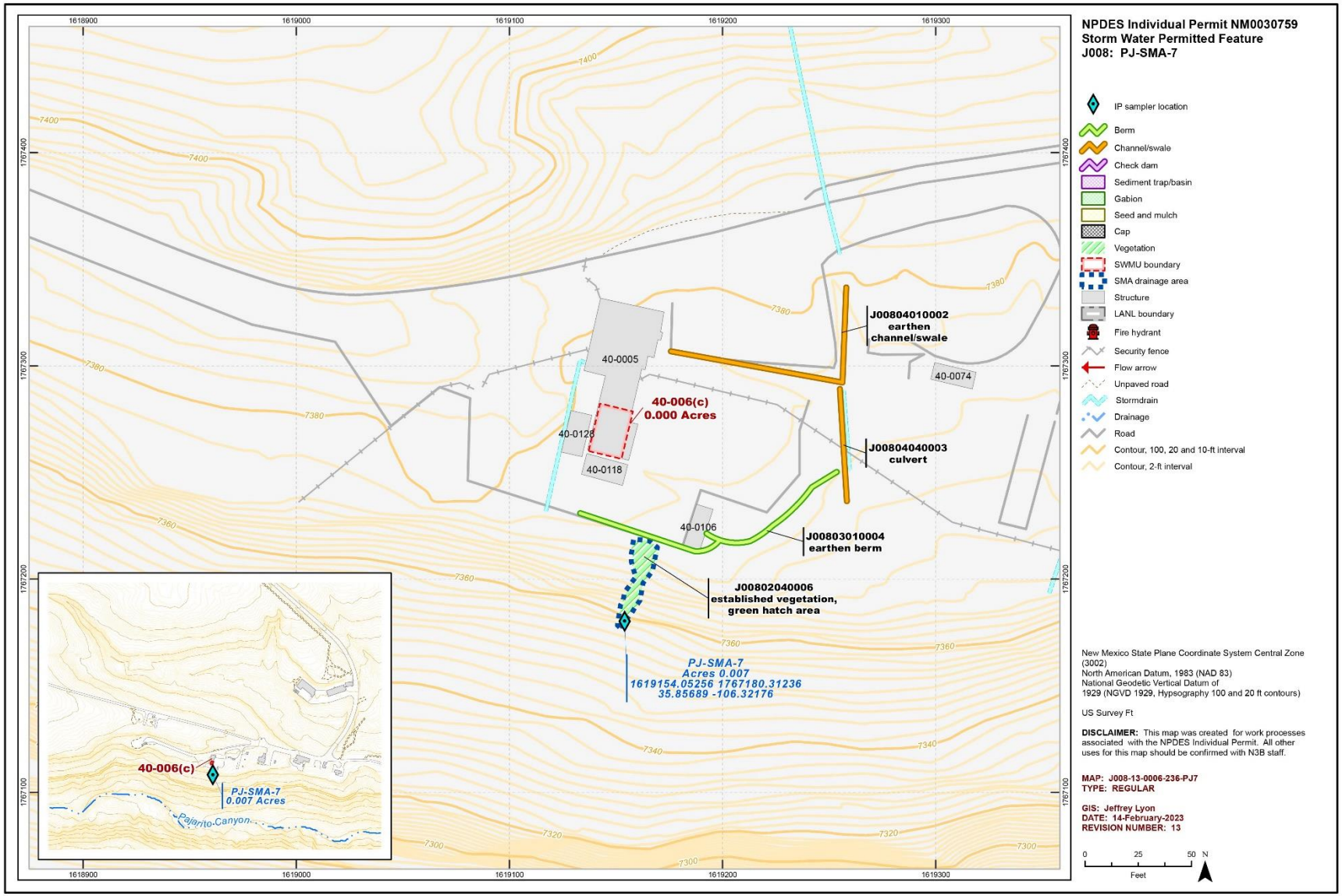

Figure 147-1 PJ-SMA-7 location map

148.0 PJ-SMA-8: SWMU 40-006(b)

One historical industrial activity area, Site 40-006(b), is associated with PJ-SMA-8 (permitted feature J009). Summaries of all inspection, monitoring, and maintenance actions conducted in 2022 are provided below. Refer to the "2022 Sampling Implementation Plan, NPDES Permit No. NM0030759" (N3B 2023, 702608) for more information on Consent Order investigation activities, the SSD, and planned stormwater monitoring at the SMA for future monitoring seasons.

148.1 Site Descriptions

40-006(b) (2/18/2021)

SWMU 40-006(b) is the location of a former firing site consisting of a reinforced concrete and steel firing chamber and concrete pad on the south side of building 40-8 on the northern rim of Upper Pajarito Canyon, at the west end of Trap Door Site Rd at TA-40. SWMU 40-006(b) is listed as deferred in Appendix A of the 2016 Consent Order; therefore investigation of this Site is deferred until the Site is decommissioned.

The 1990 SWMU Report describes SWMU 40-006(b) as an active firing site consisting of a concrete pad located on the south side of building 40-8 at TA-40. As-constructed drawing ENG-C 12205 (pg. 36 of 132) and engineering drawing ENG-R 3123 (pg. 1 of 1) show the firing site consisted of a 16-ft long × 8-ft wide reinforced concrete and steel firing chamber that allowed for observation of the test shots, a partially protected area on the south side of the building where shots were prepared, and a 16-ft long × 10-ft wide open firing concrete pad connected to the south side of the building where larger shots were fired. Beginning in 1950, the original firing site was used to test detonators as seen in the 1958 aerial photograph. Historically, the firing site included an open firing pad connected to the south of the building where the larger shots, which could use up to 85 lb of high explosives were fired. In the past after each shot, large pieces of debris were removed and disposed of, and sand and remaining debris were pushed to the edge of Upper Pajarito Canyon as shown in the 2018 Orthographic GIS Layer. This practice created a sand berm near the canyon edge. In 1992, the SWMU 40-006(b) firing site was modified. The firing pad and the top 6 in. of soil were removed and replaced with a containment system consisting of a large containment vessel with a high-efficiency particulate filtration system was installed for gaseous emissions. The new firing chamber has been and continues to be used only to test and develop small explosive devices within the containment vessel. The 1994 as-built drawing AB288 (pg. 1 of 1) shows the addition to building 40-8 that currently encapsulates the boundary of the original firing site. The boundary for SWMU 40-006(b) is now located within the current footprint of building 40-8. The SWMU 40-006(b) debris disposal area on the edge and slope side of the northern rim of Upper Pajarito Canyon directly south of building 40-8 is depicted as an associated feature in GIS.

Known or Potential Use of POCs

POCs known to be managed or potentially used at the Site are listed in Table 148-1.

Table 148-1 POCs Known or Suspected to Have Been Used Historically at the Site

Site	Potential POC Source	Potential POCs
40-006(b)	Firing site	Barium, copper, lead, thallium, zinc, nitrates, PAHs, HE, uranium

148.2 Control Measures

All active control measures in use at PJ-SMA-8 are listed in Table 148-2. Their locations are shown on the project map (Figure 148-1) located at the end of this SMA update. Future map updates will be posted on the IP website: https://ext.em-la.doe.gov/ips/Home/SiteMonitoringAreaMaps.

Table 148-2 Active Control Measures

Control ID	Control Name	Purpose of Control				Control Status	Install Date
		Run-On	Runoff	Erosion	Sediment		
J00902040010	Established Vegetation	-	X	X	-	B	5-7-2013
J00903010006	Earthen Berm	-	X	-	X	CB	11-2-2009
J00903010009	Earthen Berm	-	X	-	X	CB	11-2-2009
J00904020005	Concrete/Asphalt Channel/Swale	X	-	X	-	CB	6-1-2009
J00906010002	Rock Check Dam	X	-	-	X	CB	8-30-2006
J00906010004	Rock Check Dam	X	-	-	X	CB	6-1-2009
J00906010011	Rock Check Dam	X	-	-	X	B	11-7-2013

148.3 Inspections and Maintenance

Rain gage RG-TA-06 recorded seven storm events at PJ-SMA-8 during the 2022 season, requiring three post-storm inspections, which are summarized in Table 148-3. No other control-measure inspections, maintenance activities, or facility modifications affecting discharge were conducted at the SMA in 2022.

Table 148-3 Post-Storm Inspections During 2022

Inspection Reference	Storm Date	30-Minute Maximum Intensity (in.)	Inspection Date	Days to Inspection	Inspected within 15 days?
BMP-93199[a,b]	6-25-2022 6-26-2022	0.48 0.3	6-28-2022	3 2	Yes Yes
BMP-93771	7-4-2022	0.26	7-7-2022	3	Yes
BMP-94295[b]	7-20-2022 7-27-2022 7-30-2022 7-31-2022	0.3 1.77 0.45 0.45	8-2-2022	13 6 3 2	Yes Yes Yes Yes

[a] Inspection also qualifies as the Annual Erosion Evaluation per 2010 IP Part I.G.1.

[b] Inspection qualifies for multiple Storm Dates per 2010 IP Part I.G.2 and 2022 IP Part I.B.8.b.

148.4 Stormwater Monitoring

Through calendar year 2022, stormwater flow has not been sufficient for full-volume sample collection at PJ-SMA-8.

Stormwater monitoring was conducted at PJ-SMA-8 under the 2010 IP requirements from March 16 through November 2, 2022, resulting in a monitoring season of 232 days. Seven inspections were performed during the monitoring period and are summarized in Table 148-4.

Rain gage RG-TA-06 recorded 36 rain events exceeding 0.1 in. in 24 hours while the sampling equipment was active. No new confirmation-monitoring samples were collected in 2022 and no sampling operability issues were encountered.

Table 148-4 Sampler Inspections During 2022

Inspection Reference	Inspection Date	Sample Retrieved?	Date(s) of Rain Events Exceeding 0.1 in. in 24 hr since previous inspection	Rainfall Intensity[a]/ Total[b] (in.)
SMPLR-91535	4-19-2022	No	None	None
SMPLR-92063	5-18-2022	No	None	None
SMPLR-92476	6-22-2022	No	6-17-2022 6-18-2022 6-19-2022 6-21-2022	0.07/0.32 0.06/0.17 0.05/0.17 0.06/0.14
SMPLR-92974	6-28-2022	No	6-22-2022 6-25-2022 6-26-2022	0.1/0.6 0.48/1.34 0.3/1.87
SMPLR-93465	8-11-2022	No	7-1-2022 7-2-2022 7-4-2022 7-14-2022 7-20-2022 7-21-2022 7-24-2022 7-26-2022 7-27-2022 7-29-2022 7-30-2022 7-31-2022 8-1-2022 8-5-2022 8-6-2022	0.16/0.64 0.06/0.15 0.26/0.39 0.13/0.17 0.3/0.4 0.12/0.21 0.09/0.12 0.09/0.27 1.77/1.86 0.09/0.18 0.45/0.75 0.45/0.99 0.1/0.14 0/1.15 0.23/0.66
SMPLR-95359	9-20-2022	No	8-11-2022 8-16-2022 8-18-2022 8-19-2022 8-20-2022 9-9-2022	0.15/0.19 0.07/0.21 0.03/0.16 0.09/0.22 0.06/0.11 0.12/0.15
SMPLR-96014	11-2-2022	No	9-20-2022 9-22-2022 10-2-2022 10-3-2022 10-4-2022 10-7-2022 10-15-2022 10-16-2022	0.07/0.11 0.19/0.21 0.09/0.31 0.16/0.2 0.02/0.12 0.06/0.1 0.17/0.86 0.04/0.18

[a] Intensity = Maximum amount of precipitation in any 30-min interval.

[b] Total = Total amount of precipitation in 24 hr

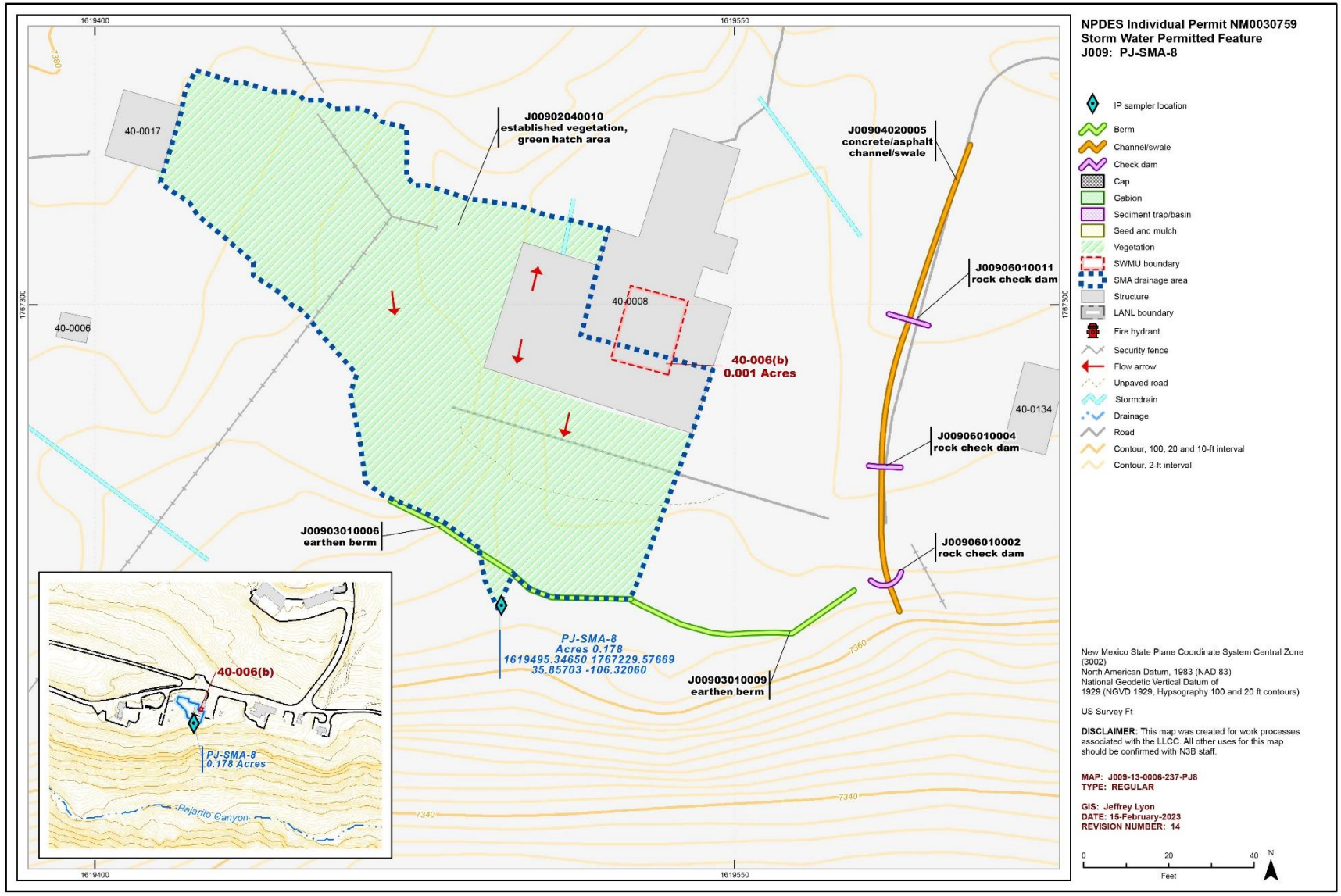

Figure 148-1 PJ-SMA-8 location map

149.0 PJ-SMA-9: SWMU 40-009

One historical industrial activity area, Site 40-009, is associated with PJ-SMA-9 (permitted feature J010). Summaries of all inspection, monitoring, and maintenance actions conducted in 2022 are provided below. Refer to the "2022 Sampling Implementation Plan, NPDES Permit No. NM0030759" (N3B 2023, 702608) for more information on Consent Order investigation activities, the SSD, and planned stormwater monitoring at the SMA for future monitoring seasons.

149.1 Site Descriptions

40-009 (2/16/2018)

SWMU 40-009 is a surface disposal area located south of building 40-9 at TA-40. The 1990 SWMU Report describes the Site as a landfill resulted from a decommissioning effort undertaken at TA-15 in 1967 during which several structures were burned. The SWMU Report provides only a vague location and no estimation of the size or depth of the landfill, stating that debris from TA-15 was taken to TA-40 and disposed of in the canyon between buildings 40-5 and 40-15. The RCRA RFI investigating field team walked the canyon area between the two buildings and found two prominent earthen berms on the steep hillside directly south of building 40-9. The field team suspected the berms to be the disposal Site described in the SWMU Report.

Known or Potential Use of POCs

POCs known to be managed or potentially used at the Site are listed in Table 149-1.

Table 149-1 POCs Known or Suspected to Have Been Used Historically at the Site

Site	Potential POC Source	Potential POCs
40-009	Landfill	Metals, dioxins/furans, PAHs

149.2 Control Measures

All active control measures in use at PJ-SMA-9 are listed in Table 149-2. Their locations are shown on the project map (Figure 149-1) located at the end of this SMA update. Future map updates will be posted on the IP website: https://ext.em-la.doe.gov/ips/Home/SiteMonitoringAreaMaps.

Table 149-2 Active Control Measures

Control ID	Control Name	Purpose of Control				Control Status	Install Date
		Run-On	Runoff	Erosion	Sediment		
J01002040010	Established Vegetation	-	X	X	-	B	5-7-2013
J01003010016	Earthen Berm	X	-	-	X	EC	9-17-2015
J01003010017	Earthen Berm	X	-	-	X	EC	9-17-2015
J01003010018	Earthen Berm	X	-	-	X	EC	9-17-2015
J01003010019	Earthen Berm	-	X	-	X	EC	9-17-2015
J01003140021	Coir Log	-	X	-	X	EC	9-17-2015
J01006010008	Rock Check Dam	X	-	-	X	CB	10-29-2009
J01006010009	Rock Check Dam	X	-	-	X	CB	10-29-2009

149.3 Inspections and Maintenance

Rain gage RG-TA-06 recorded seven storm events at PJ-SMA-9 during the 2022 season, requiring four post-storm inspections, which are summarized in Table 149-3. All other control-measure inspections conducted at the SMA are summarized in Table 149-4, and maintenance activities conducted at the SMA are summarized in Table 149-5.

Table 149-3 Post-Storm Inspections During 2022

Inspection Reference	Storm Date	30-Minute Maximum Intensity (in.)	Inspection Date	Days to Inspection	Inspected within 15 days?
BMP-93200[a,b]	6-25-2022 6-26-2022	0.48 0.3	6-28-2022	3 2	Yes Yes
BMP-93772	7-4-2022	0.26	7-13-2022	9	Yes
BMP-94296[b]	7-20-2022 7-27-2022	0.3 1.77	7-29-2022	9 2	Yes Yes
SMPLR-94833[b,c]	7-30-2022 7-31-2022	0.45 0.45	9-9-2022	42 41	No No

[a] Inspection also qualifies as the Annual Erosion Evaluation per 2010 IP Part I.G.1.

[b] Inspection qualifies for multiple Storm Dates per 2010 IP Part I.G.2 and 2022 IP Part I.B.8.b.

[c] Due to an administrative error an inspection Work Order was not issued for the July 30, 2022 rain event. The SMA was next visited on September 9, 2022 for a sampler inspection and there were no findings of deficiency noted.

Table 149-4 Other Control-Measure Inspections During 2022

Inspection Type	Inspection Reference	Inspection Date	Summary of findings
TAL Exceedance inspection for PJ-SMA-9. CAM5 Sample 2 collected 7/27/22. Total Aluminum (28.2x), Copper (2.5x), Gross Alpha (3.1x).	COMP-96396	12-21-2022	Runoff is going around Earthen Berm J01003010019 to the north instead of over spillway. Runoff is still reaching sampler.

Table 149-5 Maintenance Activities Conducted During 2022

Maintenance Reference	Maintenance Conducted	Maintenance Date	Response Time	Response Discussion
COMP-96396	Placed Gravel Bags at Earthen Berm J01003010019 at inspection to mitigate new runoff path.	12-21-2022	0 days	Maintenance was performed as soon as practicable.

149.4 Stormwater Monitoring

Following the installation of baseline control measures, a baseline stormwater sample was collected on June 21, 2014. Analytical results from this sample yielded TAL exceedances for copper (7.76 µg/L) and gross-alpha activity (41.6 pCi/L). The complete analytical results are presented in "Stormwater Individual Permit Annual Report, Reporting Period: January 1–December 31, 2014, NPDES Permit No. NM0030759" (LANL 2015, 600241).

Following the installation of enhanced control measures, a corrective-action stormwater sample was collected on July 27, 2021. Analytical result from this sample yielded a TAL exceedance for copper (8.52 µg/L). The complete analytical results are presented in "Stormwater Individual Permit Annual Report, Reporting Period: January 1–December 31, 2021, NPDES Permit No. NM0030759" (N3B 2022, 701895).

Stormwater monitoring was conducted at PJ-SMA-2 under the 2010 IP requirements from March 16 through October 27, 2022, resulting in a monitoring season of 226 days. Five inspections were performed during the monitoring period and are summarized in Table 149-6.

Rain gage RG253 recorded 36 rain events exceeding 0.1 in. in 24 hours while the sampling equipment was active. A corrective-action confirmation-monitoring sample was collected on July 27, 2022. Analytical results from this sample yielded TAL exceedances for copper (11 µg/L) and gross-alpha activity (47 pCi/L). The complete results are presented in Appendix B of the Overview. The SIP will be updated in 2023 with the inclusion of 2022 analytical results into the SSD.

Table 149-6 Sampler Inspections During 2022

Inspection Reference	Inspection Date	Sample Retrieved?	Date(s) of Rain Events Exceeding 0.1 in. in 24 hr since previous inspection	Rainfall Intensity[a]/ Total[b] (in.)
SMPLR-91532	4-13-2022	No	None	None
SMPLR-92015	6-28-2022	No	6-17-2022 6-18-2022 6-19-2022 6-21-2022 6-22-2022 6-25-2022 6-26-2022	0.07/0.32 0.06/0.17 0.05/0.17 0.06/0.14 0.1/0.6 0.48/1.34 0.3/1.87
SMPLR-93461	7-29-2022	Yes	7-1-2022 7-2-2022 7-4-2022 7-14-2022 7-20-2022 7-21-2022 7-24-2022 7-26-2022 7-27-2022	0.16/0.64 0.06/0.15 0.26/0.39 0.13/0.17 0.3/0.4 0.12/0.21 0.09/0.12 0.09/0.27 1.77/1.86
SMPLR-94833	9-9-2022	No	7-29-2022 7-30-2022 7-31-2022 8-1-2022 8-5-2022 8-6-2022 8-11-2022 8-16-2022 8-18-2022 8-19-2022 8-20-2022	0.09/0.18 0.45/0.75 0.45/0.99 0.1/0.14 0/1.15 0.23/0.66 0.15/0.19 0.07/0.21 0.03/0.16 0.09/0.22 0.06/0.11

Inspection Reference	Inspection Date	Sample Retrieved?	Date(s) of Rain Events Exceeding 0.1 in. in 24 hr since previous inspection	Rainfall Intensity[a]/ Total[b] (in.)
SMPLR-95866	10-27-2022	No	9-9-2022	0.12/0.15
			9-20-2022	0.07/0.11
			9-22-2022	0.19/0.21
			10-2-2022	0.09/0.31
			10-3-2022	0.16/0.2
			10-4-2022	0.02/0.12
			10-7-2022	0.06/0.1
			10-15-2022	0.17/0.86
			10-16-2022	0.04/0.18

[a] Intensity = Maximum amount of precipitation in any 30-min interval.

[b] Total = Total amount of precipitation in 24 hr.

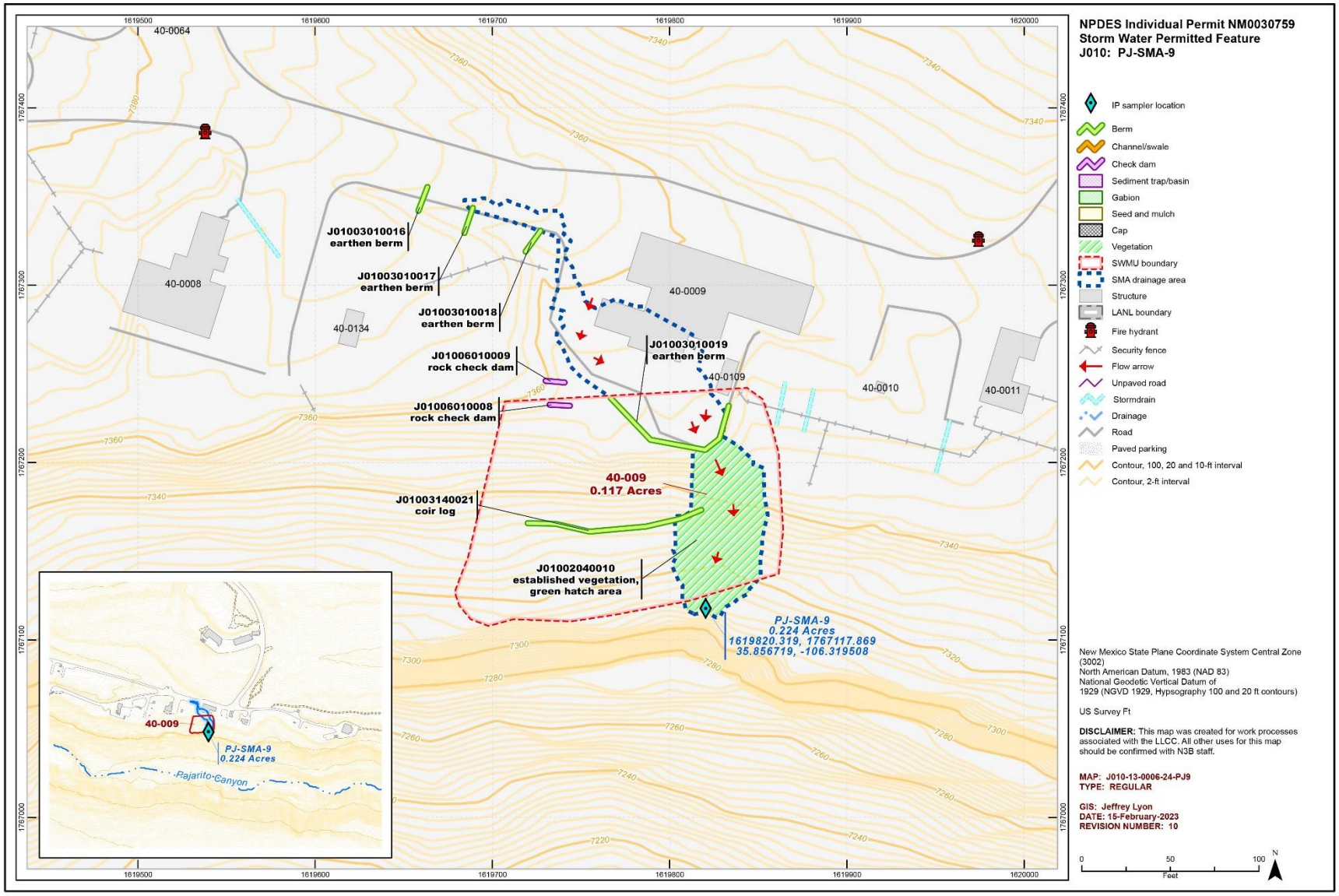

Figure 149-1 PJ-SMA-9 location map

150.0 PJ-SMA-9.2: SWMU 40-001(c)

One historical industrial activity area, Site 40-001(c), is associated with PJ-SMA-9.2 (permitted feature J011). Summaries of all inspection, monitoring, and maintenance actions conducted in 2022 are provided below. Refer to the "2022 Sampling Implementation Plan, NPDES Permit No. NM0030759" (N3B 2023, 702608) for more information on Consent Order investigation activities, the SSD, and planned stormwater monitoring at the SMA for future monitoring seasons.

150.1 Site Descriptions

40-001(c) (2/18/2021)

SWMU 40-001(c) is an active septic system consisting of a septic tank (structure 40-25) located approximately 25 ft east of building 40-11, and inlet and outlet drainlines, two former outfalls, and a leach field at TA-40. Constructed of reinforced concrete, the septic tank measures 4 ft wide × 7 ft long × 6 ft deep, and has a capacity of 540 gal. The septic system was installed in 1950 and serves building 40-11, which houses changing rooms and restrooms. Operators at TA-40 firing sites change into Laboratory-provided protective clothing. Originally, the septic tank discharged through an outlet drainline to the northeast to Twomile Canyon as shown in engineering drawing AB1019 (pg. 2 of 2), as-built drawing ENG-C 1300 (pg. 1 of 6), and a 1988 Site photograph. In 1951, the 6-in.-diameter VCP outlet drainline was rerouted to discharge south to Upper Pajarito Canyon as shown in as-built drawing ENG-C 1300 (pg. 1 of 6) and the 1975 Zia Company Drawing for TA-40 (sheet N-1). In 1988, the septic tank outlet drainline was again rerouted; this time to discharge to a leach field constructed south of the septic tank as shown in engineering drawings ENG-C 45511 (pg. 1 of 5) and AB1019 (pg. 2 of 2). The septic tank is currently active and registered with the NMED.

Known or Potential Use of POCs

POCs known to be managed or potentially used at the Site are listed in Table 150-1.

Table 150-1 POCs Known or Suspected to Have Been Used Historically at the Site

Site	Potential POC Source	Potential POCs
40-001(c)	Septic system	Metals, inorganic and organic chemicals, HE

150.2 Control Measures

All active control measures in use at PJ-SMA-9.2 are listed in Table 150-2. Their locations are shown on the project map (Figure 150-1) located at the end of this SMA update. Future map updates will be posted on the IP website: https://ext.em-la.doe.gov/ips/Home/SiteMonitoringAreaMaps.

Table 150-2 Active Control Measures

Control ID	Control Name	Purpose of Control				Control Status	Install Date
		Run-On	Runoff	Erosion	Sediment		
J01103140001	Coir Log	-	X	-	X	B	8-1-2022
J01103140002	Coir Log	-	X	-	X	B	8-1-2022
J01103140003	Coir Log	-	X	-	X	B	8-1-2022
J01103140004	Coir Log	-	X	-	X	B	8-1-2022
J01103140005	Coir Log	-	X	-	X	B	8-1-2022

150.3 Inspections and Maintenance

Rain gage RG-TA-06 recorded no storm events at PJ-SMA-9.2 after the effective date of the 2022 IP. No post-storm inspections, other control-measure inspections, or maintenance activities were conducted at the SMA in 2022.

150.4 Stormwater Monitoring

PJ-SMA-9.2 was not covered under the 2010 IP, so stormwater monitoring was not conducted at PJ-SMA-9.2 under the 2010 IP requirements. Monitoring will begin in 2023 under the 2022 IP.

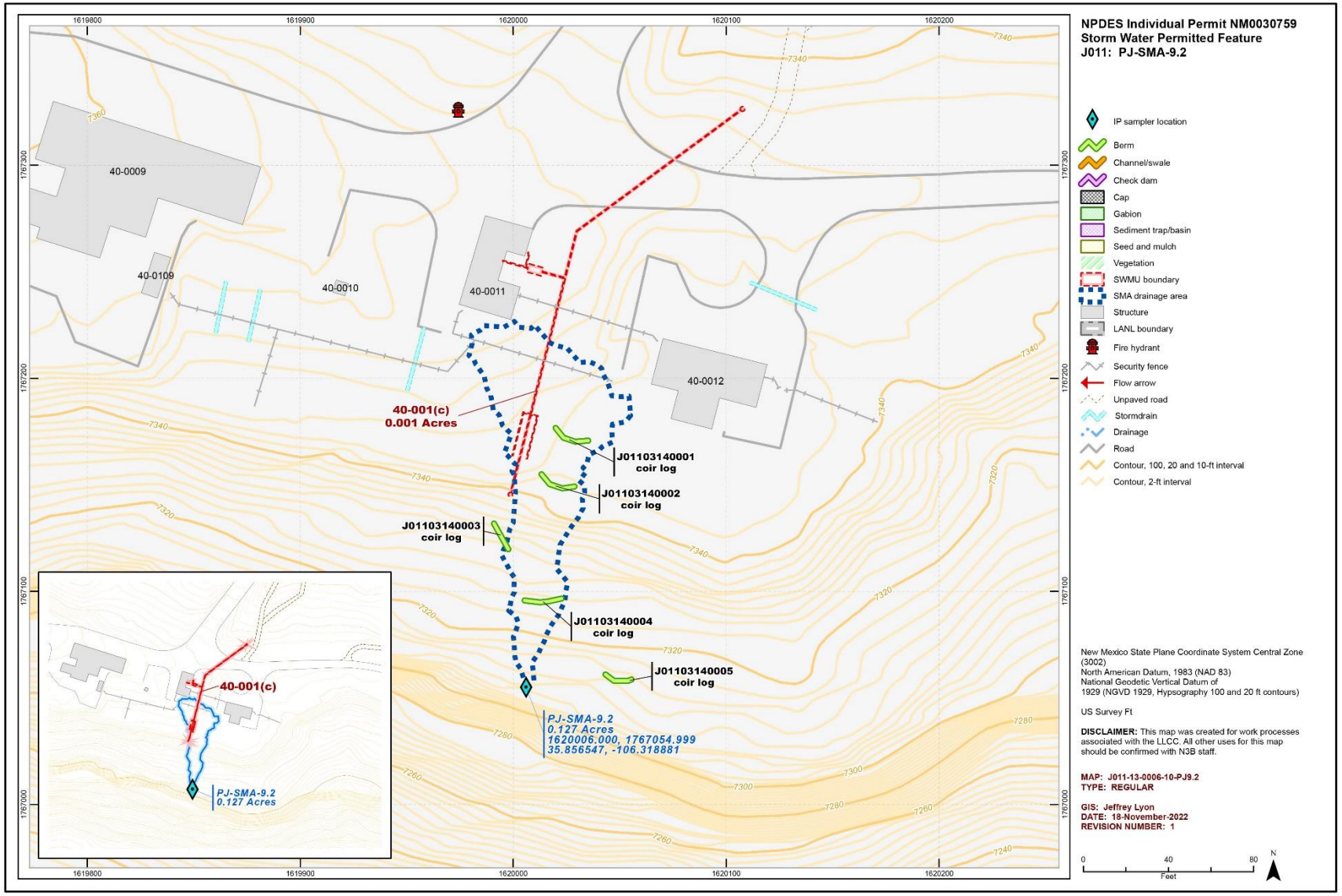

Figure 150-1 PJ-SMA-9.2 location map

151.0 PJ-SMA-10: SWMU 40-006(a)

One historical industrial activity area, Site 40-006(a), is associated with PJ-SMA-10 (permitted feature J012). Summaries of all inspection, monitoring, and maintenance actions conducted in 2022 are provided below. Refer to the "2022 Sampling Implementation Plan, NPDES Permit No. NM0030759" (N3B 2023, 702608) for more information on Consent Order investigation activities, the SSD, and planned stormwater monitoring at the SMA for future monitoring seasons.

151.1 Site Descriptions

40-006(a) (2/18/2021)

SWMU 40-006(a) is the location of a former firing site that constituted the southern portion of building 40-15 on the northern rim of Upper Pajarito Canyon, at the east end of Trap Door Site Road at TA-40. SWMU 40-006(a) is listed as deferred in Appendix A of the 2016 Consent Order; therefore, investigation of this Site is deferred until the Site is decommissioned.

The 1990 SWMU Report describes SWMU 40-006(a) as an active firing site consisting of an iron wall and firing bunker on two sides of a concrete pad to provide some confinement of shot debris constituting the southern portion of building 40-15 at TA-40. As-constructed drawing ENG-C 12214 (pg. 45 of 132), a 1950 aerial photograph, and the 2014 Orthographic GIS Layer show the firing site consisted of a 16-ft long × 8-ft wide reinforced concrete and steel firing chamber that allowed the observation of the test shots, a partially protected area on the south side of the building where shots were prepared, and a 10-ft long × 8-ft wide open firing concrete pad connected to the south end of the building where larger shots were fired. Beginning in 1950, the original firing site was used to test and develop detonators. Tests conducted at this Site have included detonator booster tests, which could use up to 85 lb of high explosives. After each shot, large pieces of debris were removed and disposed of, the open area south of building 40-15 is graded, and the sand and debris was pushed to the edge and slope side of Upper Pajarito Canyon as shown in the 2018 Orthographic GIS Layer, a 1988 site photograph (ERID-0020425), and the PRS website photograph. This practice created an approximately 15-ft high sand berm near the canyon edge. In late 2017 and early 2018, construction began on the 40-15 Chamber Upgrade Project, which expanded building 40-15 to the west, south, and east and fully replaced the firing site with a new enclosed firing chamber. Excavated soil from SWMU 40-006(a) was placed along Trap Door Site Road east of structure 40-15 and may have impacted portions of AOC 40-003(a). The boundary for SWMU 40-006(a) is now located within the current footprint of building 40-15. The SWMU 40-006(a) debris disposal area is located on the edge and slope side of the northern rim of Upper Pajarito Canyon directly south of building 40-15 and is depicted as an associated feature in GIS.

Known or Potential Use of POCs

POCs known to be managed or potentially used at the Site are listed in Table 151-1.

Table 151-1 POCs Known or Suspected to Have Been Used Historically at the Site

Site	Potential POC Source	Potential POCs
40-006(a)	Active firing site	Barium, copper, lead, thallium, PAHs, HE

151.2 Control Measures

All active control measures in use at PJ-SMA-10 are listed in Table 151-2. Their locations are shown on the project map (Figure 151-1) located at the end of this SMA update. Future map updates will be posted on the IP website: https://ext.em-la.doe.gov/ips/Home/SiteMonitoringAreaMaps.

Table 151-2 Active Control Measures

Control ID	Control Name	Purpose of Control				Control Status	Install Date
		Run-On	Runoff	Erosion	Sediment		
J01203040032	Asphalt Berm	X	-	-	X	B	10-8-2018
J01204030030	Rock Channel/Swale	-	X	-	X	EC	9-22-2015
J01205020033	Sediment Basin	-	X	-	X	B	10-8-2018
J01206010011	Rock Check Dam	-	X	-	X	EC	9-22-2015
J01206010012	Rock Check Dam	-	X	-	X	EC	9-22-2015
J01206010013	Rock Check Dam	-	X	-	X	EC	9-22-2015
J01206010014	Rock Check Dam	-	X	-	X	EC	9-22-2015
J01206010015	Rock Check Dam	-	X	-	X	EC	9-22-2015
J01206010017	Rock Check Dam	-	X	-	X	EC	9-22-2015
J01206010021	Rock Check Dam	X	-	-	X	EC	9-22-2015
J01206010022	Rock Check Dam	X	-	-	X	EC	9-22-2015
J01206010023	Rock Check Dam	X	-	-	X	EC	9-22-2015
J01206010024	Rock Check Dam	X	-	-	X	EC	9-22-2015
J01206010025	Rock Check Dam	X	-	-	X	EC	9-22-2015
J01206010026	Rock Check Dam	X	-	-	X	EC	9-22-2015
J01206010031	Rock Check Dam	-	X	-	X	EC	9-22-2015

151.3 Inspections and Maintenance

Rain gage RG-TA-06 recorded seven storm events at PJ-SMA-10 during the 2022 season, requiring two post-storm inspections, which are summarized in Table 151-3. All other control-measure inspections conducted at the SMA are summarized in Table 151-4. No maintenance activities or facility modifications affecting discharge were conducted at the SMA in 2022.

Table 151-3 Post-Storm Inspections During 2022

Inspection Reference	Storm Date	30-Minute Maximum Intensity (in.)	Inspection Date	Days to Inspection	Inspected within 15 days?
BMP-93175[a,b]	6-25-2022	0.48	7-8-2022	13	Yes
	6-26-2022	0.3		12	Yes
	7-4-2022	0.26		4	Yes
BMP-94279[b]	7-20-2022	0.3	8-1-2022	12	Yes
	7-27-2022	1.77		5	Yes
	7-30-2022	0.45		2	Yes
	7-31-2022	0.45		1	Yes

[a] Inspection also qualifies as the Annual Erosion Evaluation per 2010 IP Part I.G.1.

[b] Inspection qualifies for multiple Storm Dates per 2010 IP Part I.G.2 and 2022 IP Part I.B.8.b.

Table 151-4 Other Control-Measure Inspections During 2022

Inspection Type	Inspection Reference	Inspection Date	Summary of findings
PJ-SMA-10. Excavate and replace approximately 800 linear feet of 2 in. CI Pipe and appurtenances with 2 in. PVC Pipe due to continuous issues with water leaks.	BMP-92205	6-1-2022	Planned activities are not likely to impact IP controls or Sites. Continue to monitor.
FTL Assessment inspection resulting from notification of TA-40-0015 Soil Erosion potentially impacting PJ-SMA-10.	BMP-96254	12-22-2022	The completion of facility managed changes to the area have impacted the SMA and have increased the erosion potential if not addressed. Erosion is occurring west of Asphalt Berm J01203040032. Gravel bags have been placed upgradient as a secondary control. Final stabilization of area is being discussed with Triad.

151.4 Stormwater Monitoring

Following the installation of baseline control measures, a baseline stormwater sample was collected on July 7, 2014. Analytical results from this sample yielded TAL exceedances for copper (16.8 µg/L) and gross-alpha activity (280 pCi/L). The complete analytical results are presented in "Stormwater Individual Permit Annual Report, Reporting Period: January 1–December 31, 2014, NPDES Permit No. NM0030759" (LANL 2015, 600241).

Stormwater monitoring was conducted at PJ-SMA-10 under the 2010 IP requirements from March 16 through November 2, 2022, resulting in a monitoring season of 232 days. Eight inspections were performed during the monitoring period and are summarized in Table 151-5.

Rain gage RG-TA-06 recorded 36 rain events exceeding 0.1 in. in 24 hours while the sampling equipment was active. No new confirmation-monitoring samples were collected in 2022 and no sampling operability issues were encountered.

Table 151-5 Sampler Inspections During 2022

Inspection Reference	Inspection Date	Sample Retrieved?	Date(s) of Rain Events Exceeding 0.1 in. in 24 hr since previous inspection	Rainfall Intensity[a]/ Total[b] (in.)
SMPLR-91533	4-8-2022	No	None	None
SMPLR-91946	5-5-2022	No	None	None
SMPLR-92392	6-1-2022	No	None	None
SMPLR-92743	6-15-2022	No	None	None
SMPLR-92871	6-28-2022	No	6-17-2022 6-18-2022 6-19-2022 6-21-2022 6-22-2022 6-25-2022 6-26-2022	0.07/0.32 0.06/0.17 0.05/0.17 0.06/0.14 0.1/0.6 0.48/1.34 0.3/1.87
SMPLR-93462	8-11-2022	No	7-1-2022	0.16/0.64

Inspection Reference	Inspection Date	Sample Retrieved?	Date(s) of Rain Events Exceeding 0.1 in. in 24 hr since previous inspection	Rainfall Intensity[a]/ Total[b] (in.)
			7-2-2022	0.06/0.15
			7-4-2022	0.26/0.39
			7-14-2022	0.13/0.17
			7-20-2022	0.3/0.4
			7-21-2022	0.12/0.21
			7-24-2022	0.09/0.12
			7-26-2022	0.09/0.27
			7-27-2022	1.77/1.86
			7-29-2022	0.09/0.18
			7-30-2022	0.45/0.75
			7-31-2022	0.45/0.99
			8-1-2022	0.1/0.14
			8-5-2022	0/1.15
			8-6-2022	0.23/0.66
SMPLR-95356	9-20-2022	No	8-11-2022	0.15/0.19
			8-16-2022	0.07/0.21
			8-18-2022	0.03/0.16
			8-19-2022	0.09/0.22
			8-20-2022	0.06/0.11
			9-9-2022	0.12/0.15
SMPLR-96010	11-2-2022	No	9-20-2022	0.07/0.11
			9-22-2022	0.19/0.21
			10-2-2022	0.09/0.31
			10-3-2022	0.16/0.2
			10-4-2022	0.02/0.12
			10-7-2022	0.06/0.1
			10-15-2022	0.17/0.86
			10-16-2022	0.04/0.18

[a] Intensity = Maximum amount of precipitation in any 30-min interval.

[b] Total = Total amount of precipitation in 24 hr.

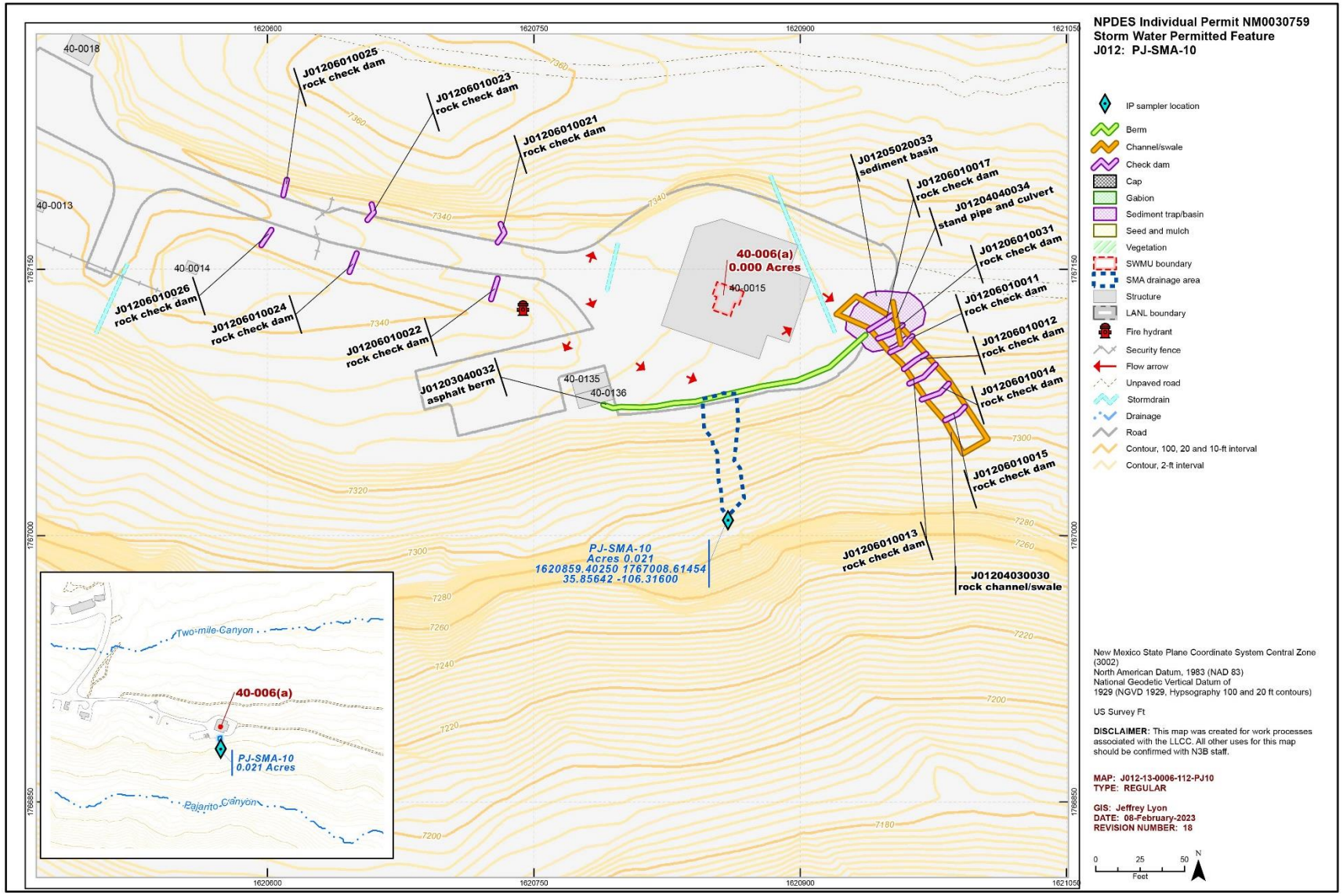

Figure 151-1 PJ-SMA-10 location map

152.0 PJ-SMA-11: SWMU 40-003(a)

One historical industrial activity area, Site 40-003(a), is associated with PJ-SMA-11 (permitted feature J013). Summaries of all inspection, monitoring, and maintenance actions conducted in 2022 are provided below. Refer to the "2022 Sampling Implementation Plan, NPDES Permit No. NM0030759" (N3B 2023, 702608) for more information on Consent Order investigation activities, the SSD, and planned stormwater monitoring at the SMA for future monitoring seasons.

152.1 Site Descriptions

40-003(a) (2/13/2018)

SWMU 40-003(a) consists of two former detonation sites located at TA-40. The first site was located approximately 450 ft east of structure 40-15. The detonation area is roughly circular and approximately 30 ft in diameter. Use of the Site for disposal of scrap HE and detonators began in the early 1950s; detonations were remotely controlled from structure 40-15. In 1958, several instances occurred where intact detonators and pieces of HE were released during detonations. Efforts to recover all the scattered detonators and HE were unsuccessful. Detonation activities at the first site ceased in the early 1960s when a second open detonation site was developed at a location further to the east.

The second former detonation site was located approximately 1300 ft east of structure 40-15, within a natural amphitheater at the end of an unnamed dirt road. At the second site, scrap explosive materials were detonated and controlled remotely from structure 40-15. The detonation area measured approximately 90 ft (east-west) × 110 ft (north-south). After each detonation, scattered debris was picked up and transported to an appropriate waste disposal site. Rock rubble and crushed tuff that sloughed from the amphitheater wall was pushed to the south, creating an area of fill that extended nearly to the edge of Pajarito Canyon. The second detonation site was later operated under RCRA interim status. All detonation operations ceased in 1985. The interim status open detonation area underwent RCRA closure from 1992 to 1994. The closure report was approved by NMED in August 1995.

The 1990 SWMU Report and the Operable Unit 1111 RCRA RFI Work Plan both describe SWMU 40-003(a) as being located 450 ft east of structure 40-15 and state that a RCRA closure plan was being developed for the Site. Both documents mistakenly identify the location 450 ft east of structure 40-15 as undergoing RCRA closure. The 1991 Final Closure Plan was developed for the second detonation site located 1,300 ft east of structure 40-15 and specifically states that the first detonation site located 450 ft east of structure 40-15 would not be addressed under RCRA closure. The first detonation site was omitted from the closure because its period of use occurred prior to RCRA regulation; therefore the Site is subject to Consent Order requirements.

Known or Potential Use of POCs

POCs known to be managed or potentially used at the Site are listed in Table 152-1.

Table 152-1 POCs Known or Suspected to Have Been Used Historically at the Site

Site	Potential POC Source	Potential POCs
40-003(a)	Scrap burn site/open detonation	Barium, lead, thallium, PAHs, HE

152.2 Active Control Measures

Enhanced controls for PJ-SMA-11 were certified on June 16, 2022 and submitted to EPA on June 27, 2022, as part of corrective action, as described in "NPDES Permit No. NM0030759 – Certification of Installation of Enhanced Control Measures for CHQ-SMA-6, PJ-SMA-3.05, and PJ-SMA-11" (N3B 2022, 702165). Photographs of the enhanced controls are available at https://ext.em-la.doe.gov/IPS/Home/ConstructionCertifications.

All active control measures in use at PJ-SMA-11 are listed in Table 152-2. Their locations are shown on the project map (Figure 152-1) located at the end of this SMA update. Future map updates will be posted on the IP website: https://ext.em-la.doe.gov/ips/Home/SiteMonitoringAreaMaps.

Table 152-2 Control Measures

Control ID	Control Name	Purpose of Control				Control Status	Install Date
		Run-On	Runoff	Erosion	Sediment		
J01302040018	Established Vegetation	-	X	X	-	B	5-7-2013
J01303010024	Earthen Berm	-	X	-	X	EC	3-4-2015
J01303010025	Earthen Berm	-	X	-	X	EC	3-4-2015
J01303010026	Earthen Berm	-	X	-	X	EC	3-4-2015
J01303010027	Earthen Berm	-	X	-	X	EC	3-4-2015
J01303120030	Rock Berm	-	X	X	X	EC	1-21-2021
J01303140029	Coir Log	X	-	-	X	B	12-2-2015
J01303140031	Coir Log	X	-	-	X	EC	1-21-2021
J01303140032	Coir Log	X	-	-	X	EC	1-21-2021
J01303200033	Compost Log	-	X	-	X	EC	4-13-2022
J01304030034	Rock Channel/Swale	-	X	X	-	EC	4-13-2022

152.3 Inspections and Maintenance

Rain gage RG-TA-06 recorded seven storm events at PJ-SMA-11 during the 2022 season, requiring three post-storm inspections, which are summarized in Table 152-3. All other control-measure inspections conducted at the SMA are summarized in Table 152-4. No maintenance activities or facility modifications affecting discharge were conducted at the SMA in 2022.

Table 152-3 Post-Storm Inspections During 2022

Inspection Reference	Storm Date	30-Minute Maximum Intensity (in.)	Inspection Date	Days to Inspection	Inspected within 15 days?
BMP-93176[a,b]	6-25-2022 6-26-2022	0.48 0.3	6-28-2022	3 2	Yes Yes
BMP-93758	7-4-2022	0.26	7-8-2022	4	Yes
BMP-94280[b]	7-20-2022 7-27-2022 7-30-2022 7-31-2022	0.3 1.77 0.45 0.45	8-1-2022	12 5 2 1	Yes Yes Yes Yes

[a] Inspection also qualifies as the Annual Erosion Evaluation per 2010 IP Part I.G.1.

[b] Inspection qualifies for multiple Storm Dates per 2010 IP Part I.G.2 and 2022 IP Part I.B.8.b.

Table 152-4 Other Control-Measure Inspections During 2022

Inspection Type	Inspection Reference	Inspection Date	Summary of findings
Verification of installation of enhanced controls.	BMP-91164	3-21-2022	Installation of compost log is not complete. Re-set logs and build up by adding add additional material.
2nd Verification of enhanced control measure installations. Additional work requested on 1st verification completed on 4/5/2022.	BMP-87151	4-13-2022	No action recommended. Proceed with certification of enhanced control installation.

152.4 Stormwater Monitoring

Following the installation of baseline control measures, a baseline stormwater sample was collected on September 13, 2013. Analytical results from this sample yielded TAL exceedances for copper (42.9 µg/L) and gross-alpha activity (65.4 pCi/L). The complete analytical results are presented in "Stormwater Individual Permit Annual Report, Reporting Period: January 1–December 31, 2013, NPDES Permit No. NM0030759" (LANL 2014, 254067).

Following the 2015 installation of enhanced control measures, corrective-action stormwater samples were collected on August 10, 2018, and July 2, 2019. Analytical results from these samples yielded TAL exceedances for copper (28 µg/L and 92.7 µg/L), gross-alpha activity (164 pCi/L and 108 pCi/L), and selenium (5.48 µg/L). Selenium exceeded the TAL in the 2018 sample, but not in the 2019 sample. As both corrective-action samples are used to calculate the geomean, the geomean is less than the ATAL and thus not considered a TAL exceedance in corrective-action monitoring. The complete analytical results are presented in "Stormwater Individual Permit Annual Report, Reporting Period: January 1–December 31, 2018, NPDES Permit No. NM0030759" (N3B 2019, 700320) and "Stormwater Individual Permit Annual Report, Reporting Period: January 1–December 31, 2019, NPDES Permit No. NM0030759" (N3B 2020, 700767).

Following the 2021 installation of enhanced control measures, corrective-action stormwater samples were collected on June 27 and August 26, 2021. Analytical results from these samples yielded TAL exceedances for copper (35.3 µg/L and 42.8 µg/L) and gross-alpha activity (18.8 pCi/L and 157 pCi/L). The complete analytical results are presented in "Stormwater Individual Permit Annual Report, Reporting Period: January 1–December 31, 2021, NPDES Permit No. NM0030759" (N3B 2022, 701895).

Stormwater monitoring was conducted at PJ-SMA-11 under the 2010 IP requirements after certification of completion of installation of enhanced controls from July 8 through October 27, 2022, resulting in a monitoring season of 112 days. Four inspections were performed during the monitoring period and are summarized in Table 152-5.

Rain gage RG-TA-06 recorded 26 rain events exceeding 0.1 in. in 24 hours while the sampling equipment was active. No new confirmation-monitoring samples were collected in 2022.

Table 152-5 Sampler Inspections During 2022

Inspection Reference	Inspection Date	Sample Retrieved?	Date(s) of Rain Events Exceeding 0.1 in. in 24 hr since previous inspection	Rainfall Intensity[a]/ Total[b] (in.)
SMPLR-93916	8-1-2022	No	7-14-2022 7-20-2022 7-21-2022 7-24-2022 7-26-2022 7-27-2022 7-29-2022[c] 7-30-2022[c] 7-31-2022[c]	0.13/0.17 0.3/0.4 0.12/0.21 0.09/0.12 0.09/0.27 1.77/1.86 0.09/0.18 0.45/0.75 0.45/0.99
SMPLR-95159	9-12-2022	No	8-1-2022[c] 8-5-2022[c] 8-6-2022[c] 8-11-2022[c] 8-16-2022[c] 8-18-2022[c] 8-19-2022[c] 8-20-2022[c] 9-9-2022[c]	0.1/0.14 0/1.15 0.23/0.66 0.15/0.19 0.07/0.21 0.03/0.16 0.09/0.22 0.06/0.11 0.12/0.15
SMPLR-95862	10-17-2022	No	9-20-2022 9-22-2022 10-2-2022 10-3-2022 10-4-2022 10-7-2022 10-15-2022 10-16-2022	0.07/0.11 0.19/0.21 0.09/0.31 0.16/0.2 0.02/0.12 0.06/0.1 0.17/0.86 0.04/0.18
SMPLR-96345	10-27-2022	No	None	None

[a] Intensity = Maximum amount of precipitation in any 30-min interval.

[b] Total = Total amount of precipitation in 24 hr.

[c] The sampler had period(s) of inoperability since previous inspection. See CSR comment in the SDPPP Overview Appendix E for more details.

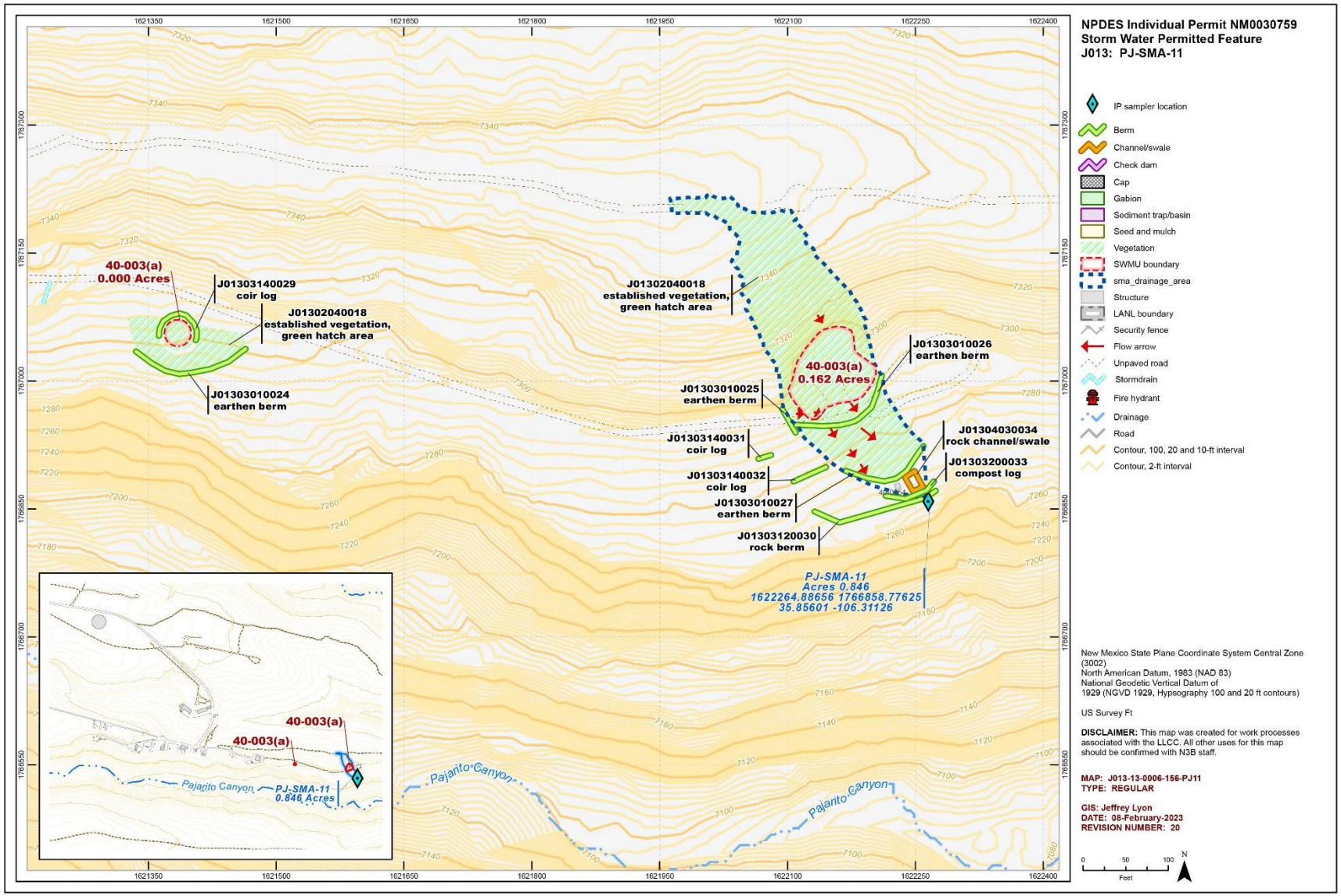

Figure 152-1 PJ-SMA-11 location map

153.0 PJ-SMA-11.1: AOC 40-003(b)

One historical industrial activity area, Site 40-003(b), is associated with PJ-SMA-11.1 (permitted feature J014). Summaries of all inspection, monitoring, and maintenance actions conducted in 2022 are provided below. Refer to the "2022 Sampling Implementation Plan, NPDES Permit No. NM0030759" (N3B 2023, 702608) for more information on Consent Order investigation activities, the SSD, and planned stormwater monitoring at the SMA for future monitoring seasons.

153.1 Site Descriptions

40-003(b) (2/15/2018)

AOC 40-003(b) is a former burn site located approximately 1400 ft east of building 40-15 at TA-40. The Site is adjacent to the second former open detonation site associated with SWMU 40-003(a). The burn site consists of three former small burning areas (burn cage locations) and a burn pit. Materials burned consisted of HE-contaminated combustibles, including rags, paper, wood, and glassware. From 1960 to 1985, a wire burn cage measuring 4 ft wide × 4 ft long × 5 ft high and equipped with a steel-plate floor was used at three different locations. The burn cage was used to contain burning materials and to prevent wastes from being windblown before and during burning activities. Kerosene was poured over the stacked waste, and burning was initiated using explosive detonators fired remotely from building 40-15. The burn cage locations operated as a hazardous waste thermal treatment unit under RCRA interim status from 1980 until operations ceased in 1985. The burn cage locations underwent RCRA closure from 1992 to 1994. The closure report was approved by NMED in August 1995.

The former burn pit was located between the two former northern burn cage locations and measured approximately 12 ft wide × 50 ft long × 12 ft deep. Burn pit operations began in 1961 and ceased sometime before 1977. Aerial photographs showed the entire area, including the burn pit had been backfilled and covered by 1976. The burn pit was omitted from the RCRA closure because its period of use occurred before 1980 and, therefore, prior to RCRA regulation.

Known or Potential Use of POCs

POCs known to be managed or potentially used at the Site are listed in Table 153-1.

Table 153-1 POCs Known or Suspected to Have Been Used Historically at the Site

Site	Potential POC Source	Potential POCs
40-003(b)	Burning area	Barium, lead, thallium, tungsten, dioxins/furans, PAHs, HE

153.2 Control Measures

All active control measures in use at PJ-SMA-11.1 are listed in Table 153-2. Their locations are shown on the project map (Figure 153-1) located at the end of this SMA update. Future map updates will be posted on the IP website: https://ext.em-la.doe.gov/ips/Home/SiteMonitoringAreaMaps.

Table 153-2 Active Control Measures

Control ID	Control Name	Purpose of Control				Control Status	Install Date
		Run-On	Runoff	Erosion	Sediment		
J01402040015	Established Vegetation	-	X	X	-	B	5-7-2013
J01403010020	Earthen Berm	-	X	-	X	EC	3-4-2015
J01403010021	Earthen Berm	-	X	-	X	EC	3-4-2015
J01403010022	Earthen Berm	-	X	-	X	EC	3-4-2015
J01403010023	Earthen Berm	-	X	-	X	EC	3-4-2015
J01406010007	Rock Check Dam	-	X	-	X	CB	11-16-2009
J01406010008	Rock Check Dam	-	X	-	X	CB	11-16-2009
J01406010009	Rock Check Dam	-	X	-	X	CB	11-16-2009

153.3 Inspections and Maintenance

Rain gage RG-TA-06 recorded seven storm events at PJ-SMA-11.1 during the 2022 season, requiring three post-storm inspections, which are summarized in Table 153-3. No other control-measure inspections, maintenance activities, or facility modifications affecting discharge were conducted at the SMA in 2022.

Table 153-3 Post-Storm Inspections During 2022

Inspection Reference	Storm Date	30-Minute Maximum Intensity (in.)	Inspection Date	Days to Inspection	Inspected within 15 days?
BMP-93180[a,b]	6-25-2022 6-26-2022	0.48 0.3	6-28-2022	3 2	Yes Yes
BMP-93759	7-4-2022	0.26	7-13-2022	9	Yes
BMP-94284[b]	7-20-2022 7-27-2022 7-30-2022 7-31-2022	0.3 1.77 0.45 0.45	8-1-2022	12 5 2 1	Yes Yes Yes Yes

[a] Inspection also qualifies as the Annual Erosion Evaluation per 2010 IP Part I.G.1.

[b] Inspection qualifies for multiple Storm Dates per 2010 IP Part I.G.2 and 2022 IP Part I.B.8.b.

153.4 Stormwater Monitoring

Following the installation of baseline control measures, a baseline stormwater sample was collected on September 13, 2013. Analytical results from this sample yielded TAL exceedances for aluminum (1040 µg/L), copper (20.9 µg/L), and gross-alpha activity (89.4 pCi/L). The complete analytical results are presented in "Stormwater Individual Permit Annual Report, Reporting Period: January 1–December 31, 2013, NPDES Permit No. NM0030759" (LANL 2014, 254067).

Following the installation of enhanced control measures, a corrective-action stormwater sample was collected on August 26, 2021. Analytical results from this sample yielded TAL exceedances for copper (37.6 µg/L) and gross-alpha activity (132 pCi/L). The complete analytical results are presented in "Stormwater Individual Permit Annual Report, Reporting Period: January 1–December 31, 2021, NPDES Permit No. NM0030759" (N3B 2022, 701895).

Stormwater monitoring was conducted at PJ-SMA-11.1 under the 2010 IP requirements from March 16 through October 27, 2022, resulting in a monitoring season of 226 days. Seven inspections were performed during the monitoring period and are summarized in Table 153-4.

Rain gage RG-TA-06 recorded 36 rain events exceeding 0.1 in. in 24 hours while the sampling equipment was active. No new confirmation-monitoring samples were collected in 2022.

Table 153-4 Sampler Inspections During 2022

Inspection Reference	Inspection Date	Sample Retrieved?	Date(s) of Rain Events Exceeding 0.1 in. in 24 hr since previous inspection	Rainfall Intensity[a]/ Total[b] (in.)
SMPLR-91531	4-5-2022	No	None	None
SMPLR-91852	5-5-2022	No	None	None
SMPLR-92391	6-15-2022	No	None	None
SMPLR-92870	6-28-2022	No	6-17-2022 6-18-2022[c] 6-19-2022[c] 6-21-2022[c] 6-22-2022[c] 6-25-2022[c] 6-26-2022[c]	0.07/0.32 0.06/0.17 0.05/0.17 0.06/0.14 0.1/0.6 0.48/1.34 0.3/1.87
SMPLR-93460	8-1-2022	No	7-1-2022 7-2-2022 7-4-2022 7-14-2022 7-20-2022 7-21-2022 7-24-2022 7-26-2022 7-27-2022 7-29-2022[c] 7-30-2022[c] 7-31-2022[c]	0.16/0.64 0.06/0.15 0.26/0.39 0.13/0.17 0.3/0.4 0.12/0.21 0.09/0.12 0.09/0.27 1.77/1.86 0.09/0.18 0.45/0.75 0.45/0.99
SMPLR-95162	9-12-2022	No	8-1-2022 8-5-2022 8-6-2022 8-11-2022 8-16-2022 8-18-2022 8-19-2022 8-20-2022 9-9-2022	0.1/0.14 0/1.15 0.23/0.66 0.15/0.19 0.07/0.21 0.03/0.16 0.09/0.22 0.06/0.11 0.12/0.15

Inspection Reference	Inspection Date	Sample Retrieved?	Date(s) of Rain Events Exceeding 0.1 in. in 24 hr since previous inspection	Rainfall Intensity[a]/ Total[b] (in.)
SMPLR-95865	10-27-2022	No	9-20-2022	0.07/0.11
			9-22-2022	0.19/0.21
			10-2-2022	0.09/0.31
			10-3-2022	0.16/0.2
			10-4-2022	0.02/0.12
			10-7-2022	0.06/0.1
			10-15-2022	0.17/0.86
			10-16-2022	0.04/0.18

[a] Intensity = Maximum amount of precipitation in any 30-min interval.

[b] Total = Total amount of precipitation in 24 hr.

[c] The sampler had period(s) of inoperability since previous inspection. See CSR comment in the SDPPP Overview Appendix E for more details.

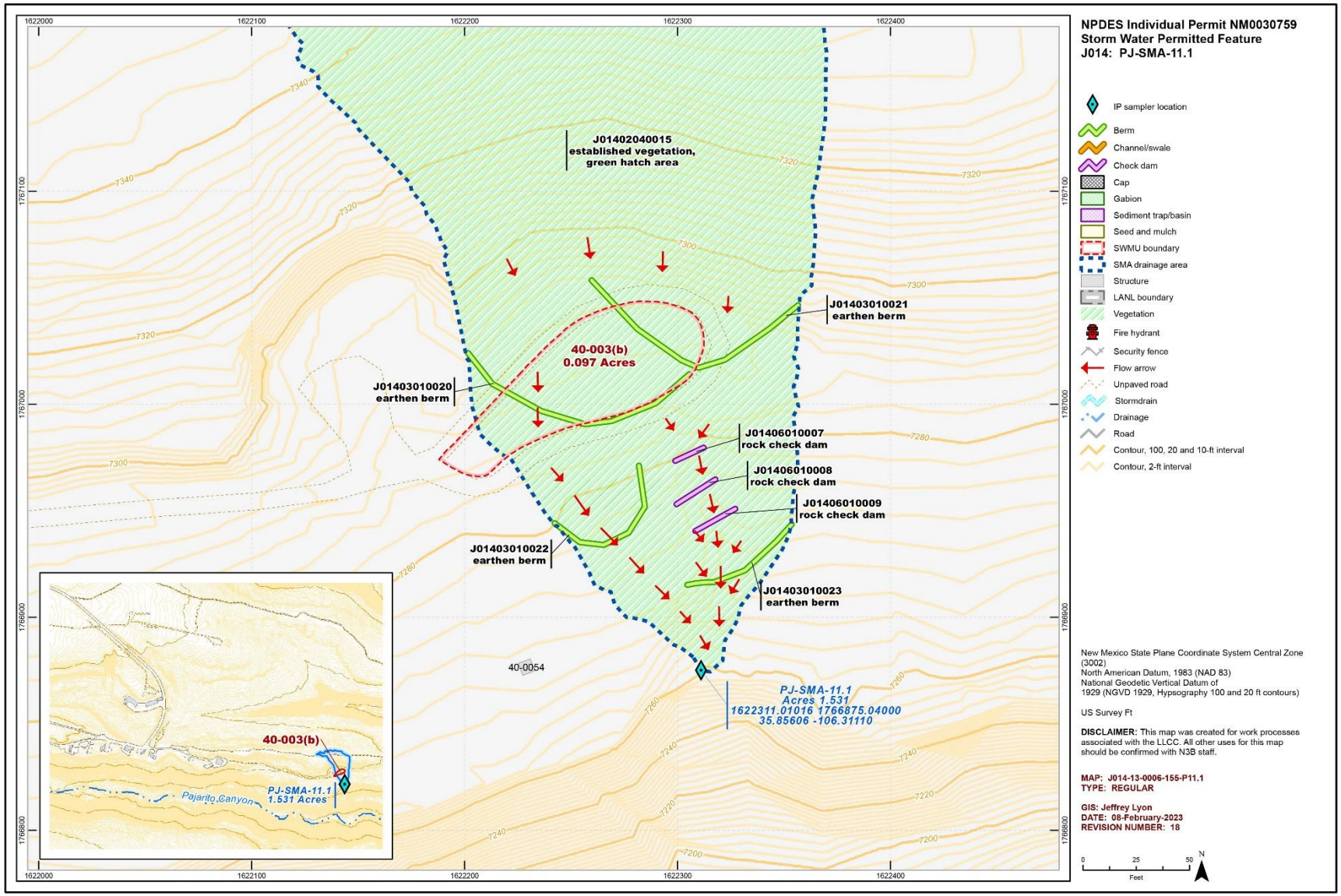

Figure 153-1 PJ-SMA-11.1 location map

154.0 PJ-SMA-13.7: AOC 18-010(b)

One historical industrial activity area, Site 18-010(b), is associated with PJ-SMA-13.7 (permitted feature J016). Summaries of all inspection, monitoring, and maintenance actions conducted in 2022 are provided below. Refer to the "2022 Sampling Implementation Plan, NPDES Permit No. NM0030759" (N3B 2023, 702608) for more information on Consent Order investigation activities, the SSD, and planned stormwater monitoring at the SMA for future monitoring seasons.

154.1 Site Descriptions

18-010(b) (1/5/2018)

AOC 18-010(b) is an outfall that receives stormwater runoff from an asphalt-paved drainage ditch running southward along the west side of the paved area, west of former building 18-30 in TA-18. The outfall discharges to a flat, grassy area at the fence southwest of former building 18-30. The discharge point is approximately 25 ft north of the stream channel in Pajarito Canyon (AOC C-00-011). The date this outfall became operational is unknown, but it is likely that the outfall has been operational from the time former building 18-30 was constructed in 1951.

Former building 18-30 served as the main administrative building at TA-18, and was constructed in 1951. Building 18-30 also housed three control rooms with systems for remote nuclear criticality research, a welding shop, machine shops, laboratory space, darkrooms (Rooms 120A and 120B) with floor drains and piping to an outfall [SWMU 18-012(b)]. No radioactive liquids were ever present in former building 18-30. Building 18-30 underwent D&D in 2011 and 2012.

Known or Potential Use of POCs

POCs known to be managed or potentially used at the Site are listed in Table 154-1.

Table 154-1 POCs Known or Suspected to Have Been Used Historically at the Site

Site	Potential POC Source	Potential POCs
18-010(b)	Outfall	Lead, uranium

154.2 Control Measures

All active control measures in use at PJ-SMA-13.7 are listed in Table 154-2. Their locations are shown on the project map (Figure 154-1) located at the end of this SMA update. Future map updates will be posted on the IP website: https://ext.em-la.doe.gov/ips/Home/SiteMonitoringAreaMaps.

Table 154-2 Active Control Measures

Control ID	Control Name	Purpose of Control				Control Status	Install Date
		Run-On	Runoff	Erosion	Sediment		
J01602040011	Established Vegetation	-	X	X	-	B	5-2-2013
J01605020008	Sediment Basin	-	X	-	X	EC	1-22-2013
J01605020009	Sediment Basin	-	X	-	X	EC	1-22-2013
J01606010007	Rock Check Dam	X	-	-	X	CB	5-3-2010
J01607010002	Gabions	-	X	X	-	CB	6-1-2009
J01608030010	Concrete/Asphalt Cap	-	X	-	-	EC	5-28-2013

154.3 Inspections and Maintenance

Rain gage RG245.5 recorded six storm events at PJ-SMA-13.7 during the 2022 season, requiring four post-storm inspections, which are summarized in Table 154-3. No other control-measure inspections, maintenance activities, or facility modifications affecting discharge were conducted at the SMA in 2022.

Table 154-3 Post-Storm Inspections During 2022

Inspection Reference	Storm Date	30-Minute Maximum Intensity (in.)	Inspection Date	Days to Inspection	Inspected within 15 days?
BMP-93182[a]	6-25-2022	0.33	7-5-2022	10	Yes
BMP-94484[b]	7-26-2022 7-27-2022 7-30-2022	0.29 0.74 0.58	8-4-2022	9 8 5	Yes Yes Yes
BMP-95386	8-11-2022	0.54	8-16-2022	5	Yes
BMP-95490	8-16-2022	0.5	8-29-2022	13	Yes

[a] Inspection also qualifies as the Annual Erosion Evaluation per 2010 IP Part I.G.1.

[b] Inspection qualifies for multiple Storm Dates per 2010 IP Part I.G.2 and 2022 IP Part I.B.8.b.

154.4 Stormwater Monitoring

Following the installation of baseline control measures, a baseline stormwater sample was collected on September 1, 2011. Analytical results from this sample yielded a TAL exceedance for gross-alpha activity (52.6 pCi/L). The complete analytical results are presented in "Stormwater Individual Permit Annual Report, Reporting Period: January 1–December 31, 2011, NPDES Permit No. NM0030759" (LANL 2012, 11408).

Stormwater monitoring was conducted at PJ-SMA-13.7 under the 2010 IP requirements from April 1 through November 9, 2022, resulting in a monitoring season of 223 days. Six inspections were performed during the monitoring period and are summarized in Table 154-4. Rain gage RG245.5 recorded 35 rain events exceeding 0.1 in. in 24 hours while the sampling equipment was active. No new confirmation-monitoring samples were collected in 2022 and no sampling operability issues were encountered.

Table 154-4 Sampler Inspections During 2022

Inspection Reference	Inspection Date	Sample Retrieved?	Date(s) of Rain Events Exceeding 0.1 in. in 24 hr since previous inspection	Rainfall Intensity[a]/ Total[b] (in.)
SMPLR-91793	5-2-2022	No	None	None
SMPLR-92273	5-26-2022	No	None	None
SMPLR-92587	7-5-2022	No	6-17-2022 6-18-2022 6-19-2022 6-21-2022 6-22-2022 6-25-2022 6-26-2022 6-27-2022 7-1-2022 7-4-2022	0.08/0.33 0.1/0.21 0.07/0.28 0.08/0.17 0.12/0.63 0.33/1.54 0.14/1.15 0.08/0.15 0.16/0.4 0.23/0.38
SMPLR-93828	8-16-2022	No	7-14-2022 7-20-2022 7-21-2022 7-26-2022 7-27-2022 7-29-2022 7-30-2022 7-31-2022 8-6-2022 8-7-2022 8-11-2022	0.19/0.2 0.19/0.21 0.09/0.14 0.29/0.62 0.74/0.93 0.07/0.24 0.58/0.91 0.14/0.32 0.32/0.38 0.1/0.11 0.54/0.56
SMPLR-95470	9-30-2022	No	8-16-2022 8-18-2022 8-19-2022 8-20-2022 8-21-2022 8-23-2022 9-9-2022 9-22-2022	0.5/0.97 0.05/0.1 0.14/0.23 0.05/0.29 0.1/0.12 0.3/0.3 0.11/0.17 0.14/0.24
SMPLR-96203	11-9-2022	No	10-2-2022 10-3-2022 10-4-2022 10-15-2022 10-16-2022 10-17-2022	0.07/0.21 0.04/0.12 0.04/0.17 0.13/0.73 0.04/0.15 0.04/0.1

[a] Intensity = Maximum amount of precipitation in any 30-min interval.

[b] Total = Total amount of precipitation in 24 hr.

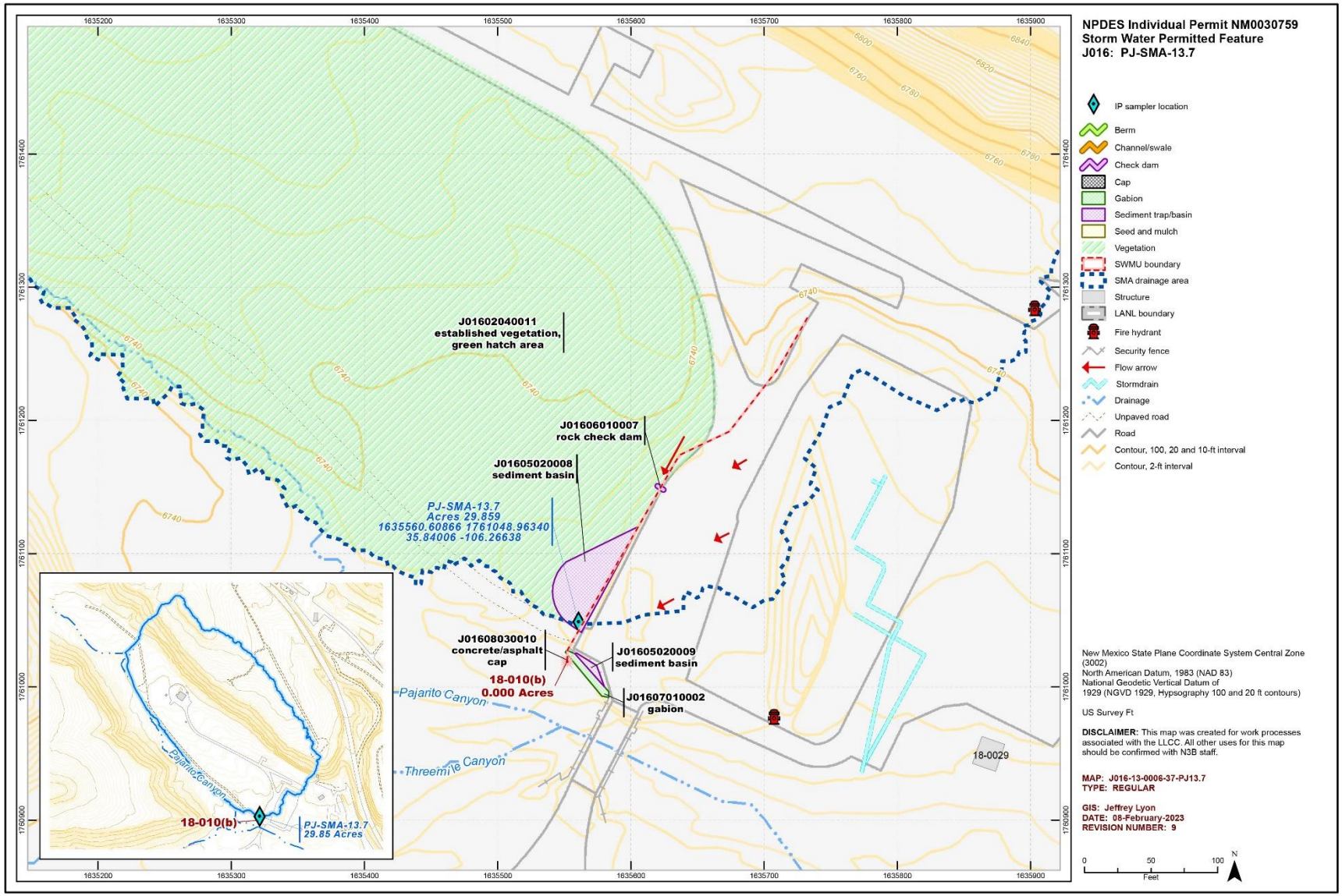

Figure 154-1 PJ-SMA-13.7 location map

155.0 PJ-SMA-14.2: SWMU 18-012(b)

One historical industrial activity area, Site 18-012(b), is associated with PJ-SMA-14.2 (permitted feature J018). Summaries of all inspection, monitoring, and maintenance actions conducted in 2022 are provided below. Refer to the "2022 Sampling Implementation Plan, NPDES Permit No. NM0030759" (N3B 2023, 702608) for more information on Consent Order investigation activities, the SSD, and planned stormwater monitoring at the SMA for future monitoring seasons.

155.1 Site Descriptions

18-012(b) (12/6/2017)

SWMU 18-012(b) is a former outfall that received discharge from several sources in former buildings 18-30 and 18-31 at TA-18. The outfall is located south of former building 18-31 approximately 20 ft north of the main drainage channel in Pajarito Canyon (AOC C-00-011) and was active from early 1950s when the buildings were constructed until they were decommissioned in 2008. The outfall received discharges from an associated sump [SWMU 18-001(c)], floor drains, sinks, stormwater from the east-wing roof of former building 18-31, and a welding quench tank in former building 18-30. The outfall also received discharges from machine shop floor drains and stormwater from the roof of former building 18-31. Discharge from both buildings was transported to the outfall via a series of 4-in. polyethylene pipes connected to the sources within the buildings. The drainline that previously exited the southeast corner of former building 18-31 flowed into the SWMU 18-003(e) septic system and was not associated with SWMU 18-012(b). Former building 18-30 served as the main administrative building at TA-18, and was constructed in 1951. Building 18-30 also housed three control rooms with systems for remote nuclear criticality research, a welding shop, machine shops, laboratory space, and darkrooms. Former building 18-31 was the main utility building for TA-18 and was constructed in 1952. Buildings 18-30 and 18-31 underwent D&D in 2011 and 2012.

Known or Potential Use of POCs

POCs known to be managed or potentially used at the Site are listed in Table 155-1.

Table 155-1 POCs Known or Suspected to Have Been Used Historically at the Site

Site	Potential POC Source	Potential POCs
18-012(b)	Outfall	Beryllium, silver, cyanide, polonium, uranium

155.2 Control Measures

All active control measures in use at PJ-SMA-14.2 are listed in Table 155-2. Their locations are shown on the project map (Figure 155-1) located at the end of this SMA update. Future map updates will be posted on the IP website: https://ext.em-la.doe.gov/ips/Home/SiteMonitoringAreaMaps.

Table 155-2 Active Control Measures

Control ID	Control Name	Purpose of Control				Control Status	Install Date
		Run-On	Runoff	Erosion	Sediment		
J01802040005	Established Vegetation	-	X	X	-	B	5-2-2013
J01803060007	Straw Wattle	X	-	-	X	B	8-29-2022
J01803120004	Rock Berm	-	X	-	X	CB	5-3-2010

155.3 Inspections and Maintenance

Rain gage RG245.5 recorded six storm events at PJ-SMA-14.2 during the 2022 season, requiring four post-storm inspections, which are summarized in Table 155-3. Maintenance activities conducted at the SMA are summarized in Table 155-4. No other control-measure inspections or facility modifications affecting discharge were conducted at the SMA in 2022.

Table 155-3 Post-Storm Inspections During 2022

Inspection Reference	Storm Date	30-Minute Maximum Intensity (in.)	Inspection Date	Days to Inspection	Inspected within 15 days?
BMP-93184[a]	6-25-2022	0.33	7-5-2022	10	Yes
BMP-94486[b]	7-26-2022 7-27-2022 7-30-2022	0.29 0.74 0.58	8-2-2022	7 6 3	Yes Yes Yes
BMP-95387	8-11-2022	0.54	8-16-2022	5	Yes
BMP-95491	8-16-2022	0.5	8-29-2022	13	Yes

[a] Inspection also qualifies as the Annual Erosion Evaluation per 2010 IP Part I.G.1.

[b] Inspection qualifies for multiple Storm Dates per 2010 IP Part I.G.2 and 2022 IP Part I.B.8.b.

Table 155-4 Maintenance Activities Conducted During 2022

Maintenance Reference	Maintenance Conducted	Maintenance Date	Response Time	Response Discussion
BMP-95500 (follow up to BMP-95387)	Installed Straw Wattle J01803060007 as a replacement for Straw Wattle J01803060006.	8-29-2022	13 days	Maintenance was performed as soon as practicable. Straw Wattle Installed Straw Wattle J01803060006 was still operating effectively in interim.

155.4 Stormwater Monitoring

Through calendar year 2022, stormwater flow has not been sufficient for full-volume sample collection at PJ-SMA-14.2.

Stormwater monitoring was conducted at PJ-SMA-14.2 under the 2010 IP requirements from March 31 through October 26, 2022, resulting in a monitoring season of 210 days. Six inspections were performed during the monitoring period and are summarized in Table 155-5.

Rain gage RG245.5 recorded 35 rain events exceeding 0.1 in. in 24 hours while the sampling equipment was active. No new confirmation-monitoring samples were collected in 2022 and no sampling operability issues were encountered.

Table 155-5 Sampler Inspections During 2022

Inspection Reference	Inspection Date	Sample Retrieved?	Date(s) of Rain Events Exceeding 0.1 in. in 24 hr since previous inspection	Rainfall Intensity[a]/ Total[b] (in.)
SMPLR-91757	4-29-2022	No	None	None
SMPLR-92261	5-27-2022	No	None	None
SMPLR-92616	7-5-2022	No	6-17-2022 6-18-2022 6-19-2022 6-21-2022 6-22-2022 6-25-2022 6-26-2022 6-27-2022 7-1-2022 7-4-2022	0.08/0.33 0.1/0.21 0.07/0.28 0.08/0.17 0.12/0.63 0.33/1.54 0.14/1.15 0.08/0.15 0.16/0.4 0.23/0.38
SMPLR-93830	8-2-2022	No	7-14-2022 7-20-2022 7-21-2022 7-26-2022 7-27-2022 7-29-2022 7-30-2022 7-31-2022	0.19/0.2 0.19/0.21 0.09/0.14 0.29/0.62 0.74/0.93 0.07/0.24 0.58/0.91 0.14/0.32
SMPLR-95201	9-14-2022	No	8-6-2022 8-7-2022 8-11-2022 8-16-2022 8-18-2022 8-19-2022 8-20-2022 8-21-2022 8-23-2022 9-9-2022	0.32/0.38 0.1/0.11 0.54/0.56 0.5/0.97 0.05/0.1 0.14/0.23 0.05/0.29 0.1/0.12 0.3/0.3 0.11/0.17
SMPLR-95912	10-26-2022	No	9-22-2022 10-2-2022 10-3-2022 10-4-2022 10-15-2022 10-16-2022 10-17-2022	0.14/0.24 0.07/0.21 0.04/0.12 0.04/0.17 0.13/0.73 0.04/0.15 0.04/0.1

[a] Intensity = Maximum amount of precipitation in any 30-min interval.

[b] Total = Total amount of precipitation in 24 hr.

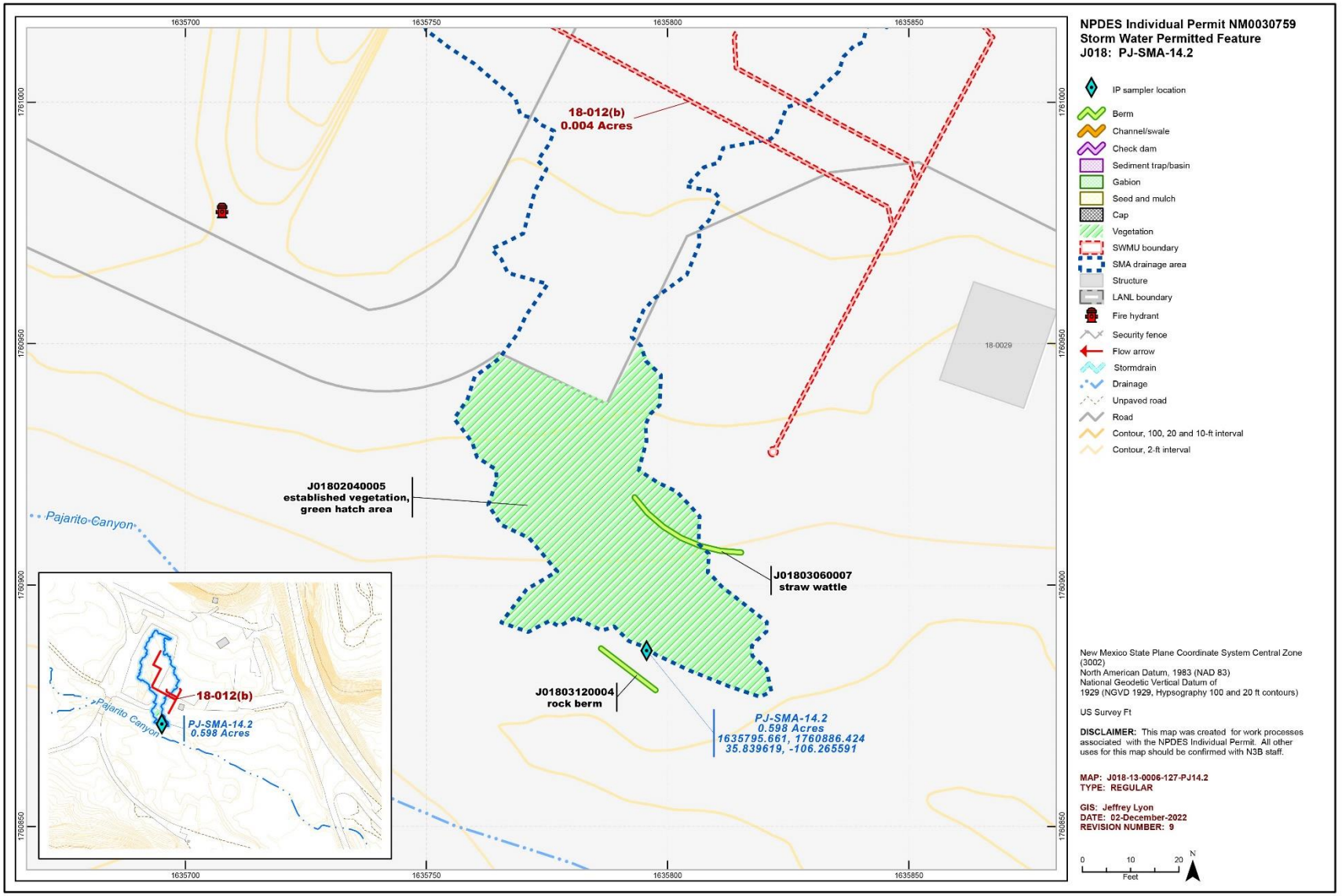

Figure 155-1 PJ-SMA-14.2 location map

156.0 PJ-SMA-14.3: SWMU 18-003(e)

One historical industrial activity area, Site 18-003(e), is associated with PJ-SMA-14.3 (permitted feature J019). Summaries of all inspection, monitoring, and maintenance actions conducted in 2022 are provided below. Refer to the "2022 Sampling Implementation Plan, NPDES Permit No. NM0030759" (N3B 2023, 702608) for more information on Consent Order investigation activities, the SSD, and planned stormwater monitoring at the SMA for future monitoring seasons.

156.1 Site Descriptions

18-003(e) (1/5/2018)

SWMU 18-003(e) is an inactive septic system consisting of a cylindrical septic tank (structure 18-40), inlet and outlet drainlines, a drain field, and a former outfall at TA-18. The septic tank is located approximately 50 ft southwest of former building 18-37 and approximately 50 ft east of building 18-29 (an historical log cabin). The septic tank is constructed of reinforced concrete and measures 6 ft in diameter × 6 ft deep. The septic system received sanitary waste from former building 18-31 (a utility building), former building 18-37 (a guard tower), former building 18-129 (a reactor subassembly building), former building 18-189 (an electronics building for site security), and former building 18-190 (the main guard station for TA-18). While in operation from 1951 to 1969, the septic system may have also received industrial waste from a sink in former building 18-28 (a warehouse). Septic tanks associated with SWMUs 18-003(g, h) (structure 18-43 and structure 18-152, respectively) may have also discharged to this septic system.

Effluent from the septic tank was discharged through the outlet drainline to a drain field consisting of four drainlines, each of which is approximately 40 ft long. The drainlines, which are 10 ft apart, merge at the distal end of the drain field and continue an estimated 100 ft to the south to the former outfall in the Pajarito Canyon drainage channel (AOC C-00-011). In 1969, sanitary waste lines from the buildings listed above were connected to the TA-18 sewer system that routed effluent to the sanitary sewage lagoons [SWMUs 18-001(a) and 18-001(b)]. At that time, the septic tank was backfilled with sand.

Buildings 18-31, 18-37, 18-129, 18-189, and 18-190 underwent D&D in 2011 and 2012. Building 18-29, the historical log cabin near the SWMU 18-003(e) septic system, is considered a contributing historical building as part of the planned Manhattan Project National Historical Park and the septic system is located within the planned Manhattan Project National Historical Park boundary.

Known or Potential Use of POCs

POCs known to be managed or potentially used at the Site are listed in Table 156-1.

Table 156-1 POCs Known or Suspected to Have Been Used Historically at the Site

Site	Potential POC Source	Potential POCs
18-003(e)	Septic system	Beryllium, chromium, silver, cyanide, organic chemicals, uranium

156.2 Control Measures

All active control measures in use at PJ-SMA-14.3 are listed in Table 156-2. Their locations are shown on the project map (Figure 156-1) located at the end of this SMA update. Future map updates will be posted on the IP website: https://ext.em-la.doe.gov/ips/Home/SiteMonitoringAreaMaps.

Table 156-2 Active Control Measures

Control ID	Control Name	Purpose of Control				Control Status	Install Date
		Run-On	Runoff	Erosion	Sediment		
J01902040003	Established Vegetation	-	X	X	-	B	5-2-2013
J01903060007	Straw Wattle	-	X	-	X	B	9-16-2021

156.3 Inspections and Maintenance

Rain gage RG245.5 recorded six storm events at PJ-SMA-14.3 during the 2022 season, requiring four post-storm inspections, which are summarized in Table 156-3. No other control-measure inspections, maintenance activities, or facility modifications affecting discharge were conducted at the SMA in 2022.

Table 156-3 Post-Storm Inspections During 2022

Inspection Reference	Storm Date	30-Minute Maximum Intensity (in.)	Inspection Date	Days to Inspection	Inspected within 15 days?
BMP-93185[a]	6-25-2022	0.33	7-5-2022	10	Yes
BMP-94487[b]	7-26-2022 7-27-2022 7-30-2022	0.29 0.74 0.58	8-2-2022	7 6 3	Yes Yes Yes
BMP-95388	8-11-2022	0.54	8-15-2022	4	Yes
BMP-95492	8-16-2022	0.5	8-29-2022	13	Yes

[a] Inspection also qualifies as the Annual Erosion Evaluation per 2010 IP Part I.G.1.

[b] Inspection qualifies for multiple Storm Dates per 2010 IP Part I.G.2 and 2022 IP Part I.B.8.b.

156.4 Stormwater Monitoring

Through calendar year 2022, stormwater flow has not been sufficient for full-volume sample collection at PJ-SMA-14.3.

Stormwater monitoring was conducted at PJ-SMA-14.3 under the 2010 IP requirements from March 31 through October 26, 2022, resulting in a monitoring season of 210 days. Seven inspections were performed during the monitoring period and are summarized in Table 156-4.

Rain gage RG245.5 recorded 35 rain events exceeding 0.1 in. in 24 hours while the sampling equipment was active. No new confirmation-monitoring samples were collected in 2022 and no sampling operability issues were encountered.

Table 156-4 Sampler Inspections During 2022

Inspection Reference	Inspection Date	Sample Retrieved?	Date(s) of Rain Events Exceeding 0.1 in. in 24 hr since previous inspection	Rainfall Intensity[a]/ Total[b] (in.)
SMPLR-91756	4-19-2022	No	None	None
SMPLR-92065	4-29-2022	No	None	None
SMPLR-92260	5-27-2022	No	None	None
SMPLR-92615	7-5-2022	No	6-17-2022 6-18-2022 6-19-2022 6-21-2022 6-22-2022 6-25-2022 6-26-2022 6-27-2022 7-1-2022 7-4-2022	0.08/0.33 0.1/0.21 0.07/0.28 0.08/0.17 0.12/0.63 0.33/1.54 0.14/1.15 0.08/0.15 0.16/0.4 0.23/0.38
SMPLR-93829	8-2-2022	No	7-14-2022 7-20-2022 7-21-2022 7-26-2022 7-27-2022 7-29-2022 7-30-2022 7-31-2022	0.19/0.2 0.19/0.21 0.09/0.14 0.29/0.62 0.74/0.93 0.07/0.24 0.58/0.91 0.14/0.32
SMPLR-95471	9-13-2022	No	8-6-2022 8-7-2022 8-11-2022 8-16-2022 8-18-2022 8-19-2022 8-20-2022 8-21-2022 8-23-2022 9-9-2022	0.32/0.38 0.1/0.11 0.54/0.56 0.5/0.97 0.05/0.1 0.14/0.23 0.05/0.29 0.1/0.12 0.3/0.3 0.11/0.17
SMPLR-95893	10-26-2022	No	9-22-2022 10-2-2022 10-3-2022 10-4-2022 10-15-2022 10-16-2022 10-17-2022	0.14/0.24 0.07/0.21 0.04/0.12 0.04/0.17 0.13/0.73 0.04/0.15 0.04/0.1

[a] Intensity = Maximum amount of precipitation in any 30-min interval.

[b] Total = Total amount of precipitation in 24 hr.

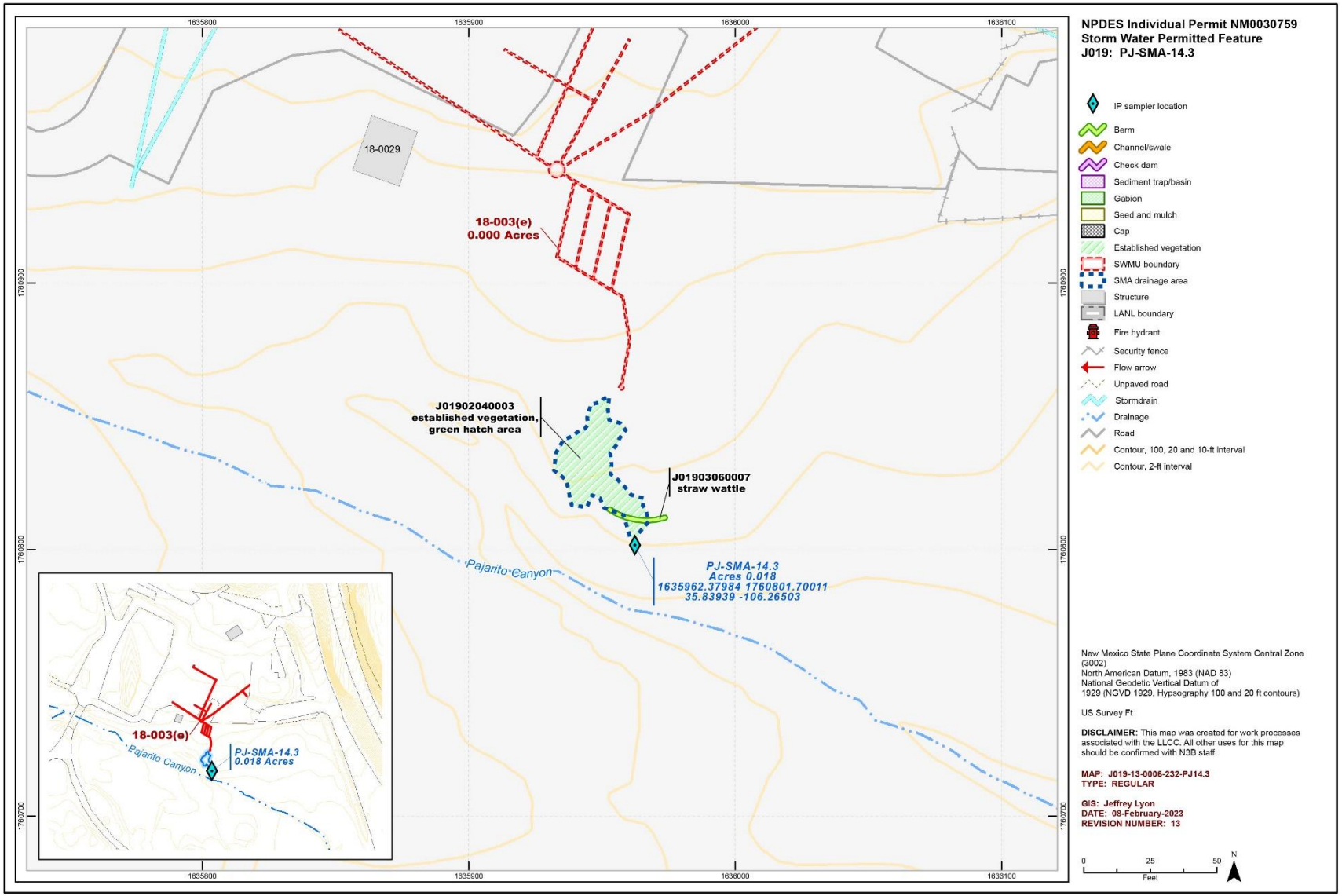

Figure 156-1 PJ-SMA-14.3 location map

157.0 PJ-SMA-14.4: AOC 18-010(d)

One historical industrial activity area, Site 18-010(d), is associated with PJ-SMA-14.4 (permitted feature J020). Summaries of all inspection, monitoring, and maintenance actions conducted in 2022 are provided below. Refer to the "2022 Sampling Implementation Plan, NPDES Permit No. NM0030759" (N3B 2023, 702608) for more information on Consent Order investigation activities, the SSD, and planned stormwater monitoring at the SMA for future monitoring seasons.

157.1 Site Descriptions

18-010(d) (1/5/2018)

AOC 18-010(d) is an outfall that receives discharge in the form of sheet flow from a storm drainage collection area that drains the paved area northeast of former building 18-37 at TA-18. The outfall discharges to a flat graveled and grassy area southeast of former building 18-37 and west of building 18-258. The discharge point is approximately 100 ft north of the stream channel in Pajarito Canyon (AOC C-00-011). The date this outfall became operational is unknown, but it is likely that the outfall has been operational from the time former building 18-37 was constructed in 1951.

Former building 18-37 was an inactive guard station, constructed between 1949 and 1951. The structure consisted of 10-in.-thick concrete walls on a concrete slab. Former building 18-37 underwent D&D in 2011 and 2012.

Known or Potential Use of POCs

POCs known to be managed or potentially used at the Site are listed in Table 157-1.

Table 157-1 POCs Known or Suspected to Have Been Used Historically at the Site

Site	Potential POC Source	Potential POCs
18-010(d)	Outfall	Lead, uranium

157.2 Control Measures

All active control measures in use at PJ-SMA-14.4 are listed in Table 157-2. Their locations are shown on the project map (Figure 157-1) located at the end of this SMA update. Future map updates will be posted on the IP website: https://ext.em-la.doe.gov/ips/Home/SiteMonitoringAreaMaps.

Table 157-2 Active Control Measures

Control ID	Control Name	Purpose of Control				Control Status	Install Date
		Run-On	Runoff	Erosion	Sediment		
J02002040010	Established Vegetation	-	X	X	-	B	5-2-2013
J02003010013	Earthen Berm	-	X	-	X	B	1-4-2018
J02003140014	Coir Log	X	-	X	-	B	8-29-2022

157.3 Inspections and Maintenance

Rain gage RG245.5 recorded six storm events at PJ-SMA-14.4 during the 2022 season, requiring four post-storm inspections, which are summarized in Table 157-3. Maintenance activities conducted at the SMA are summarized in Table 157-4. No other control-measure inspections or facility modifications affecting discharge were conducted at the SMA in 2022.

Table 157-3 Post-Storm Inspections During 2022

Inspection Reference	Storm Date	30-Minute Maximum Intensity (in.)	Inspection Date	Days to Inspection	Inspected within 15 days?
BMP-93186[a]	6-25-2022	0.33	7-5-2022	10	Yes
BMP-94488[b]	7-26-2022 7-27-2022 7-30-2022	0.29 0.74 0.58	8-2-2022	7 6 3	Yes Yes Yes
BMP-95389	8-11-2022	0.54	8-15-2022	4	Yes
BMP-95493	8-16-2022	0.5	8-29-2022	13	Yes

[a] Inspection also qualifies as the Annual Erosion Evaluation per 2010 IP Part I.G.1.

[b] Inspection qualifies for multiple Storm Dates per 2010 IP Part I.G.2 and 2022 IP Part I.B.8.b.

Table 157-4 Maintenance Activities Conducted During 2022

Maintenance Reference	Maintenance Conducted	Maintenance Date	Response Time	Response Discussion
BMP-95501 (follow up from BMP-95389)	Installed Coir Log J02003140014 as a replacement for Coir Log J02003140012.	8-29-2022	14 days	Maintenance was performed as soon as practicable. Coir Log J02003140012 was functional in interim.

157.4 Stormwater Monitoring

Through calendar year 2022, stormwater flow has not been sufficient for full-volume sample collection at PJ-SMA-14.4.

Stormwater monitoring was conducted at PJ-SMA-14.4 under the 2010 IP requirements from March 31 through October 26, 2022, resulting in a monitoring season of 210 days. Seven inspections were performed during the monitoring period and are summarized in Table 157-5.

Rain gage RG245.5 recorded 35 rain events exceeding 0.1 in. in 24 hours while the sampling equipment was active. No new confirmation-monitoring samples were collected in 2022 and no sampling operability issues were encountered.

Table 157-5 Sampler Inspections During 2022

Inspection Reference	Inspection Date	Sample Retrieved?	Date(s) of Rain Events Exceeding 0.1 in. in 24 hr since previous inspection	Rainfall Intensity[a]/ Total[b] (in.)
SMPLR-91755	4-19-2022	No	None	None
SMPLR-92064	4-29-2022	No	None	None
SMPLR-92259	5-26-2022	No	None	None
SMPLR-92585	7-5-2022	No	6-17-2022 6-18-2022 6-19-2022 6-21-2022 6-22-2022 6-25-2022 6-26-2022 6-27-2022 7-1-2022 7-4-2022	0.08/0.33 0.1/0.21 0.07/0.28 0.08/0.17 0.12/0.63 0.33/1.54 0.14/1.15 0.08/0.15 0.16/0.4 0.23/0.38
SMPLR-93827	8-2-2022	No	7-14-2022 7-20-2022 7-21-2022 7-26-2022 7-27-2022 7-29-2022 7-30-2022 7-31-2022	0.19/0.2 0.19/0.21 0.09/0.14 0.29/0.62 0.74/0.93 0.07/0.24 0.58/0.91 0.14/0.32
SMPLR-95200	9-14-2022	No	8-6-2022 8-7-2022 8-11-2022 8-16-2022 8-18-2022 8-19-2022 8-20-2022 8-21-2022 8-23-2022 9-9-2022	0.32/0.38 0.1/0.11 0.54/0.56 0.5/0.97 0.05/0.1 0.14/0.23 0.05/0.29 0.1/0.12 0.3/0.3 0.11/0.17
SMPLR-95911	10-26-2022	No	9-22-2022 10-2-2022 10-3-2022 10-4-2022 10-15-2022 10-16-2022 10-17-2022	0.14/0.24 0.07/0.21 0.04/0.12 0.04/0.17 0.13/0.73 0.04/0.15 0.04/0.1

[a] Intensity = Maximum amount of precipitation in any 30-min interval.

[b] Total = Total amount of precipitation in 24 hr.

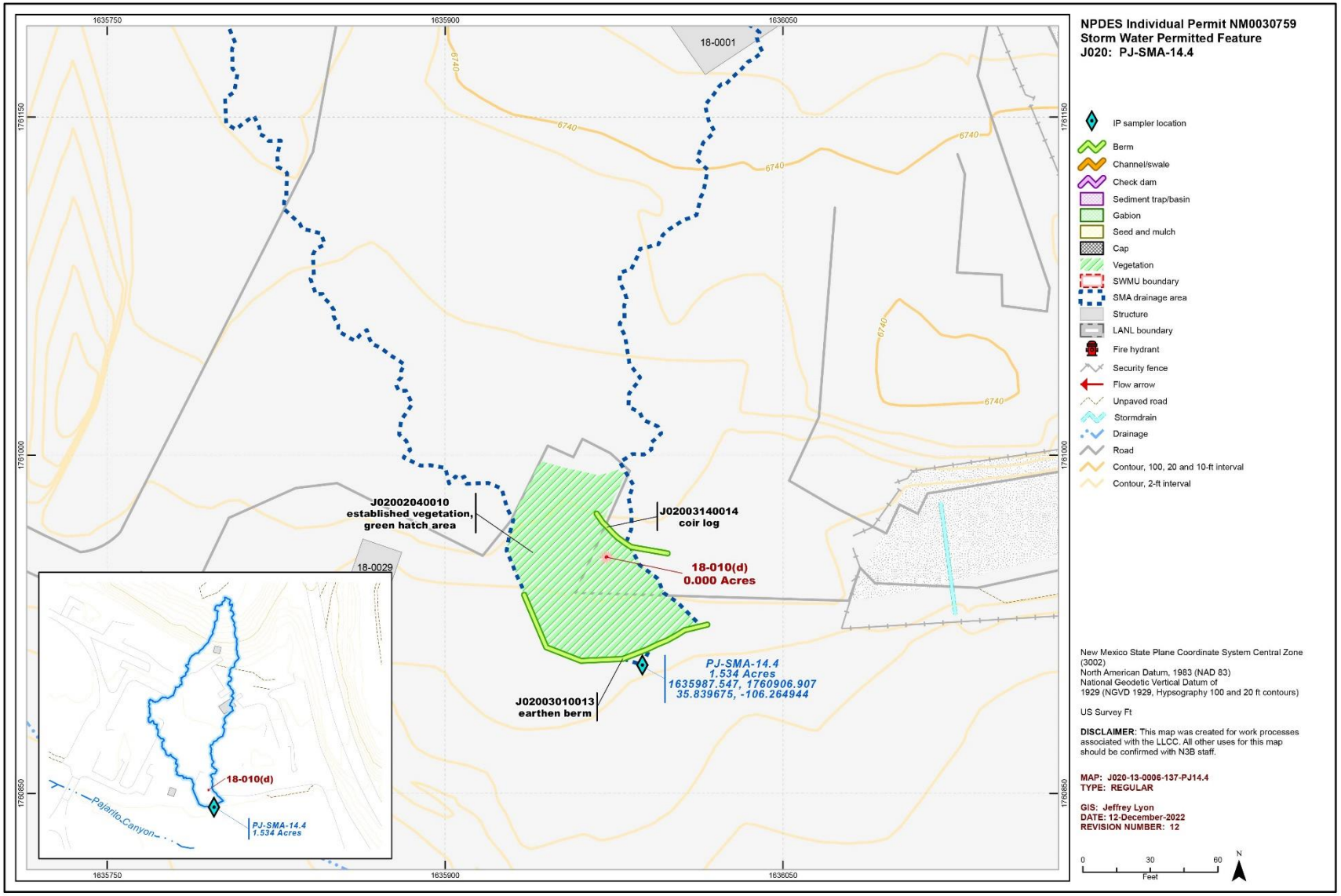

Figure 157-1 PJ-SMA-14.4 location map

158.0 PJ-SMA-14.6: AOC 18-010(e)

One historical industrial activity area, Site 18-010(e), is associated with PJ-SMA-14.6 (permitted feature J021). Summaries of all inspection, monitoring, and maintenance actions conducted in 2022 are provided below. Refer to the "2022 Sampling Implementation Plan, NPDES Permit No. NM0030759" (N3B 2023, 702608) for more information on Consent Order investigation activities, the SSD, and planned stormwater monitoring at the SMA for future monitoring seasons.

158.1 Site Descriptions

18-010(e) (1/5/2018)

AOC 18-010(e) is an outfall that receives discharge from a storm sewer drainage that drains the paved area between former building 18-28 and former building 18-147 at TA-18. The drainage enters a storm drain that runs southeast under the paved area west of former building 18-129 to a grating east of former building 18-190 and turns south. The drainage reaches the outfall south of former building 18-129 where stormwater is discharged to a small grassy gully leading to the main stream channel in Pajarito Canyon (AOC C-00-011). The outfall is located approximately 200 ft north of the Pajarito Canyon stream channel. The date this outfall became operational is unknown, but it is likely the outfall has been operational from the time former building 18-37 was constructed in 1951.

Former building 18-28 was a 40-ft × 110-ft prefabricated metal warehouse, and was constructed between 1949 and 1950. One end of this building was offices. Radiation work was conducted in the middle of the building. Former building 18-37 was an inactive guard station, constructed between 1949 and 1951. The structure consisted of 10-in.-thick concrete walls on a concrete slab. Former building 18-129 was the reactor sub-assembly building, constructed in 1962. Fixed sources were stored in Room 4A along with lead; there were also eight holes 10-12 ft deep in the concrete floor of Room 4A previously used for fuel rod storage. Former building 18-190 was the main guard station for TA-18, constructed in 1985. An addition on the west side of the building housed sumps and hydraulic pumps for the vehicle access gate. All four buildings underwent D&D in 2011 and 2012.

Known or Potential Use of POCs

POCs known to be managed or potentially used at the Site are listed in Table 158-1.

Table 158-1 POCs Known or Suspected to Have Been Used Historically at the Site

Site	Potential POC Source	Potential POCs
18-010(e)	Outfall	Lead, uranium

158.2 Control Measures

All active control measures in use at PJ-SMA-14.6 are listed in Table 158-2. Their locations are shown on the project map (Figure 158-1) located at the end of this SMA update. Future map updates will be posted on the IP website: https://ext.em-la.doe.gov/ips/Home/SiteMonitoringAreaMaps.

Table 158-2 Active Control Measures

Control ID	Control Name	Purpose of Control				Control Status	Install Date
		Run-On	Runoff	Erosion	Sediment		
J02102040008	Established Vegetation	-	X	X	-	B	5-2-2013
J02103010005	Earthen Berm	-	X	-	X	B	11-16-2011
J02104060007	Riprap	X	-	X	-	B	9-11-2012

158.3 Inspections and Maintenance

Rain gage RG245.5 recorded six storm events at PJ-SMA-14.6 during the 2022 season, requiring four post-storm inspections, which are summarized in Table 158-3. No other control-measure inspections, maintenance activities, or facility modifications affecting discharge were conducted at the SMA in 2022.

Table 158-3 Post-Storm Inspections During 2022

Inspection Reference	Storm Date	30-Minute Maximum Intensity (in.)	Inspection Date	Days to Inspection	Inspected within 15 days?
BMP-93187[a]	6-25-2022	0.33	7-5-2022	10	Yes
BMP-94489[b]	7-26-2022 7-27-2022 7-30-2022	0.29 0.74 0.58	8-2-2022	7 6 3	Yes Yes Yes
BMP-95390	8-11-2022	0.54	8-15-2022	4	Yes
BMP-95494	8-16-2022	0.5	8-29-2022	13	Yes

[a] Inspection also qualifies as the Annual Erosion Evaluation per 2010 IP Part I.G.1.

[b] Inspection qualifies for multiple Storm Dates per 2010 IP Part I.G.2 and 2022 IP Part I.B.8.b.

158.4 Stormwater Monitoring

Through calendar year 2022, stormwater flow has not been sufficient for full-volume sample collection at PJ-SMA-14.6.

Stormwater monitoring was conducted at PJ-SMA-14.6 under the 2010 IP requirements from March 31 through October 26, 2022, resulting in a monitoring season of 210 days. Seven inspections were performed during the monitoring period and are summarized in Table 158-4.

Rain gage RG245.5 recorded 35 rain events exceeding 0.1 in. in 24 hours while the sampling equipment was active. No new confirmation-monitoring samples were collected in 2022 and no sampling operability issues were encountered.

Table 158-4 Sampler Inspections During 2022

Inspection Reference	Inspection Date	Sample Retrieved?	Date(s) of Rain Events Exceeding 0.1 in. in 24 hr since previous inspection	Rainfall Intensity[a]/ Total[b] (in.)
SMPLR-91749	4-19-2022	No	None	None
SMPLR-92057	4-29-2022	No	None	None
SMPLR-92255	5-27-2022	No	None	None
SMPLR-92606	7-5-2022	No	6-17-2022 6-18-2022 6-19-2022 6-21-2022 6-22-2022 6-25-2022 6-26-2022 6-27-2022 7-1-2022 7-4-2022	0.08/0.33 0.1/0.21 0.07/0.28 0.08/0.17 0.12/0.63 0.33/1.54 0.14/1.15 0.08/0.15 0.16/0.4 0.23/0.38
SMPLR-93814	8-2-2022	No	7-14-2022 7-20-2022 7-21-2022 7-26-2022 7-27-2022 7-29-2022 7-30-2022 7-31-2022	0.19/0.2 0.19/0.21 0.09/0.14 0.29/0.62 0.74/0.93 0.07/0.24 0.58/0.91 0.14/0.32
SMPLR-95199	9-13-2022	No	8-6-2022 8-7-2022 8-11-2022 8-16-2022 8-18-2022 8-19-2022 8-20-2022 8-21-2022 8-23-2022 9-9-2022	0.32/0.38 0.1/0.11 0.54/0.56 0.5/0.97 0.05/0.1 0.14/0.23 0.05/0.29 0.1/0.12 0.3/0.3 0.11/0.17
SMPLR-95888	10-26-2022	No	9-22-2022 10-2-2022 10-3-2022 10-4-2022 10-15-2022 10-16-2022 10-17-2022	0.14/0.24 0.07/0.21 0.04/0.12 0.04/0.17 0.13/0.73 0.04/0.15 0.04/0.1

[a] Intensity = Maximum amount of precipitation in any 30-min interval.

[b] Total = Total amount of precipitation in 24 hr.

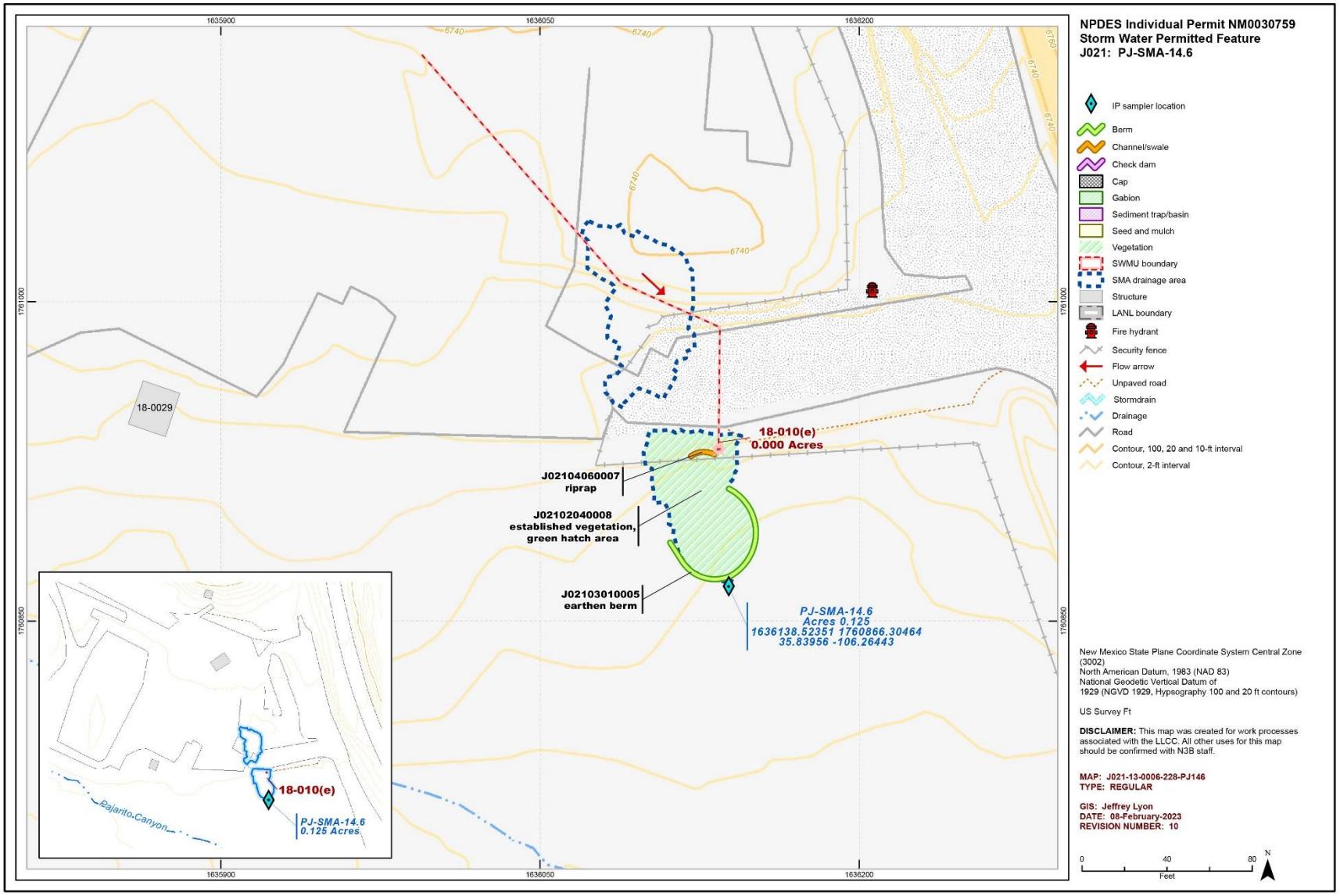

Figure 158-1 PJ-SMA-14.6 location map

159.0 PJ-SMA-14.8: SWMU 18-012(a)

One historical industrial activity area, Site 18-012(a), is associated with PJ-SMA-14.8 (permitted feature J022). Summaries of all inspection, monitoring, and maintenance actions conducted in 2022 are provided below. Refer to the "2022 Sampling Implementation Plan, NPDES Permit No. NM0030759" (N3B 2023, 702608) for more information on Consent Order investigation activities, the SSD, and planned stormwater monitoring at the SMA for future monitoring seasons.

159.1 Site Descriptions

18-012(a) (12/6/2017)

SWMU 18-012(a) is a former outfall for a combined industrial drain and storm sewer drain associated with former building 18-116 (Kiva 3) at TA-18. The drainlines that discharged to this outfall were connected to the building 18-116 roof drains, floor drains, and sinks. The outfall, identified during 1992 field inspections using a dye-trace test, is located approximately 120 ft northeast of former building 18-116 and approximately 150 ft from the main stream channel in Pajarito Canyon (AOC C-00-011). Former building 18-116 was constructed in 1960 and was used for uranium mockup tests for the Rover Program - a nuclear rocket propulsion program conducted at the Laboratory from 1955 to 1972. The date this outfall became operational is unknown, but it is likely that the outfall was used from the time building 18-116 was completed in 1960 until the building was decommissioned in 2008. Building 18-116 underwent D&D in 2011 and 2012.

Known or Potential Use of POCs

POCs known to be managed or potentially used at the Site are listed in Table 159-1.

Table 159-1 POCs Known or Suspected to Have Been Used Historically at the Site

Site	Potential POC Source	Potential POCs
18-012(a)	Outfall	Beryllium, silver, plutonium-238, uranium

159.2 Control Measures

All active control measures in use at PJ-SMA-14.8 are listed in Table 159-2. Their locations are shown on the project map (Figure 159-1) located at the end of this SMA update. Future map updates will be posted on the IP website: https://ext.em-la.doe.gov/ips/Home/SiteMonitoringAreaMaps.

Table 159-2 Active Control Measures

Control ID	Control Name	Purpose of Control				Control Status	Install Date
		Run-On	Runoff	Erosion	Sediment		
J02202040007	Established Vegetation	-	X	X	-	B	5-2-2013
J02203060008	Straw Wattle	-	X	-	X	B	11-6-2013

159.3 Inspections and Maintenance

Rain gage RG245.5 recorded six storm events at PJ-SMA-14.8 during the 2022 season, requiring four post-storm inspections, which are summarized in Table 159-3. No other control-measure inspections, maintenance activities, or facility modifications affecting discharge were conducted at the SMA in 2022.

Table 159-3 Post-Storm Inspections During 2022

Inspection Reference	Storm Date	30-Minute Maximum Intensity (in.)	Inspection Date	Days to Inspection	Inspected within 15 days?
BMP-93188[a]	6-25-2022	0.33	7-5-2022	10	Yes
BMP-94490[b]	7-26-2022 7-27-2022 7-30-2022	0.29 0.74 0.58	8-2-2022	7 6 3	Yes Yes Yes
BMP-95391	8-11-2022	0.54	8-16-2022	5	Yes
BMP-95495	8-16-2022	0.5	8-29-2022	13	Yes

[a] Inspection also qualifies as the Annual Erosion Evaluation per 2010 IP Part I.G.1.

[b] Inspection qualifies for multiple Storm Dates per 2010 IP Part I.G.2 and 2022 IP Part I.B.8.b.

159.4 Stormwater Monitoring

Following the installation of baseline control measures, baseline stormwater samples were collected on July 28 and August 18, 2011. Analytical results from these samples yielded no TAL exceedances. The complete analytical results are presented in "Stormwater Individual Permit Annual Report, Reporting Period: January 1–December 31, 2011, NPDES Permit No. NM0030759" (LANL 2012, 211408).

Stormwater monitoring was not conducted at PJ-SMA-14.8 in 2022 under the 2010 IP requirements.

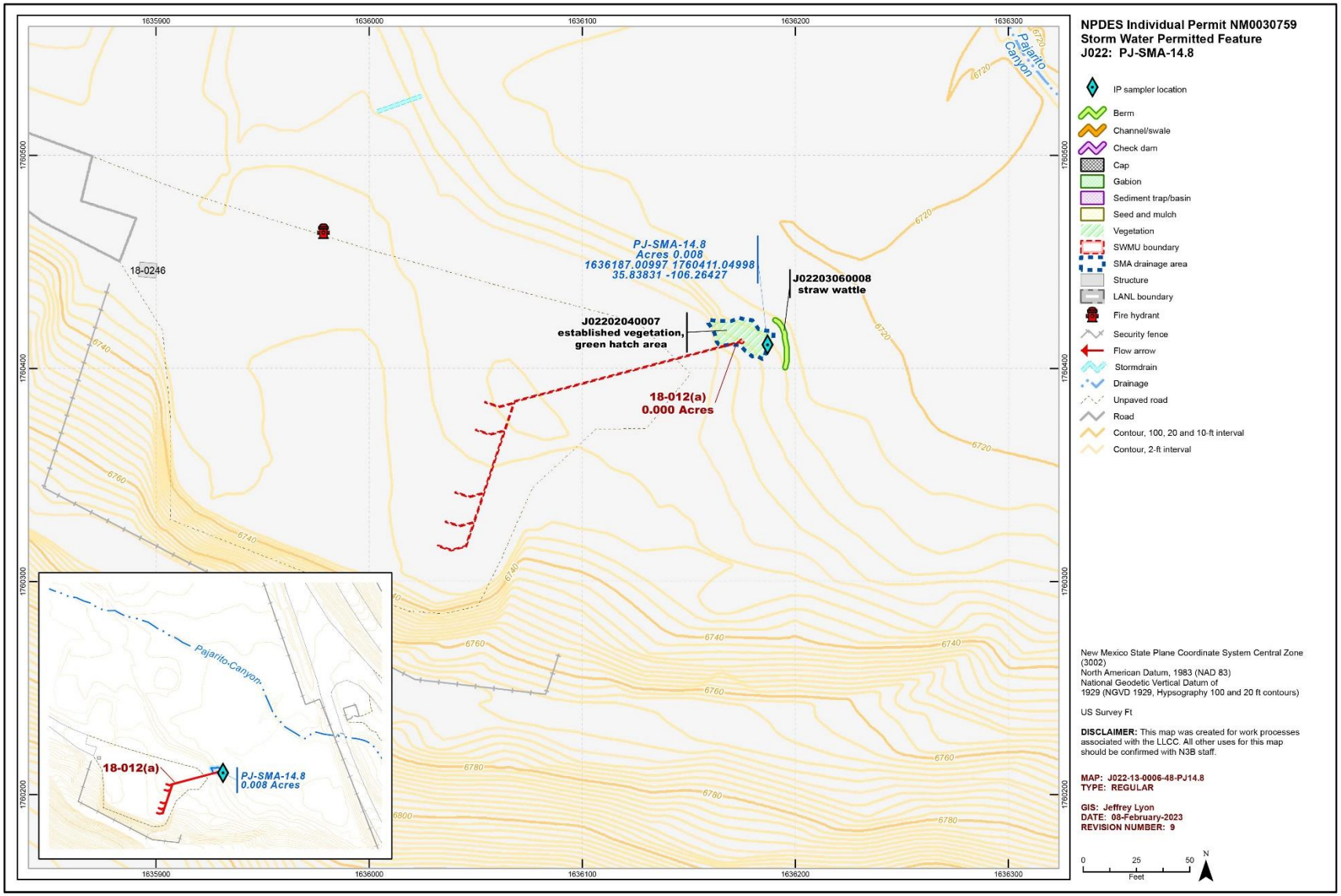

Figure 159-1 PJ-SMA-14.8 location map

160.0 PJ-SMA-16: SWMU 27-002

One historical industrial activity area, Site 27-002, is associated with PJ-SMA-16 (permitted feature J023). Summaries of all inspection, monitoring, and maintenance actions conducted in 2022 are provided below. Refer to the "2022 Sampling Implementation Plan, NPDES Permit No. NM0030759" (N3B 2023, 702608) for more information on Consent Order investigation activities, the SSD, and planned stormwater monitoring at the SMA for future monitoring seasons.

160.1 Site Descriptions

27-002 (1/5/2018)

SWMU 27-002 is an inactive firing site in Pajarito Canyon used between 1944 and 1947 in former TA-27. The Site consists of five former firing pits situated on either side of Pajarito Road, approximately 0.9 mi southeast of main area of TA-18. Former TA-27 is located within the boundary of TA-18. Firing Pit 1 is located in the grassy area approximately 100 ft south of the TA-36 fence. Firing Pits 2 and 3 are approximately 200 ft east of Firing Pit 1, between the fence and Pajarito Road. Firing Pit 4 was impacted by the construction of Pajarito Road but is located on the north side of Pajarito Road. Firing Pit 5 is located on a small curve on the north side of Pajarito Road. The pits were used for explosives testing with materials such as beryllium, thorium, and uranium. A 1946 bullet sensitivity test at Firing Pit 1 caused a block of Composition B explosive to undergo a low-order explosion, scattering unexploded HE over a 250-yd radius. The sites of all former structures were located in relation to the current Pajarito Road. Firing Pits 4 and 5 were north of the road; all other structures were south of the road. Only Firing Pit 4 had a surface expression; the other firing pits are buried. The material in and around Firing Pit 5 may have been removed during excavations for road gravel.

During the 1960s, all structures, concrete foundations, and HE, and other debris were removed from former TA-27, the firing pits were backfilled, and the ground surface was leveled. LANL personnel made several surface sweeps to collect HE fragments; however, some may remain.

Former TA-27 is located approximately 1 mi southeast of TA-18. In late 1945, former TA-27 was upgraded with several structures from TA-18 and became known as Gamma Site. The 1945 site upgrade included improving the access road from TA-18 with a layer of gravel. In early 1947, the entire site was abandoned and fenced off; since then, no Laboratory operations have been conducted at former TA-27. Gravel was excavated for road material between 1949 and 1962 throughout the length of Pajarito Canyon east of TA-18, including the area within the former boundary of TA-27. The former TA-27 area was reopened in March 1960 to begin construction of a road to White Rock from Los Alamos. The gravel road from TA-18 was shifted north, bisecting Pit 5. It was widened, paved, and opened to the public as Pajarito Road on July 11, 1962.

Known or Potential Use of POCs

POCs known to be managed or potentially used at the Site are listed in Table 160-1.

Table 160-1 POCs Known or Suspected to Have Been Used Historically at the Site

Site	Potential POC Source	Potential POCs
27-002	Firing site	Beryllium, lead, HE, thorium, uranium

160.2 Control Measures

All active control measures in use at PJ-SMA-16 are listed in Table 160-2. Their locations are shown on the project map (Figure 160-1) located at the end of this SMA update. Future map updates will be posted on the IP website: https://ext.em-la.doe.gov/ips/Home/SiteMonitoringAreaMaps.

Table 160-2 Active Control Measures

Control ID	Control Name	Purpose of Control				Control Status	Install Date
		Run-On	Runoff	Erosion	Sediment		
J02302040004	Established Vegetation	-	X	X	-	B	5-2-2013
J02303060003	Straw Wattle	-	X	-	X	B	10-3-2012

160.3 Inspections and Maintenance

Rain gage RG-TA-54 recorded four storm events at PJ-SMA-16 during the 2022 season, requiring two post-storm inspections, which are summarized in Table 160-3. No other control-measure inspections, maintenance activities, or facility modifications affecting discharge were conducted at the SMA in 2022.

Table 160-3 Post-Storm Inspections During 2022

Inspection Reference	Storm Date	30-Minute Maximum Intensity (in.)	Inspection Date	Days to Inspection	Inspected within 15 days?
BMP-94079[a]	7-14-2022	0.26	7-19-2022	5	Yes
BMP-94491[b]	7-26-2022	0.27	8-4-2022	9	Yes
	7-27-2022	0.3		8	Yes
	7-30-2022	0.45		5	Yes

[a] Inspection also qualifies as the Annual Erosion Evaluation per 2010 IP Part I.G.1.

[b] Inspection qualifies for multiple Storm Dates per 2010 IP Part I.G.2 and 2022 IP Part I.B.8.b.

160.4 Stormwater Monitoring

Following the installation of baseline control measures, baseline stormwater samples were collected on July 30, 2011 and August 8, 2013. Analytical results from these samples yielded no TAL exceedances. The complete analytical results are presented in "Stormwater Individual Permit Annual Report, Reporting Period: January 1–December 31, 2011, NPDES Permit No. NM0030759" (LANL 2012, 211408) and "Stormwater Individual Permit Annual Report, Reporting Period: January 1–December 31, 2013, NPDES Permit No. NM0030759" (LANL 2014, 254067).

Stormwater monitoring was not conducted at PJ-SMA-16 in 2022 under the 2010 IP requirements.

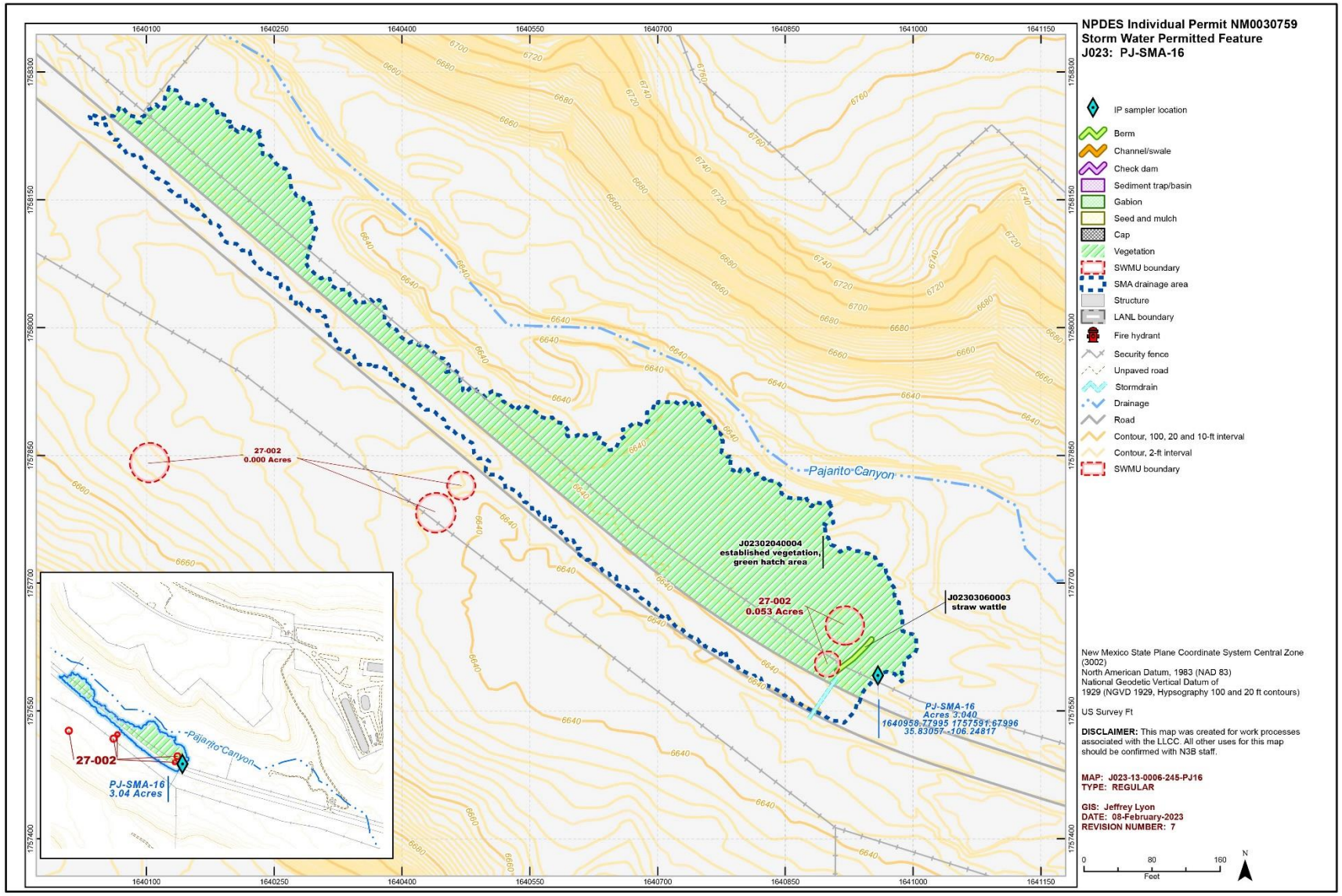

Figure 160-1 PJ-SMA-16 location map

161.0 PJ-SMA-17: SWMU 54-018

One historical industrial activity area, Site 54-018, is associated with PJ-SMA-17 (permitted feature J024). Summaries of all inspection, monitoring, and maintenance actions conducted in 2022 are provided below. Refer to the "2022 Sampling Implementation Plan, NPDES Permit No. NM0030759" (N3B 2023, 702608) for more information on Consent Order investigation activities, the SSD, and planned stormwater monitoring at the SMA for future monitoring seasons.

161.1 Site Descriptions

54-018 (7/18/2019)

SWMU 54-018 consists of inactive disposal pits 25 through 33 and 35 through 37 located in Area G at TA-54. Only Pit 29 (although no longer in use) is considered a RCRA-regulated unit until RCRA closure is certified and approved by the NMED. Pits 25 through 28, 30 through 33, and 34 through 36 received low-level radioactive, mixed, and TRU-contaminated waste in the form of reactor control rods, D&D waste, contaminated soil, transformers, glove boxes, asbestos, and lab waste and range in volume from 20,957 to 59,930 yd^3. Pit 29 operated until 1986 after which the surface of Pit 29 was used to store retrievable TRU waste in cement-filled sections of corrugated pipe [SWMU 54-015(k)]. Pit 37 operated from 1990 to 1997 and primarily received circuit boards and contaminated soil. When filled, the pits were covered with 3.3 ft of consolidated crushed tuff and 4 in. of topsoil and reseeded with native grasses. SWMU 54-018 is part of MDA G, which consists of the subsurface disposal units within Area G that are subject to the Consent Order.

Known or Potential Use of POCs

POCs known to be managed or potentially used at the Site are listed in Table 161-1.

Table 161-1 POCs Known or Suspected to Have Been Used Historically at the Site

Site	Potential POC Source	Potential POCs
54-018	Inactive disposal pits at MDA G	Metals, asbestos, PCBs, fission products, plutonium, uranium

161.2 Control Measures

All active control measures in use at PJ-SMA-17 are listed in Table 161-2. Their locations are shown on the project map (Figure 161-1) located at the end of this SMA update. Future map updates will be posted on the IP website: https://ext.em-la.doe.gov/ips/Home/SiteMonitoringAreaMaps.

Table 161-2 Active Control Measures

Control ID	Control Name	Purpose of Control				Control Status	Install Date
		Run-On	Runoff	Erosion	Sediment		
J02402040008	Established Vegetation	-	X	X	-	B	5-16-2013
J02404060006	Riprap	-	X	X	-	CB	6-1-2009
J02404060007	Riprap	-	X	X	-	CB	6-1-2009
J02405010005	Sediment Trap	-	X	-	X	CB	6-1-2009
J02406010004	Rock Check Dam	X	-	-	X	CB	6-1-2009

161.3 Inspections and Maintenance

Rain gage RG-TA-54 recorded four storm events at PJ-SMA-17 during the 2022 season, requiring two post-storm inspections, which are summarized in Table 161-3. No other control-measure inspections, maintenance activities, or facility modifications affecting discharge were conducted at the SMA in 2022.

Table 161-3 Post-Storm Inspections During 2022

Inspection Reference	Storm Date	30-Minute Maximum Intensity (in.)	Inspection Date	Days to Inspection	Inspected within 15 days?
BMP-94080[a]	7-14-2022	0.26	7-25-2022	11	Yes
BMP-94492[b]	7-26-2022	0.27	8-4-2022	9	Yes
	7-27-2022	0.3		8	Yes
	7-30-2022	0.45		5	Yes

[a] Inspection also qualifies as the Annual Erosion Evaluation per 2010 IP Part I.G.1.

[b] Inspection qualifies for multiple Storm Dates per 2010 IP Part I.G.2 and 2022 IP Part I.B.8.b.

161.4 Stormwater Monitoring

Following the installation of baseline control measures, a baseline stormwater sample was collected on July 25, 2013. Analytical results from this sample yielded TAL exceedances for copper (5.13 µg/L) and gross-alpha activity (61.6 pCi/L). The complete analytical results are presented in "Stormwater Individual Permit Annual Report, Reporting Period: January 1–December 31, 2013, NPDES Permit No. NM0030759" (LANL 2014, 254067).

Following certification of no exposure, a corrective-action-investigation stormwater sample was collected on May 21, 2015. Analytical results from this sample are presented in "NPDES Permit No. NM030759 – Submittal of Analytical Results for Site 54-018 in Site Monitoring Area PJ-SMA-17 after Certification of a No Exposure Condition" (LANL 2015, 600951).

Stormwater monitoring was not conducted at PJ-SMA-17 in 2022 under the 2010 IP requirements.

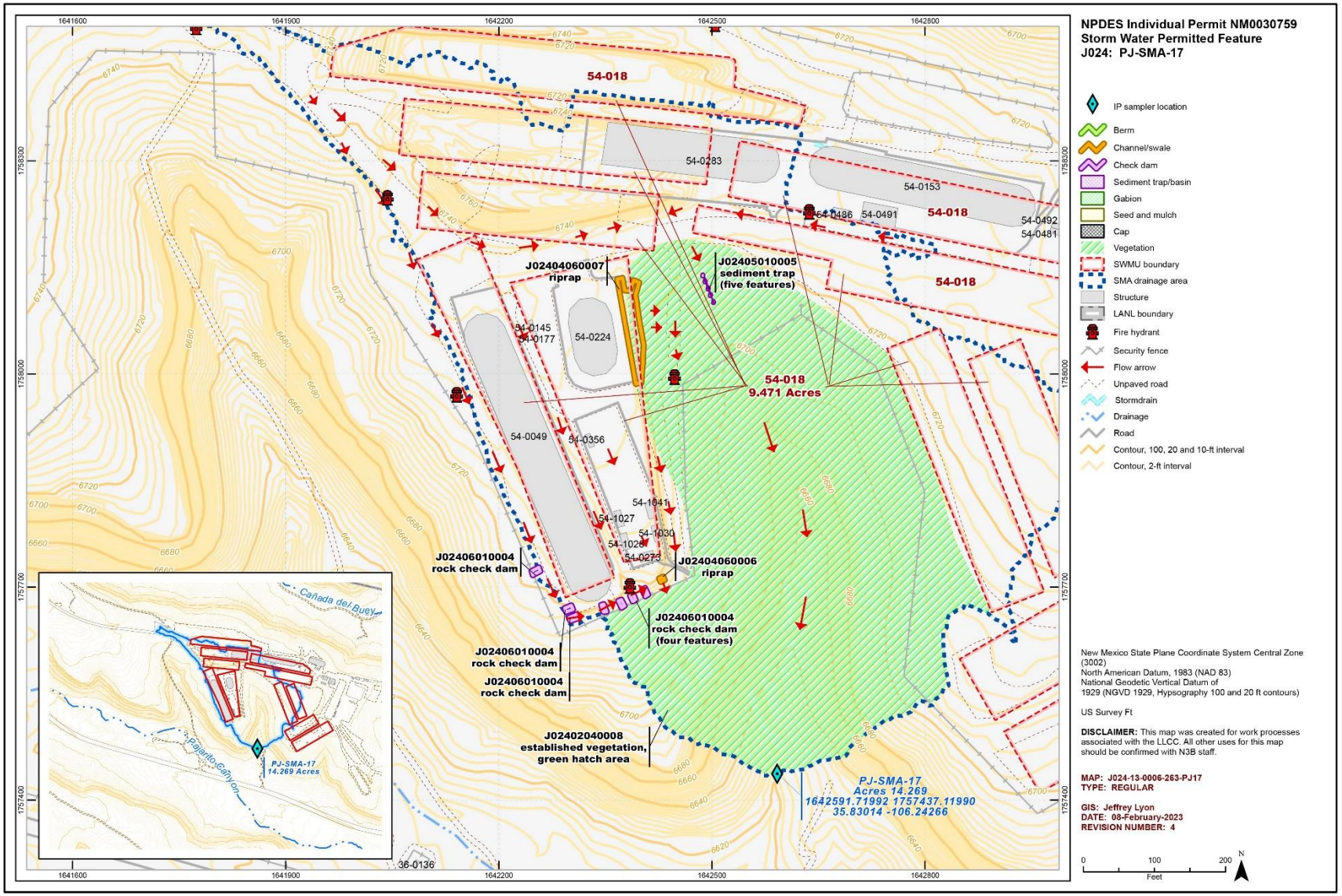

Figure 161-1 PJ-SMA-17 location map

162.0 PJ-SMA-18: SWMUs 54-014(d) and 54-017

Two historical industrial activity areas, Sites 54-014(d) and 54-017, are associated with PJ-SMA-18 (permitted feature J026). Summaries of all inspection, monitoring, and maintenance actions conducted in 2022 are provided below. Refer to the "2022 Sampling Implementation Plan, NPDES Permit No. NM0030759" (N3B 2023, 702608) for more information on Consent Order investigation activities, the SSD, and planned stormwater monitoring at the SMA for future monitoring seasons.

162.1 Site Descriptions

54-014(d) (7/18/2019)

SWMU 54-014(d) consists of retrievable TRU waste storage trenches A, B, C, and D, which are located in the south-central portion of Area G at TA-54. These trenches began receiving TRU waste in 1974. Trenches A, B, and C vary in size from 219 ft to 262.5 ft long × 13 ft wide × 6 ft to 8 ft deep. Trench D is 60 ft long × 13 ft wide × 6 ft deep. The TRU waste placed in these trenches was packaged in 30-gal. containers inside concrete casks. When filled, the trenches were backfilled with 3.3 ft of crushed tuff followed by 4 in. of topsoil. The surface was reseeded with native grasses. The TRU waste in these trenches was placed for future retrieval and processing for disposal at WIPP.

54-017 (7/18/2019)

SWMU 54-017 consist of inactive disposal pits 1 through 8, 10, 12, 13, 16 through 22, and 24 located in Area G at TA-54. Pits 1 through 8, 10, 12, 13, 16 through 22, and 24 were operational between 1959 and 1980 and received low-level radioactive, mixed, and non-retrievable TRU waste in the form of wing tanks, dry boxes, building debris, sludge drums, lab waste, contaminated soil, D&D waste, filter plenums, and uranium. Pits 1 through 8, 10, 12, 13, 16 through 22, and 24 are located in the eastern portion of Area G with volumes ranging from 1371 to 56,759 yd^3. When filled, the pits were covered with 3.3 ft of consolidated crushed tuff and 4 in. of topsoil and reseeded with native grasses. SWMU 54-017 is part of MDA G, which consists of the subsurface disposal units within Area G that are subject to the Consent Order.

Known or Potential Use of POCs

POCs known to be managed or potentially used at the Site are listed in Table 162-1.

Table 162-1 POCs Known or Suspected to Have Been Used Historically at the Site

Site	Potential POC Source	Potential POCs
54-014(d)	Storage trenches A, B, C, and D at MDA G	plutonium-238, plutonium-239
54-017	Inactive disposal pits at MDA G	Metals, asbestos, PCBs, fission products, plutonium, uranium

162.2 Control Measures

All active control measures in use at PJ-SMA-18 are listed in Table 162-2. Their locations are shown on the project map (Figure 162-1) located at the end of this SMA update. Future map updates will be posted on the IP website: https://ext.em-la.doe.gov/ips/Home/SiteMonitoringAreaMaps.

Table 162-2 Active Control Measures

Control ID	Control Name	Purpose of Control				Control Status	Install Date
		Run-On	Runoff	Erosion	Sediment		
J02602040010	Established Vegetation	-	X	X	-	B	5-16-2013
J02604010009	Earthen Channel/Swale	X	-	X	-	B	9-27-2011
J02604010011	Earthen Channel/Swale	-	X	X	-	B	11-6-2014
J02604060007	Riprap	-	X	X	-	CB	8-20-2010
J02604060012	Riprap	-	X	X	-	B	11-6-2014
J02605010005	Sediment Trap	-	X	-	X	CB	6-1-2009
J02606010004	Rock Check Dam	-	X	-	X	CB	6-1-2009

162.3 Inspections and Maintenance

Rain gage RG-TA-54 recorded four storm events at PJ-SMA-18 during the 2022 season, requiring two post-storm inspections, which are summarized in Table 162-3. No other control-measure inspections, maintenance activities, or facility modifications affecting discharge were conducted at the SMA in 2022.

Table 162-3 Post-Storm Inspections During 2022

Inspection Reference	Storm Date	30-Minute Maximum Intensity (in.)	Inspection Date	Days to Inspection	Inspected within 15 days?
BMP-94082[a]	7-14-2022	0.26	7-25-2022	11	Yes
BMP-94494[b]	7-26-2022	0.27	8-4-2022	9	Yes
	7-27-2022	0.3		8	Yes
	7-30-2022	0.45		5	Yes

[a] Inspection also qualifies as the Annual Erosion Evaluation per 2010 IP Part I.G.1.

[b] Inspection qualifies for multiple Storm Dates per 2010 IP Part I.G.2 and 2022 IP Part I.B.8.b.

162.4 Stormwater Monitoring

Following the installation of baseline control measures, a baseline stormwater sample was collected on July 25, 2013. Analytical results from this sample yielded a TAL exceedance for gross alpha (23.6 pCi/L). The complete analytical results are presented in "Stormwater Individual Permit Annual Report, Reporting Period: January 1–December 31, 2013, NPDES Permit No. NM0030759" (LANL 2014, 254067).

Following certification of no exposure, a corrective-action investigation stormwater sample was collected on August 10, 2018. Analytical results from this sample are presented in "NPDES Permit No. NM030759 –Analytical Results Following Completion of Corrective Action by Certification of a No Exposure Condition at Sites 54-014(d) and 54-017 in Site Monitoring Area PJ-SMA-18 after Certification of a No Exposure Condition" (N3B 2018, 700144).

Stormwater monitoring was not conducted at PJ-SMA-18 in 2022 under the 2010 IP requirements.

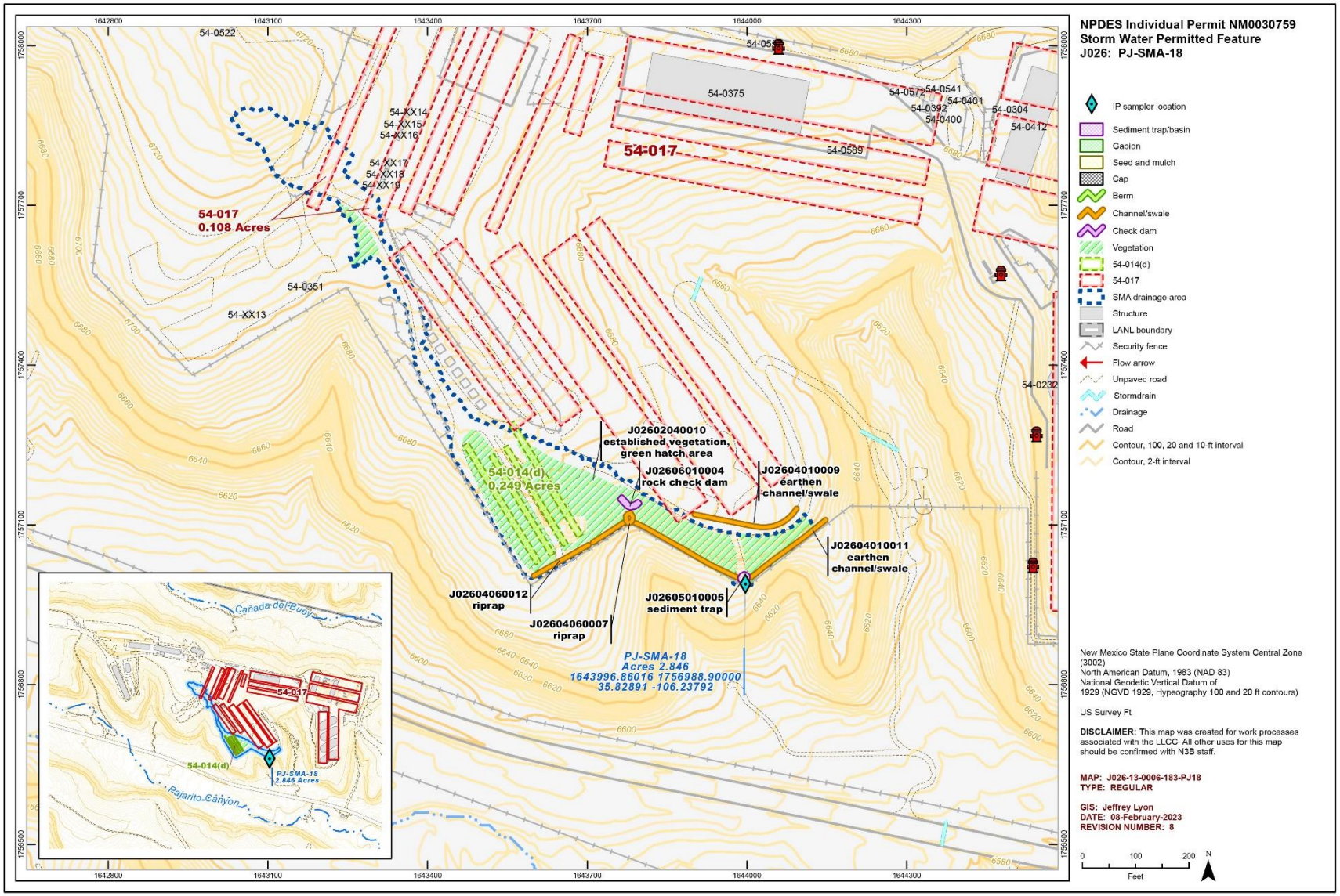

Figure 162-1 PJ-SMA-18 location map

163.0 PJ-SMA-19: SWMUs 54-013(b), 54-017, and 54-020

Three historical industrial activity areas, Sites 54-013(b), 54-017, and 54-020, are associated with PJ-SMA-19 (permitted feature J025). Summaries of all inspection, monitoring, and maintenance actions conducted in 2022 are provided below. Refer to the "2022 Sampling Implementation Plan, NPDES Permit No. NM0030759" (N3B 2023, 702608) for more information on Consent Order investigation activities, the SSD, and planned stormwater monitoring at the SMA for future monitoring seasons.

163.1 Site Descriptions

54-013(b) (7/18/2019)

SWMU 54-013(b) was a vehicle monitoring and decontamination area located in the northcentral portion of Area G at TA-54. This Site was excavated in April 1971 specifically to be used as a decontamination pit for washing trucks carrying equipment used at MDA G and TRU waste drums. The truck washing and decontamination pit was converted to a LLW disposal pit (Pit 19) in November 1975 when truck-washing activities ceased. Pit 19 is one of the LLW disposal pits comprising SWMU 54-017, and is also part of MDA G, which consists of the subsurface disposal units within Area G that are subject to the Consent Order.

54-017 (7/18/2019)

SWMU 54-017 consists of inactive disposal pits 1 through 8, 10, 12, 13, 16 through 22, and 24 located in Area G at TA-54. Pits 1 through 8, 10, 12, 13, 16 through 22, and 24 were operational between 1959 and 1980 and received low-level radioactive, mixed, and non-retrievable TRU waste in the form of wing tanks, dry boxes, building debris, sludge drums, lab waste, contaminated soil, D&D waste, filter plenums, and uranium. Pits 1 through 8, 10, 12, 13, 16 through 22, and 24 are located in the eastern portion of Area G with volumes ranging from 1,371 to 56,759 yd^3. When filled, the pits were covered with 3.3 ft of consolidated crushed tuff and 4 in. of topsoil and reseeded with native grasses. SWMU 54-017 is part of MDA G, which consists of the subsurface disposal units within Area G that are subject to the Consent Order.

54-020 (7/18/2019)

SWMU 54-020 consists of 68 disposal shafts (shafts C1 through C10, C12, C13, 22, 35 through 37, 93 through 95, 99 through 108, 114, 115, 118 through 136, 138 through 140, 151 through 160, 189 through 192, and 196) located in Area G at TA-54. These shafts were operational between 1970 and the early 1990s. Shafts 189 and 192 are described in the 1990 SWMU Report as being "triplet shafts" where three shafts are associated with one shaft number and shaft 191 is a "doublet shaft" where two shafts are associated with one shaft number. Only Shaft 124 (although no longer in use) is considered a RCRA-regulated unit until RCRA closure is certified and approved by the NMED. The shafts contain one or a combination of the following waste types: PCB residues, LLW, hazardous, and mixed waste. The shafts range in size from 1 ft to 8 ft in diameter and 25 ft to 65 ft deep and are located throughout the eastern portion of Area G. Most shafts are unlined, although a few are lined with cement or CMP. The shafts are separated by a minimum distance of 7.5 ft (the distance between doublet and triplet shafts is unknown). The shafts have 0.5 ft-thick layers of crushed tuff between the waste layers. Disposal shafts were typically filled with waste to within 3 ft of the ground surface, backfilled with crushed tuff, and covered with a concrete dome. SWMU 54-020 is part of MDA G, which consists of the subsurface disposal units within Area G that are subject to the Consent Order.

Known or Potential Use of POCs

POCs known to be managed or potentially used at the Site are listed in Table 163-1.

Table 163-1 POCs Known or Suspected to Have Been Used Historically at the Site

Site	Potential POC Source	Potential POCs
54-013(b)	Former Vehicle Monitoring/ Decontamination Area at MDA G	Asbestos, radionuclides
54-017	Inactive disposal pits at MDA G	Metals, asbestos, PCBs, fission products, plutonium, uranium
54-020	Inactive disposal shafts at MDA G	Metals, asbestos, PCBs, fission products, plutonium, uranium

163.2 Control Measures

All active control measures in use at PJ-SMA-19 are listed in Table 163-2. Their locations are shown on the project map (Figure 163-1) located at the end of this SMA update. Future map updates will be posted on the IP website: https://ext.em-la.doe.gov/ips/Home/SiteMonitoringAreaMaps.

Table 163-2 Active Control Measures

Control ID	Control Name	Purpose of Control				Control Status	Install Date
		Run-On	Runoff	Erosion	Sediment		
J02502040011	Established Vegetation	-	X	X	-	B	5-16-2013
J02504020004	Concrete/Asphalt Channel/Swale	X	-	X	-	CB	4-1-2009
J02504020006	Concrete/Asphalt Channel/Swale	X	-	X	-	CB	6-1-2009
J02504060010	Riprap	-	X	X	-	CB	8-20-2010
J02505020002	Sediment Basin	-	X	-	X	CB	1-1-2000
J02506010005	Rock Check Dam	-	X	-	X	CB	6-1-2009
J02506010008	Rock Check Dam	-	X	-	X	CB	8-20-2010
J02506010009	Rock Check Dam	-	X	-	X	CB	8-24-2010
J02507010001	Gabions	-	X	-	X	CB	1-1-2000

163.3 Inspections and Maintenance

Rain gage RG-TA-54 recorded four storm events at PJ-SMA-19 during the 2022 season, requiring two post-storm inspections, which are summarized in Table 163-3. No other control-measure inspections, maintenance activities, or facility modifications affecting discharge were conducted at the SMA in 2022.

Table 163-3 Post-Storm Inspections During 2022

Inspection Reference	Storm Date	30-Minute Maximum Intensity (in.)	Inspection Date	Days to Inspection	Inspected within 15 days?
BMP-94081[a]	7-14-2022	0.26	7-25-2022	11	Yes
BMP-94493[b]	7-26-2022 7-27-2022 7-30-2022	0.27 0.3 0.45	8-4-2022	9 8 5	Yes Yes Yes

[a] Inspection also qualifies as the Annual Erosion Evaluation per 2010 IP Part I.G.1.

[b] Inspection qualifies for multiple Storm Dates per 2010 IP Part I.G.2 and 2022 IP Part I.B.8.b.

163.4 Stormwater Monitoring

Following the installation of baseline control measures, a baseline stormwater sample was collected on August 8, 2013. Analytical results from this sample yielded TAL exceedances for aluminum (761 µg/L), gross-alpha activity (51.2 pCi/L), mercury (1.67 µg/L), radium-226 and radium-228 activity (43.7 pCi/L), and PCB concentration (20 ng/L). The complete analytical results are presented in "Stormwater Individual Permit Annual Report, Reporting Period: January 1–December 31, 2013, NPDES Permit No. NM0030759" (LANL 2014, 254067).

Following certification of no exposure, a corrective-action investigation stormwater sample was collected on August 22, 2021. Analytical results from this sample are presented in "NPDES Permit No. NM0030759 – Analytical Results for Sites 54-013(b), 54-017, and 54-020 in Site Monitoring Area PJ-SMA-19 and Site 50-009 in Site Monitoring Area T-SMA-1 after Certification of No Exposure Condition" (N3B 2021, 701780).

Stormwater monitoring was not conducted at PJ-SMA-19 in 2022 under the 2010 IP requirements.

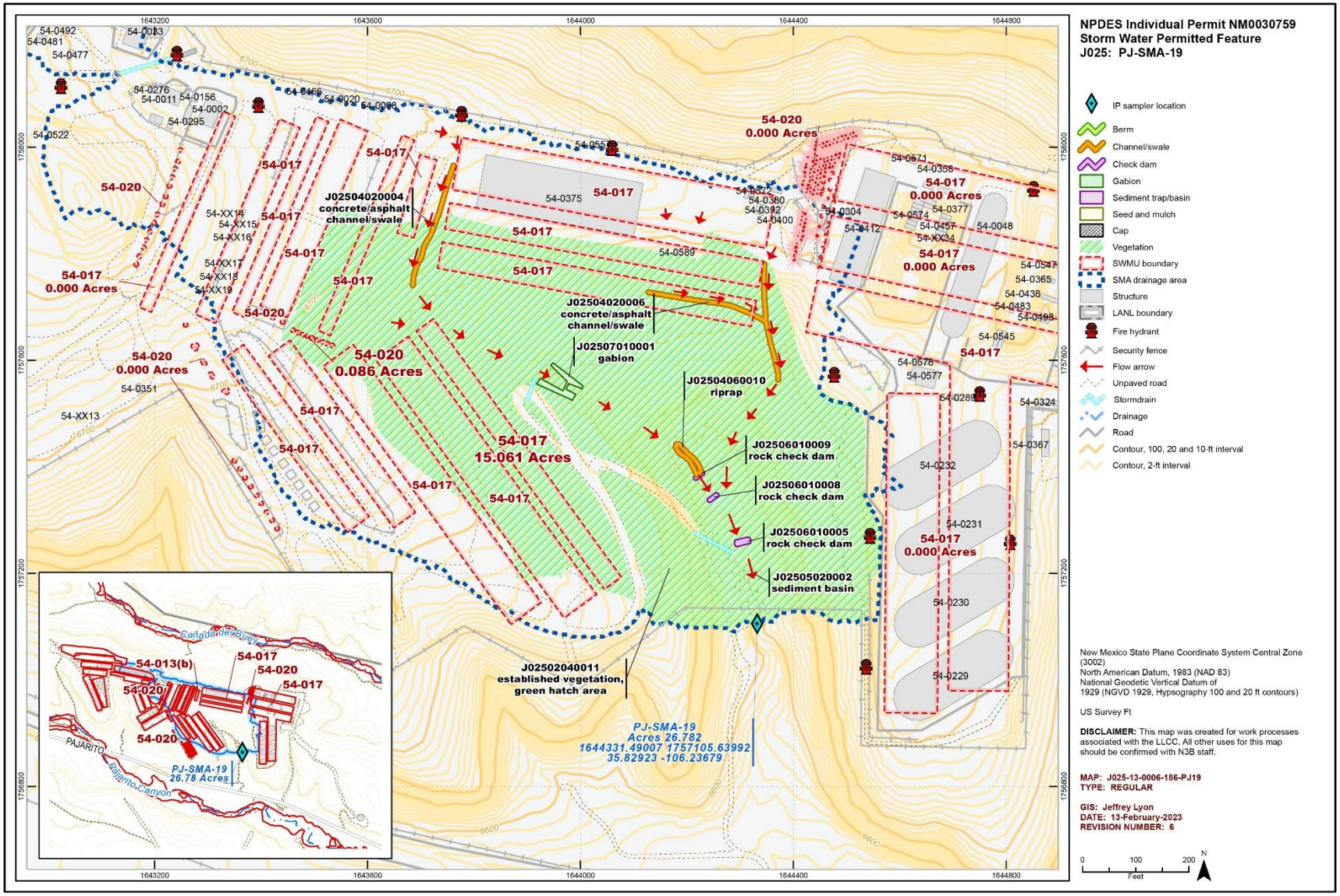

Figure 163-1 PJ-SMA-19 location map

164.0 PJ-SMA-20: SWMU 54-017

One historical industrial activity area, Site 54-017, is associated with PJ-SMA-20 (permitted feature J027). Summaries of all inspection, monitoring, and maintenance actions conducted in 2022 are provided below. Refer to the "2022 Sampling Implementation Plan, NPDES Permit No. NM0030759" (N3B 2023, 702608) for more information on Consent Order investigation activities, the SSD, and planned stormwater monitoring at the SMA for future monitoring seasons.

164.1 Site Descriptions

54-017 (7/18/2019)

SWMU 54-017 consists of inactive disposal pits 1 through 8, 10, 12, 13, 16 through 22, and 24 located in Area G at TA-54. Pits 1 through 8, 10, 12, 13, 16 through 22, and 24 were operational between 1959 and 1980 and received low-level radioactive, mixed, and non-retrievable TRU waste in the form of wing tanks, dry boxes, building debris, sludge drums, lab waste, contaminated soil, D&D waste, filter plenums, and uranium. Pits 1 through 8, 10, 12, 13, 16 through 22, and 24 are located in the eastern portion of Area G with volumes ranging from 1371 to 56,759 yd^3. When filled, the pits were covered with 3.3 ft of consolidated crushed tuff and 4 in. of topsoil and reseeded with native grasses. SWMU 54-017 is part of MDA G, which consists of the subsurface disposal units within Area G that are subject to the Consent Order.

Known or Potential Use of POCs

POCs known to be managed or potentially used at the Site are listed in Table 164-1.

Table 164-1 POCs Known or Suspected to Have Been Used Historically at the Site

Site	Potential POC Source	Potential POCs
54-017	Inactive disposal pits at MDA G	Metals, asbestos, PCBs, fission products, plutonium, uranium

164.2 Active Control Measures

All active control measures in use at PJ-SMA-20 are listed in Table 164-2. Their locations are shown on the project map (Figure 164-1) located at the end of this SMA update. Future map updates will be posted on the IP website: https://ext.em-la.doe.gov/ips/Home/SiteMonitoringAreaMaps.

Table 164-2 Active Control Measures

Control ID	Control Name	Purpose of Control				Control Status	Install Date
		Run-On	Runoff	Erosion	Sediment		
J02702040007	Established Vegetation	-	X	X	-	B	5-16-2013
J02703090001	Curbing	-	X	-	X	CB	4-1-2009
J02704060006	Riprap	-	X	X	-	CB	5-25-2010
J02708030005	Concrete/Asphalt Cap	X	-	X	-	CB	6-1-2009

164.3 Inspections and Maintenance

Rain gage RG-TA-54 recorded four storm events at PJ-SMA-20 during the 2022 season, requiring two post-storm inspections, which are summarized in Table 164-3. No other control-measure inspections, maintenance activities, or facility modifications affecting discharge were conducted at the SMA in 2022.

Table 164-3 Post-Storm Inspections During 2022

Inspection Reference	Storm Date	30-Minute Maximum Intensity (in.)	Inspection Date	Days to Inspection	Inspected within 15 days?
BMP-94083[a]	7-14-2022	0.26	7-25-2022	11	Yes
BMP-94495[b]	7-26-2022 7-27-2022 7-30-2022	0.27 0.3 0.45	8-4-2022	9 8 5	Yes Yes Yes

[a] Inspection also qualifies as the Annual Erosion Evaluation per 2010 IP Part I.G.1.

[b] Inspection qualifies for multiple Storm Dates per 2010 IP Part I.G.2 and 2022 IP Part I.B.8.b.

164.4 Stormwater Monitoring

Following the installation of baseline control measures, a baseline stormwater sample was collected on July 29, 2011. Analytical results from this sample yielded a TAL exceedance for copper (8.1 µg/L) and the complete analytical results are presented in "Stormwater Individual Permit Annual Report, Reporting Period: January 1–December 31, 2011, NPDES Permit No. NM0030759" (LANL 2012, 211408).

Following certification of no exposure, a corrective-action investigation stormwater sample was collected on May 22, 2014. Analytical results from this sample are presented in "NPDES Permit No. NM003759 – Submittal of Analytical Results for Site 54-017 in Site Monitoring Area PJ-SMA-20" (LANL 2014, 260188).

Stormwater monitoring was not conducted at PJ-SMA-20 in 2022 under the 2010 IP requirements.

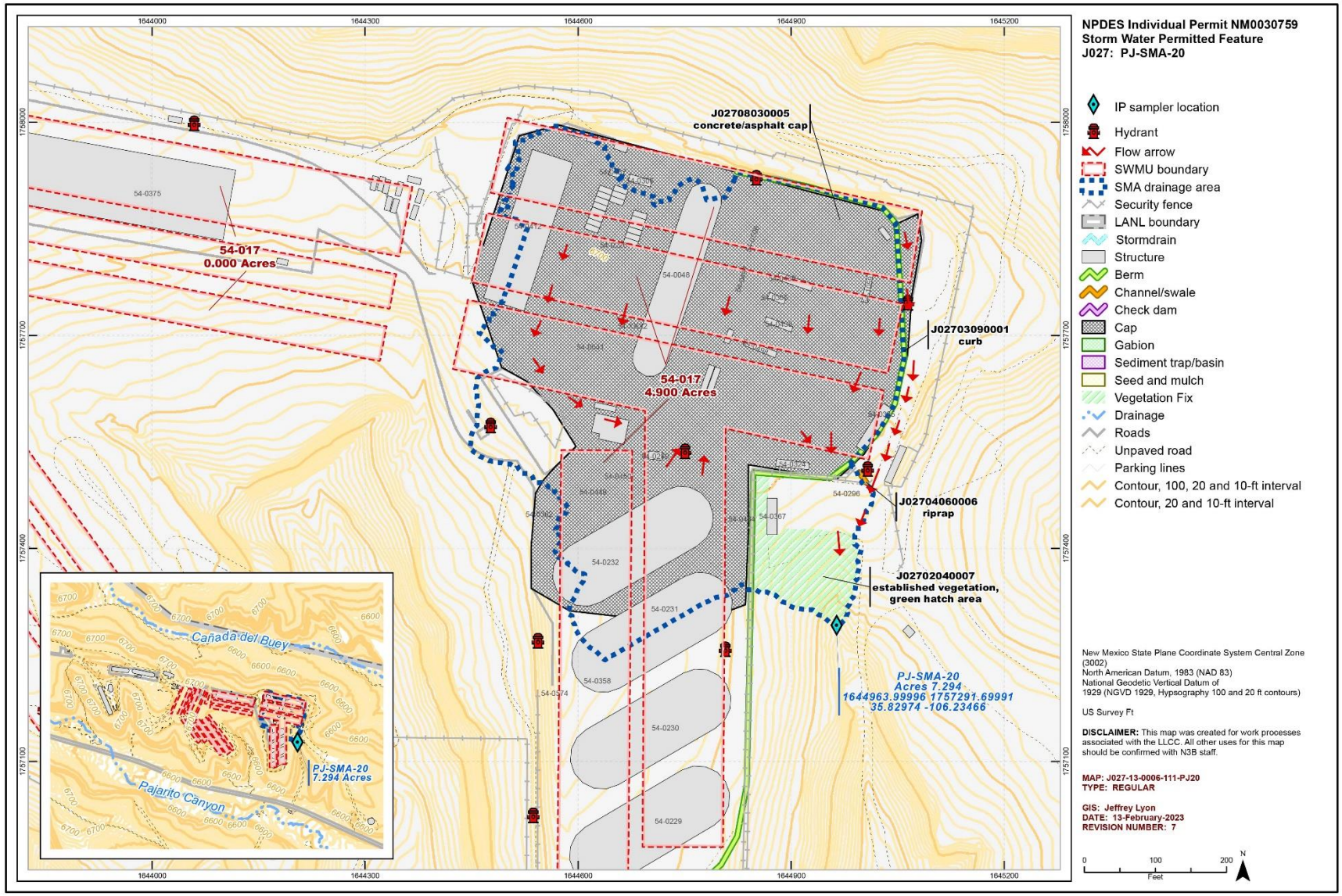

Figure 164-1 PJ-SMA-20 location map

165.0 STRM-SMA-1.05: AOC 08-009(f)

One historical industrial activity area, Site 08-009(f), is associated with STRM-SMA-1.05 (permitted feature J028). Summaries of all inspection, monitoring, and maintenance actions conducted in 2022 are provided below. Refer to the "2022 Sampling Implementation Plan, NPDES Permit No. NM0030759" (N3B 2023, 702608) for more information on Consent Order investigation activities, the SSD, and planned stormwater monitoring at the SMA for future monitoring seasons.

165.1 Site Descriptions

08-009(f) (1/9/2018)

AOC 08-009(f) is the former outfall located approximately 40 ft southeast of building 08-22 and the associated drains and drainline at TA-08. Fluorescent penetrants (mixtures of dyes and surfactants) were used in building 08-22 to detect cracks in parts being prepared for installation into weapons assemblies. Historically, fluorescent penetrants, developers, and emulsifiers were discharged to the outfall through drains located within building 08-22. The valves to the sinks that discharged to the AOC 08-009(f) drains were disconnected in 1992, and the drains were rerouted to the building 08-22 sanitary sewer system. After 1992, secondary containers were used to collect the chemicals for disposal offsite.

The 1990 SWMU Report incorrectly attributed the source of effluent to the SWMU 08-009(d) drain to the fluorescent penetrant experiments. To account for the drains that received the fluorescent penetrant effluent, the approved RCRA RFI work plan proposed designating a new identifier for those drains and associated drainline; AOC 08-009(f).

Known or Potential Use of POCs

POCs known to be managed or potentially used at the Site are listed in Table 165-1.

Table 165-1 POCs Known or Suspected to Have Been Used Historically at the Site

Site	Potential POC Source	Potential POCs
08-009(f)	Outfall associated with building 08-22	Fluoranthene (SVOC)

165.2 Control Measures

All active control measures in use at STRM-SMA-1.05 are listed in Table 165-2. Their locations are shown on the project map (Figure 165-1) located at the end of this SMA update. Future map updates will be posted on the IP website: https://ext.em-la.doe.gov/ips/Home/SiteMonitoringAreaMaps.

Table 165-2 Active Control Measures

Control ID	Control Name	Purpose of Control				Control Status	Install Date
		Run-On	Runoff	Erosion	Sediment		
J02802040009	Established Vegetation	-	X	X	-	B	5-8-2013
J02804060006	Riprap	-	X	X	-	CB	10-27-2009
J02806010004	Rock Check Dam	X	-	-	X	CB	6-1-2009
J02806010005	Rock Check Dam	X	-	-	X	CB	6-1-2009
J02806010007	Rock Check Dam	X	-	-	X	B	7-25-2012
J02808030008	Concrete/Asphalt Cap	-	-	X	-	EC	3-26-2013

165.3 Inspections and Maintenance

Rain gage RG240 recorded six storm events at STRM-SMA-1.05 during the 2022 season, requiring two post-storm inspections, which are summarized in Table 165-3. No other control-measure inspections, maintenance activities, or facility modifications affecting discharge were conducted at the SMA in 2022.

Table 165-3 Post-Storm Inspections During 2022

Inspection Reference	Storm Date	30-Minute Maximum Intensity (in.)	Inspection Date	Days to Inspection	Inspected within 15 days?
BMP-92917[a,b]	6-18-2022 6-22-2022 6-25-2022 6-26-2022	0.27 0.28 0.27 0.31	7-1-2022	13 9 6 5	Yes Yes Yes Yes
BMP-94305[b]	7-20-2022 7-31-2022	0.74 0.46	8-3-2022	14 3	Yes Yes

[a] Inspection also qualifies as the Annual Erosion Evaluation per 2010 IP Part I.G.1.

[b] Inspection qualifies for multiple Storm Dates per 2010 IP Part I.G.2 and 2022 IP Part I.B.8.b

165.4 Stormwater Monitoring

Following the installation of baseline control measures, two baseline stormwater samples were was collected on August 5 and August 26, 2011. Analytical results from these samples yielded TAL exceedances for copper (5.7 µg/L and 6.9 µg/L). The complete analytical results are presented in "Stormwater Individual Permit Annual Report, Reporting Period: January 1–December 31, 2011, NPDES Permit No. NM0030759" (LANL 2012, 211408).

Following the installation of enhanced control measures at STRM-SMA-1.05, corrective-action stormwater samples were collected on July 12 and August 1, 2013. Analytical results from these samples yielded TAL exceedances for copper (9.92 µg/L and 10.8 µg/L). The complete analytical results are presented in "Stormwater Individual Permit Annual Report, Reporting Period: January 1–December 31, 2013, NPDES Permit No. NM0030759" (LANL 2014, 254067).

Stormwater monitoring was not conducted at STRM-SMA-1.05 in 2022 under the 2010 IP requirements.

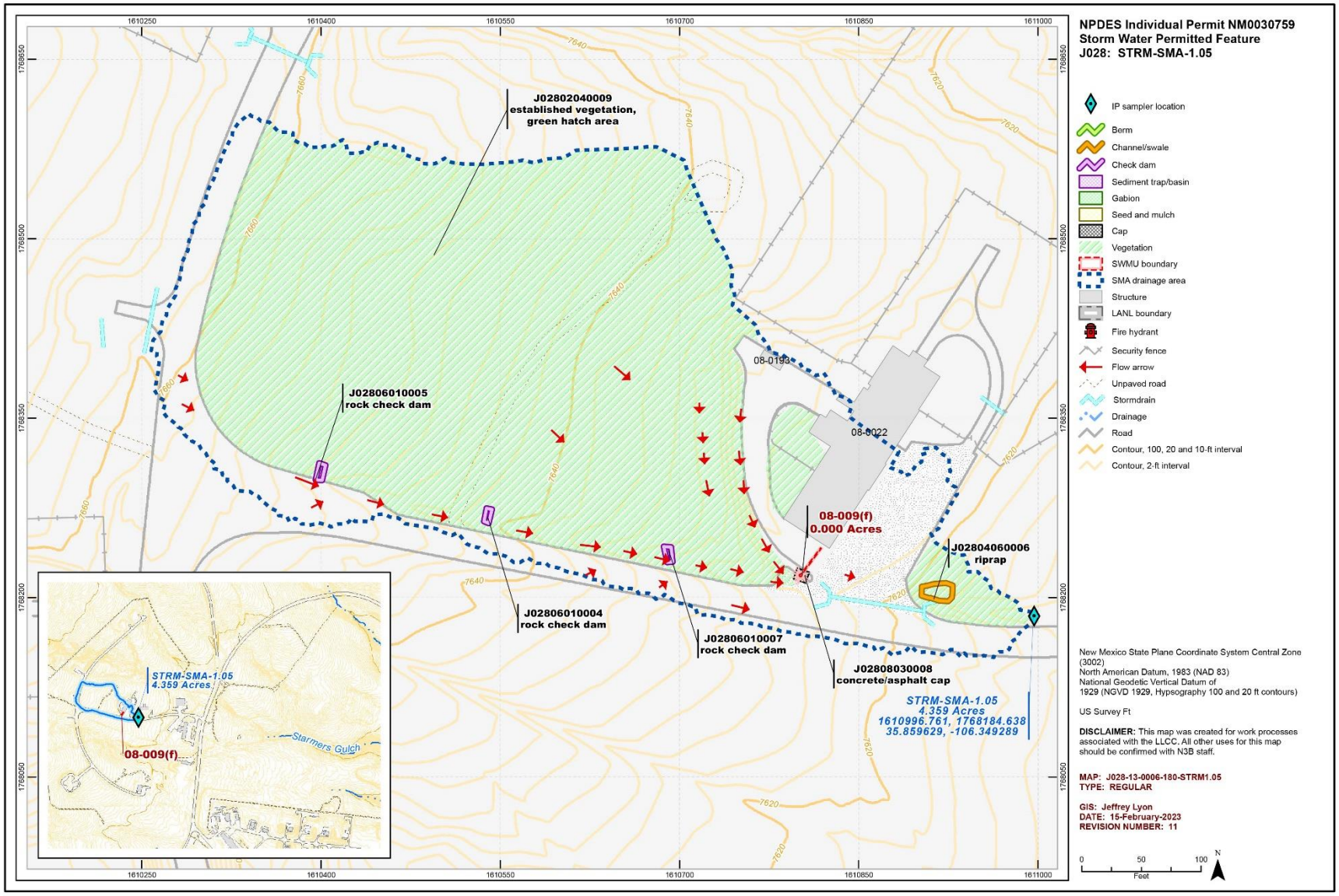

Figure 165-1 STRM-SMA-1.05 location map

166.0 STRM-SMA-1.5: SWMU 08-009(d)

One historical industrial activity area, Site 08-009(d), is associated with STRM-SMA-1.5 (permitted feature J029). Summaries of all inspection, monitoring, and maintenance actions conducted in 2022 are provided below. Refer to the "2022 Sampling Implementation Plan, NPDES Permit No. NM0030759" (N3B 2023, 702608) for more information on Consent Order investigation activities, the SSD, and planned stormwater monitoring at the SMA for future monitoring seasons.

166.1 Site Descriptions

08-009(d) (1/9/2018)

SWMU 08-009(d) consists of the inactive drains in the photo-processing and x-ray rooms of building 08-22 (x-ray building) and associated drainlines and former outfall at TA-08. Building 08-22 was constructed in 1950 and housed x-ray machines used to radiograph various items. The SWMU 08-009(d) drains were dedicated to receive photoprocessing and photo-development solutions containing silver salts, chromium, pentachlorophenol, and other chemicals used during the radiography process. Before being plugged, the drains discharged effluent to a formerly NPDES-permitted outfall (EPA 06A074), located approximately 300 ft northeast of building 08-22. The outfall discharged into Starmer Gulch, a tributary of Upper Pajarito Canyon. The drains in building 08-22 were plugged between 1995 and 1997. The outfall was removed from the NPDES permit on September 19, 1997.

Based on the NPDES-permit outfall number listed in the 1990 SWMU Report, the RCRA RFI investigating team concluded that the SWMU Report incorrectly attributed the source of effluent to the SWMU 08-009(d) drain to fluorescent penetrant experiments. To account for the drains that received the fluorescent penetrant effluent, the approved RFI work plan proposed designating a new identifier for those drains and associated drainline; AOC 08-009(f).

Known or Potential Use of POCs

POCs known to be managed or potentially used at the Site are listed in Table 166-1.

Table 166-1 POCs Known or Suspected to Have Been Used Historically at the Site

Site	Potential POC Source	Potential POCs
08-009(d)	Drains and outfall	Chromium, silver, SVOCs

166.2 Control Measures

All active control measures in use at STRM-SMA-1.5 are listed in Table 166-2. Their locations are shown on the project map (Figure 166-1) located at the end of this SMA update. Future map updates will be posted on the IP website: https://ext.em-la.doe.gov/ips/Home/SiteMonitoringAreaMaps.

Table 166-2 Active Control Measures

Control ID	Control Name	Purpose of Control				Control Status	Install Date
		Run-On	Runoff	Erosion	Sediment		
J02902040018	Established Vegetation	-	X	X	-	B	5-8-2013
J02903010009	Earthen Berm	X	-	-	X	B	8-31-2011
J02903010011	Earthen Berm	X	-	-	X	B	8-31-2011
J02903010013	Earthen Berm	X	-	-	X	EC	4-17-2013

Control ID	Control Name	Purpose of Control				Control Status	Install Date
		Run-On	Runoff	Erosion	Sediment		
J02903010021	Earthen Berm	-	X	-	X	EC	5-12-2021
J02903120015	Rock Berm	-	X	-	X	EC	4-17-2013
J02904010019	Earthen Channel/Swale	X	-	X	-	EC	7-27-2015
J02904060016	Riprap	-	X	X	-	EC	4-17-2013
J02904060020	Riprap	X	-	X	-	EC	7-27-2015
J02908030017	Concrete/Asphalt Cap	-	X	X	-	EC	4-17-2013

166.3 Inspections and Maintenance

Rain gage RG240 recorded six storm events at STRM-SMA-1.5 during the 2022 season, requiring three post-storm inspections, which are summarized in Table 166-3. No other control-measure inspections, maintenance activities, or facility modifications affecting discharge were conducted at the SMA in 2022.

Table 166-3 Post-Storm Inspections During 2022

Inspection Reference	Storm Date	30-Minute Maximum Intensity (in.)	Inspection Date	Days to Inspection	Inspected within 15 days?
BMP-92918[a]	6-18-2022	0.27	6-22-2022	4	Yes
BMP-92981[b]	6-22-2022 6-25-2022 6-26-2022	0.28 0.27 0.31	7-5-2022	13 10 9	Yes Yes Yes
BMP-94306[b]	7-20-2022 7-31-2022	0.74 0.46	8-3-2022	14 3	Yes Yes

[a] Inspection also qualifies as the Annual Erosion Evaluation per 2010 IP Part I.G.1.

[b] Inspection qualifies for multiple Storm Dates per 2010 IP Part I.G.2 and 2022 IP Part I.B.8.b.

166.4 Stormwater Monitoring

Following the installation of baseline control measures, a baseline stormwater sample was collected on July 11, 2012. Analytical results from this sample yielded TAL exceedances for cadmium (1.26 µg/L), cyanide (0.02 mg/L), gross-alpha activity (1270 pCi/L), mercury (1.17 µg/L), radium-226 and radium-228 activity (38.5 pCi/L), and silver (0.58 µg/L). The complete analytical results are presented in "Stormwater Individual Permit Annual Report, Reporting Period: January 1–December 31, 2012, NPDES Permit No. NM0030759" (LANL 2013, 237680).

Following the 2013 installation of enhanced control measures at STRM-SMA-1.5, a corrective-action stormwater sample was collected on September 13, 2013. Analytical results from this sample yielded TAL exceedances for gross-alpha activity (16.1 pCi/L) and silver (4.02 µg/L). The complete analytical results are presented in "Stormwater Individual Permit Annual Report, Reporting Period: January 1–December 31, 2013, NPDES Permit No. NM0030759" (LANL 2014, 254067).

Following the 2015 installation of enhanced control measures at STRM-SMA-1.5, a corrective-action stormwater sample was collected on September 3, 2018. Analytical results from this sample yielded TAL exceedances for gross-alpha activity (81.3 pCi/L) and silver (1.21 µg/L). The complete analytical results are presented in "Stormwater Individual Permit Annual Report, Reporting Period: January 1–December 31, 2018, NPDES Permit No. NM0030759" (N3B 2019, 700320)

Stormwater monitoring was conducted at STRM-SMA-1.5 under the 2010 IP requirements from March 24 through November 14, 2022, resulting in a monitoring season of 236 days. Eight inspections were performed during the monitoring period and are summarized in Table 166-4.

Rain gage RG240 recorded 42 rain events exceeding 0.1 in. in 24 hours while the sampling equipment was active. No new confirmation-monitoring samples were collected in 2022 and no sampling operability issues were encountered.

Table 166-4 Sampler Inspections During 2022

Inspection Reference	Inspection Date	Sample Retrieved?	Date(s) of Rain Events Exceeding 0.1 in. in 24 hr since previous inspection	Rainfall Intensity[a]/ Total[b] (in.)
SMPLR-91653	4-18-2022	No	None	None
SMPLR-92056	5-24-2022	No	None	None
SMPLR-92527	6-21-2022	No	6-17-2022 6-18-2022 6-19-2022	0.05/0.25 0.27/0.45 0.05/0.23
SMPLR-92940	7-1-2022	No	6-21-2022 6-22-2022 6-25-2022 6-26-2022 6-27-2022 6-30-2022	0.08/0.18 0.28/0.89 0.27/1.09 0.31/2.02 0.04/0.1 0.19/0.23
SMPLR-93600	8-12-2022	No	7-1-2022 7-2-2022 7-4-2022 7-14-2022 7-20-2022 7-21-2022 7-24-2022 7-26-2022 7-27-2022 7-29-2022 7-31-2022 8-1-2022 8-6-2022 8-7-2022 8-11-2022	0.12/0.37 0.24/0.34 0.21/0.53 0.1/0.2 0.74/0.93 0.09/0.14 0.13/0.18 0.11/0.26 0.08/0.18 0.07/0.25 0.46/1.1 0.21/0.22 0.43/0.92 0.47/0.49 0.06/0.1

Inspection Reference	Inspection Date	Sample Retrieved?	Date(s) of Rain Events Exceeding 0.1 in. in 24 hr since previous inspection	Rainfall Intensity[a]/ Total[b] (in.)
SMPLR-95443	9-1-2022	No	8-16-2022 8-18-2022 8-19-2022 8-20-2022 8-21-2022 8-22-2022 8-31-2022	0.09/0.27 0.09/0.3 0.07/0.21 0.06/0.31 0.12/0.14 0.07/0.15 0.12/0.14
SMPLR-95760	10-3-2022	No	9-9-2022 9-10-2022 9-20-2022 9-22-2022 10-2-2022	0.14/0.23 0.1/0.1 0.09/0.14 0.17/0.23 0.05/0.13
SMPLR-96212	11-14-2022	No	10-3-2022 10-4-2022 10-15-2022 10-16-2022 10-17-2022 10-23-2022	0.06/0.11 0.02/0.12 0.18/1.03 0.05/0.23 0.04/0.11 0.04/0.1

[a] Intensity = Maximum amount of precipitation in any 30-min interval.

[b] Total = Total amount of precipitation in 24 hr.

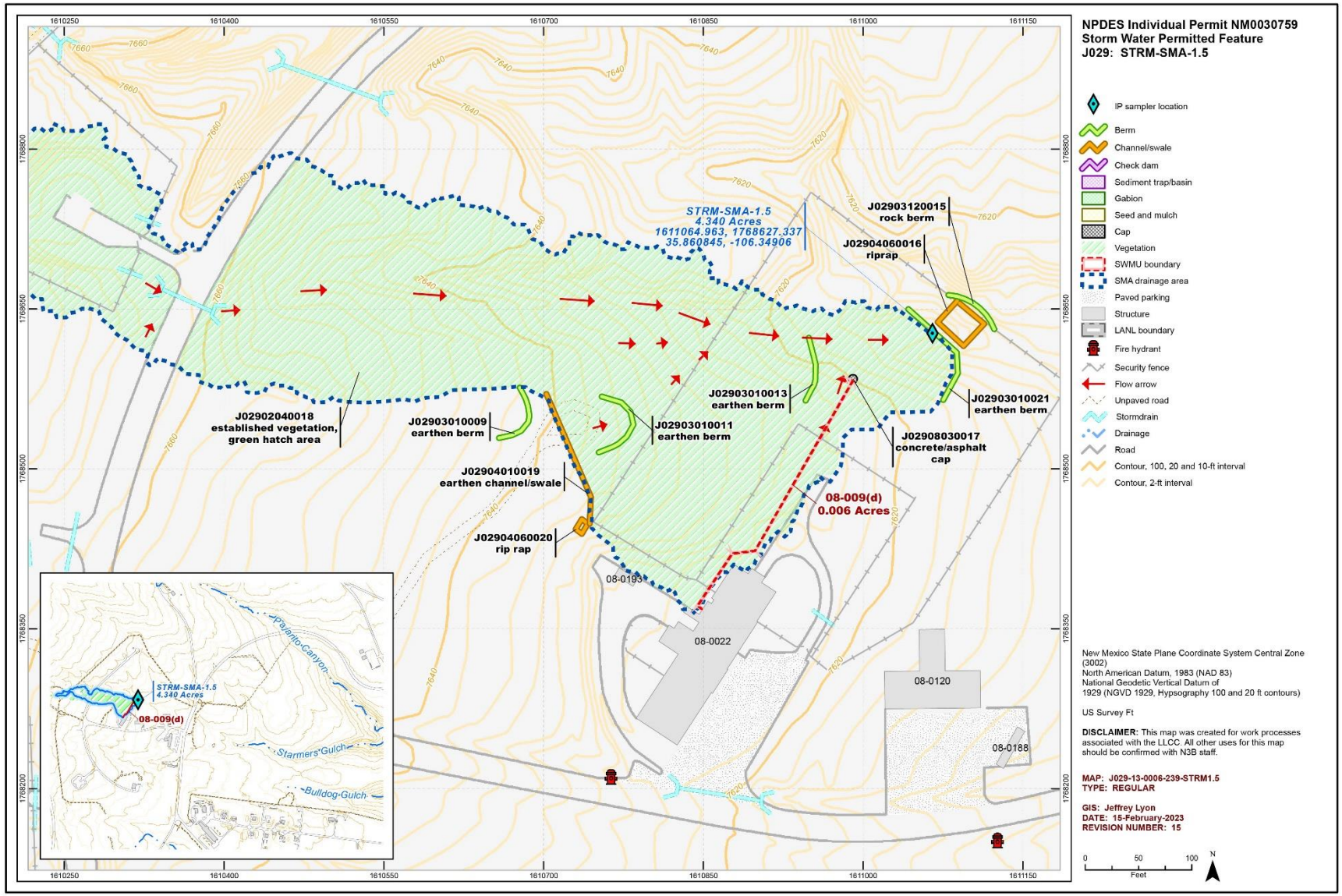

Figure 166-1 STRM-SMA-1.5 location map

167.0 STRM-SMA-4.2: SWMU 09-008(b)

One historical industrial activity area, Site 09-008(b), is associated with STRM-SMA-4.2 (permitted feature J030). Summaries of all inspection, monitoring, and maintenance actions conducted in 2022 are provided below. Refer to the "2022 Sampling Implementation Plan, NPDES Permit No. NM0030759" (N3B 2023, 702608) for more information on Consent Order investigation activities, the SSD, and planned stormwater monitoring at the SMA for future monitoring seasons.

167.1 Site Descriptions

09-008(b) (2/1/2018)

SWMU 09-008(b) is the decommissioned oxidation pond (structure 09-212) located next to the western boundary of TA-09, approximately 200 ft east of Anchor Ranch Road. Although associated with TA-09, SWMU 09-008(b) is located within the physical boundary of TA-08. Installed in 1969, the pond measures 15 ft wide × 65 ft long × 6 ft deep, is clay plated with emulsified asphalt water proofing, and is surrounded by an 8-ft-high chain-link fence. An overflow pipe, located at the southeast corner of the pond, discharged to an outfall in a drainage channel that flows into Starmer Canyon. The pond treated sanitary waste received from the SWMU 09-005(d) septic tank, which received discharges from buildings 08-20, 08-21, 08-22, 08-23, and 08-24, where the strontium-90 spill occurred in 1954. The pond was decommissioned in 1988.

Known or Potential Use of POCs

POCs known to be managed or potentially used at the Site are listed in Table 167-1.

Table 167-1 POCs Known or Suspected to Have Been Used Historically at the Site

Site	Potential POC Source	Potential POCs
09-008(b)	Oxidation pond	Metals, organic chemicals, strontium-90

167.2 Control Measures

All active control measures in use at STRM-SMA-4.2 are listed in Table 167-2. Their locations are shown on the project map (Figure 167-1) located at the end of this SMA update. Future map updates will be posted on the IP website: https://ext.em-la.doe.gov/ips/Home/SiteMonitoringAreaMaps.

Table 167-2 Active Control Measures

Control ID	Control Name	Purpose of Control				Control Status	Install Date
		Run-On	Runoff	Erosion	Sediment		
J03002040006	Established Vegetation	-	X	X	-	B	4-23-2013
J03003010004	Earthen Berm	-	X	-	X	EC	8-7-2012
J03004010002	Earthen Channel/Swale	X	-	X	-	CB	6-1-2009
J03005070007	Plunge Pool	-	X	X	X	EC	11-6-2019
J03005070008	Plunge Pool	-	X	X	X	EC	11-6-2019
J03005070009	Plunge Pool	-	X	X	X	EC	11-6-2019
J03006010010	Rock Check Dam	-	X	-	X	EC	11-6-2019
J03006010011	Rock Check Dam	-	X	-	X	EC	11-6-2019
J03006010012	Rock Check Dam	-	X	-	X	EC	11-6-2019

167.3 Inspections and Maintenance

Rain gage RG240 recorded six storm events at STRM-SMA-4.2 during the 2022 season, requiring three post-storm inspections, which are summarized in Table 167-3. All other control-measure inspections conducted at the SMA are summarized in Table 167-4. No maintenance activities or facility modifications affecting discharge were conducted at the SMA in 2022.

Table 167-3 Post-Storm Inspections During 2022

Inspection Reference	Storm Date	30-Minute Maximum Intensity (in.)	Inspection Date	Days to Inspection	Inspected within 15 days?
BMP-92919[a]	6-18-2022	0.27	6-22-2022	4	Yes
BMP-92982[b]	6-22-2022 6-25-2022 6-26-2022	0.28 0.27 0.31	7-5-2022	13 10 9	Yes Yes Yes
BMP-94307[b]	7-20-2022 7-31-2022	0.74 0.46	8-3-2022	14 3	Yes Yes

[a] Inspection also qualifies as the Annual Erosion Evaluation per 2010 IP Part I.G.1.

[b] Inspection qualifies for multiple Storm Dates per 2010 IP Part I.G.2 and 2022 IP Part I.B.8.b.

Table 167-4 Other Control-Measure Inspections During 2022

Inspection Type	Inspection Reference	Inspection Date	Summary of findings
TAL Exceedance inspection. CAM5-2 sample 2 collected 7/4/22. Analytical data pending, conduct field visit of site condition after sample.	COMP-94145	8-19-2022	No action recommended.

167.4 Stormwater Monitoring

Following the installation of baseline control measures, baseline stormwater samples were collected on August 21 and September 9, 2011. Analytical results from these sample yielded a TAL exceedance for aluminum (2330 µg/L). The complete analytical results are presented in "Stormwater Individual Permit Annual Report, Reporting Period: January 1–December 31, 2011, NPDES Permit No. NM0030759" (LANL 2012, 211408).

Following the 2012 installation of enhanced controls at STRM-SMA-4.2, corrective-action stormwater samples were collected on July 29 and September 27, 2017. Analytical results from these samples yielded TAL exceedances for aluminum (2190 µg/L and 1980 µg/L), copper (8.81 µg/L and 5.26 µg/L), and silver (0.519 µg/L). The complete analytical results are presented in "Stormwater Individual Permit Annual Report, Reporting Period: January 1–December 31, 2017, NPDES Permit No. NM0030759" (LANL 2018, 602910).

Following the 2020 installation of enhanced controls at STRM-SMA-4.2, a corrective-action stormwater sample was collected on July 27, 2021. Analytical results from this sample yielded TAL exceedances for copper (4.57 µg/L) and silver (0.568 µg/L). The complete analytical results are presented in "Stormwater Individual Permit Annual Report, Reporting Period: January 1–December 31, 2021, NPDES Permit No. NM0030759" (N3B 2022, 701895).

Stormwater monitoring was conducted at STRM-SMA-4.2 under the 2010 IP requirements from March 24 through July 5, 2022, resulting in a monitoring season of 104 days. Four inspections were performed during the monitoring period and are summarized in Table 167-5.

Rain gage RG240 recorded 12 rain events exceeding 0.1 in. in 24 hours while the sampling equipment was active. A corrective-action confirmation-monitoring sample was collected on July 4, 2022. Analytical results from this sample yielded TAL exceedances for aluminum (779 µg/L) and copper (4.67 µg/L). The complete results are presented in Appendix B of the Overview. The SIP will be updated in 2023 with the inclusion of 2022 analytical results into the SSD.

Table 167-5 Sampler Inspections During 2022

Inspection Reference	Inspection Date	Sample Retrieved?	Date(s) of Rain Events Exceeding 0.1 in. in 24 hr since previous inspection	Rainfall Intensity[a]/ Total[b] (in.)
SMPLR-91657	4-20-2022	No	None	None
SMPLR-92121	5-24-2022	No	None	None
SMPLR-92530	6-21-2022	No	6-17-2022 6-18-2022 6-19-2022	0.05/0.25 0.27/0.45 0.05/0.23
SMPLR-92941	7-5-2022	Yes	6-21-2022 6-22-2022 6-25-2022 6-26-2022 6-27-2022 6-30-2022 7-1-2022 7-2-2022 7-4-2022	0.08/0.18 0.28/0.89 0.27/1.09 0.31/2.02 0.04/0.1 0.19/0.23 0.12/0.37 0.24/0.34 0.21/0.53

[a] Intensity = Maximum amount of precipitation in any 30-min interval.

[b] Total = Total amount of precipitation in 24 hr.

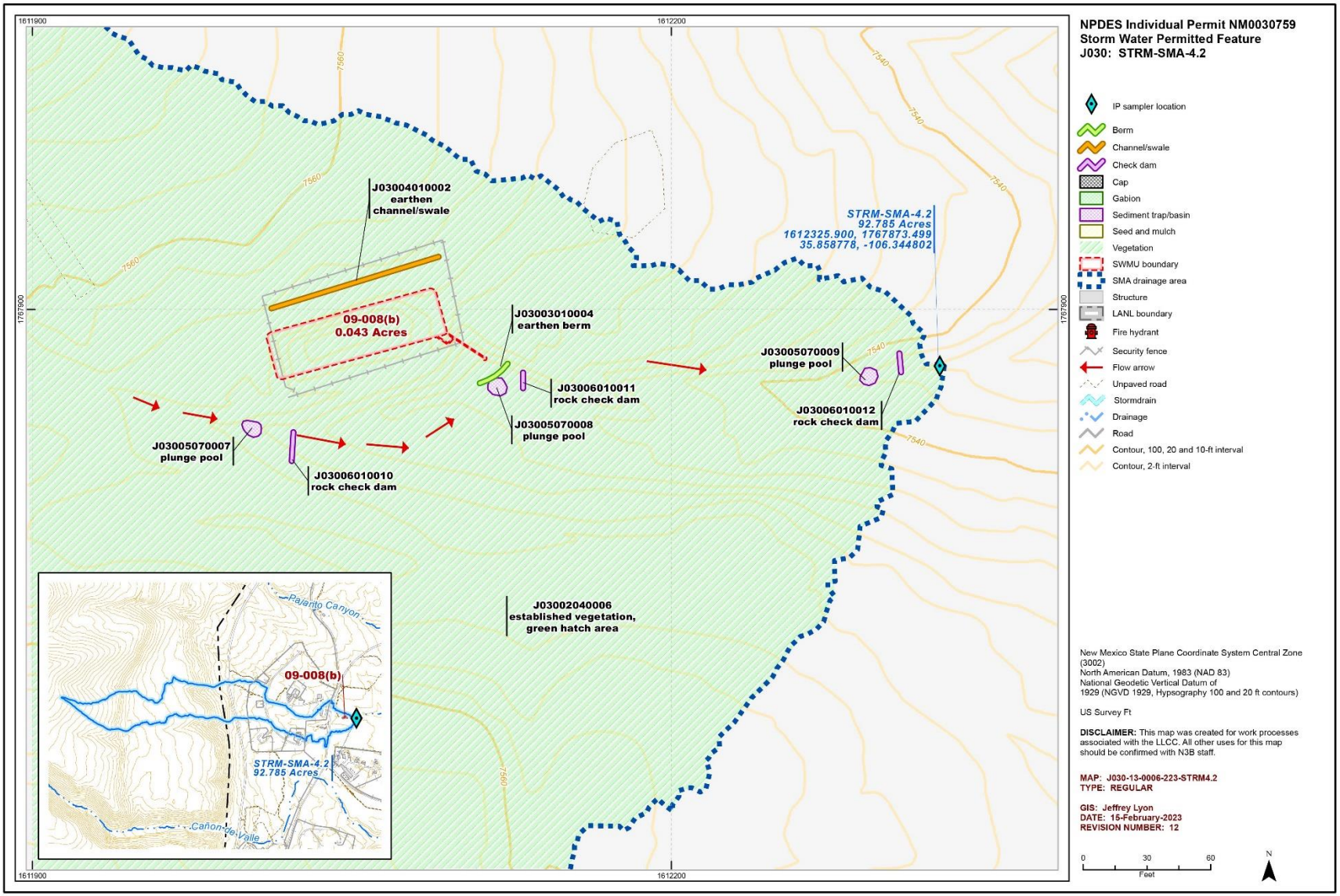

Figure 167-1 STRM-SMA-4.2 location map

168.0 STRM-SMA-5.05: SWMU 09-013

One historical industrial activity area, Site 09-013, is associated with STRM-SMA-5.05 (permitted feature J031). Summaries of all inspection, monitoring, and maintenance actions conducted in 2022 are provided below. Refer to the "2022 Sampling Implementation Plan, NPDES Permit No. NM0030759" (N3B 2023, 702608) for more information on Consent Order investigation activities, the SSD, and planned stormwater monitoring at the SMA for future monitoring seasons.

168.1 Site Descriptions

09-013 (2/13/2018)

SWMU 09-013 is Material Disposal Area (MDA) M, which consisted of two former surface disposal areas, a main area and a smaller satellite area, at TA-09. The main area occupied approximately 3.2 acres and was located approximately 1,600 ft southwest of building 22-120. The satellite area was located approximately 750 ft northwest of the main area and measured approximately 150 ft wide × 260 ft long. MDA M was created during the demolition of the Old Anchor Ranch East and West sites. Structures were flash burned to remove any HE residue and deposited over the surface of the MDA. Debris from the construction of current TA-08 and TA-09 facilities (1949–1965) and other sites (1960–1965) were also deposited at MDA M. Materials present at the MDA included metal debris, wood debris, laboratory appliances and fixtures, and metal and glass containers. The main disposal area was surrounded by an earth berm that eroded through by surface-water runoff. MDA M has been inactive since 1965. All visible debris/waste, and contaminated soil were removed from MDA M during an EC conducted in 1995–1996.

Known or Potential Use of POCs

POCs known to be managed or potentially used at the Site are listed in Table 168-1.

Table 168-1 POCs Known or Suspected to Have Been Used Historically at the Site

Site	Potential POC Source	Potential POCs
09-013	MDA M	Metals, asbestos, PCBs, SVOCs, HE, uranium

168.2 Control Measures

All active control measures in use at STRM-SMA-5.05 are listed in Table 168-2. Their locations are shown on the project map (Figure 168-1) located at the end of this SMA update. Future map updates will be posted on the IP website: https://ext.em-la.doe.gov/ips/Home/SiteMonitoringAreaMaps.

Table 168-2 Active Control Measures

Control ID	Control Name	Purpose of Control				Control Status	Install Date
		Run-On	Runoff	Erosion	Sediment		
J03102040013	Established Vegetation	-	X	X	-	B	4-23-2013
J03103010009	Earthen Berm	X	-	-	X	EC	10-21-2011
J03103010012	Earthen Berm	X	-	-	X	B	7-27-2012
J03103010014	Earthen Berm	-	X	-	X	B	10-24-2017
J03103020004	Base Course Berm	-	X	-	X	CB	8-1-1996

168.3 Inspections and Maintenance

Rain gage RG240 recorded six storm events at STRM-SMA-5.05 during the 2022 season, requiring two post-storm inspections, which are summarized in Table 168-3. No other control-measure inspections, maintenance activities, or facility modifications affecting discharge were conducted at the SMA in 2022.

Table 168-3 Post-Storm Inspections During 2022

Inspection Reference	Storm Date	30-Minute Maximum Intensity (in.)	Inspection Date	Days to Inspection	Inspected within 15 days?
BMP-92920[a,b]	6-18-2022	0.27	7-1-2022	13	Yes
	6-22-2022	0.28		9	Yes
	6-25-2022	0.27		6	Yes
	6-26-2022	0.31		5	Yes
BMP-94316[b]	7-20-2022	0.74	8-3-2022	14	Yes
	7-31-2022	0.46		3	Yes

[a] Inspection also qualifies as the Annual Erosion Evaluation per 2010 IP Part I.G.1.

[b] Inspection qualifies for multiple Storm Dates per 2010 IP Part I.G.2 and 2022 IP Part I.B.8.b.

168.4 Stormwater Monitoring

Following the installation of baseline control measures, a baseline stormwater sample was collected on August 21, 2011. Analytical results from this sample yielded TAL exceedances for aluminum (1170 µg/L), gross-alpha activity (24.5 pCi/L), and PCB concentration (7 ng/L). The complete analytical results are presented in "Stormwater Individual Permit Annual Report, Reporting Period: January 1–December 31, 2011, NPDES Permit No. NM0030759" (LANL 2012, 211408).

Following the installation of enhanced control measures at STRM-SMA-5.05, a corrective-action stormwater sample was collected on August 2, 2015. Analytical results from this sample yielded a TAL exceedance for PCB concentration (2.26 ng/L). The complete analytical results are presented in "Stormwater Individual Permit Annual Report, Reporting Period: January 1–December 31, 2015, NPDES Permit No. NM0030759" (LANL 2016, 601240).

Stormwater monitoring was not conducted at STRM-SMA-5.05 in 2022 under the 2010 IP requirements.

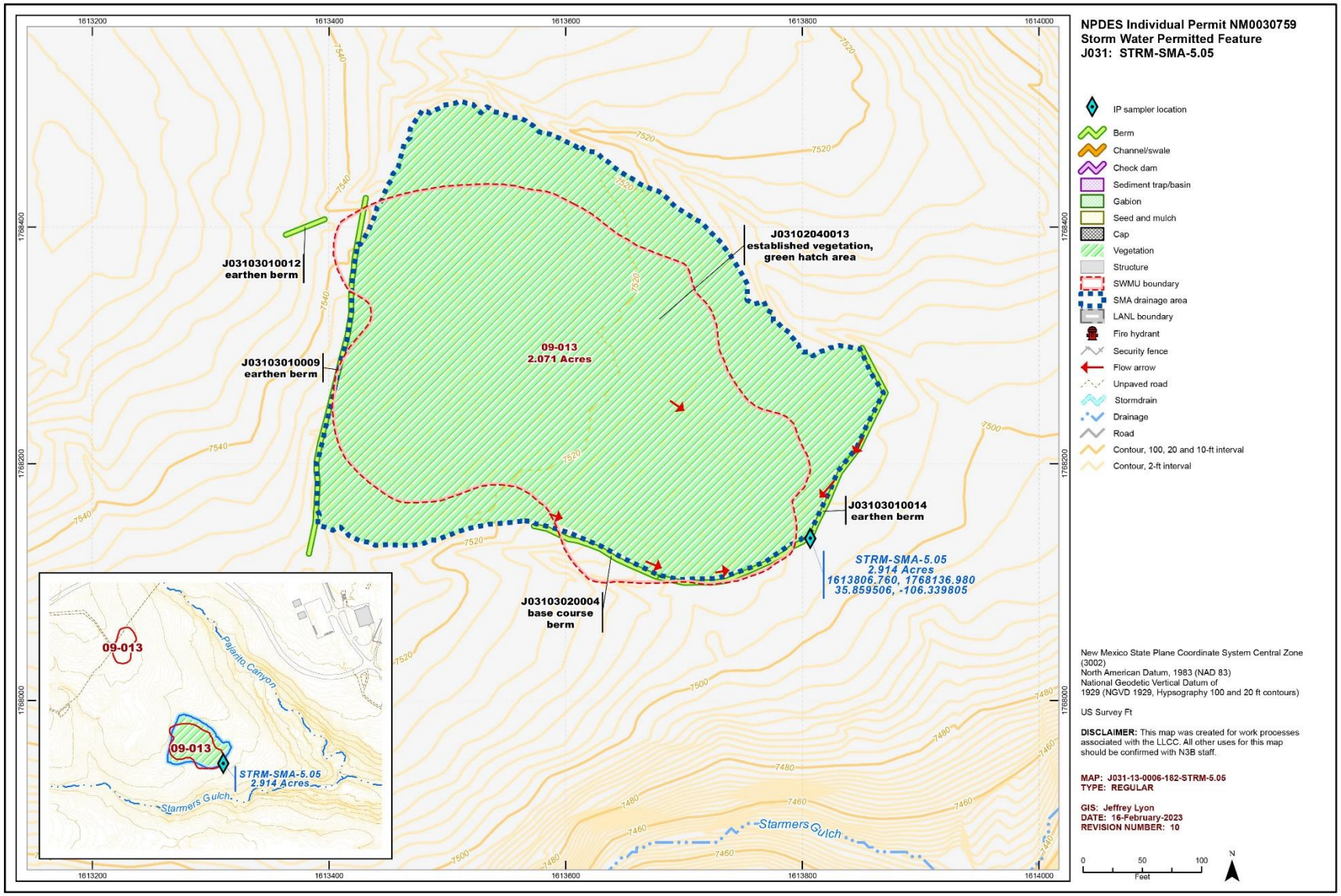

Figure 168-1 STRM-SMA-5.05 location map

Attachment 1
Amendments

Amendment Number	Effective Date	SMA Number or Section Number	Description of Changes	Type of Change*	Reference
V.3 2522	5/10/2022	PJ-SMA-3.05	Per control measure verification BMP-91951 conducted 4/13/2022, please update as necessary to: • Add Coir Log J00303140013 installed as an enhanced runoff and sediment control. Install date 4/13/2022. • Add Compost Log J00303200014 installed as an enhanced runoff and sediment control. Install date 4/13/2022. • Update watershed boundary to include area around new controls. No sampler move.	T	CCN-92055
V.3 2523	5/10/2022	PJ-SMA-3.05	New Control - Corrective Action Control-Control ID: J00303140013 - Coir Log	T	CCN-92055
V.3 2524	5/10/2022	PJ-SMA-3.05	New Control - Corrective Action Control-Control ID: J00303200014 - Compost Log	T	CCN-92055
V.3 2525	5/10/2022	PJ-SMA-3.05	Map Revision (11)	T	CCN-92055
V.3 2526	5/10/2022	PJ-SMA-11	Per control measure verification BMP-91164 conducted 3/21/2022, and follow-up BMP-87151 conducted 4/13/2022, please update as necessary to: • Add Compost Log J01303200033 installed as an enhanced runoff and sediment control. Install date 4/13/2022. • Add Rock Channel/Swale J01304030034 installed as an enhanced runoff and erosion control. Install date 4/13/2022. • Update watershed boundary to include area around new controls. No sampler move.	T	CCN-92084
V.3 2527	5/10/2022	PJ-SMA-11	New Control - Corrective Action Control-Control ID: J01303200033 - Compost Log	T	CCN-92084
V.3 2528	5/10/2022	PJ-SMA-11	New Control - Corrective Action Control-Control ID: J01304030034 - Rock Channel/Swale	T	CCN-92084
V.3 2529	5/10/2022	PJ-SMA-11	Map Revision (19)	T	CCN-92084

Attachment 1, Amendments (continued)

Amendment Number	Effective Date	SMA Number or Section Number	Description of Changes	Type of Change*	Reference
V.3 2530	8/22/2022	PJ-SMA-5.1	Per preparations for implementation of new 2022 Individual Permit, please update as necessary to: • Please retire J00604010004, J00606010007, and J00603010009. Controls no longer necessary after Site deletion and SMA boundary change. Retire date 8/1/2022. • Generate draft project map for SMA using proposed monitoring location SS222347 and associated drainage area identified as the runoff location RB172346 in 2016 SIP reviews. This location was added as a runoff sampler monitoring location in 2017, but will be used as the confirmation monitoring sampling location for the 2022 permit. Also, only Site 22-010(b) will be associated with this SMA in the new permit, 22-016 should not be included. The sampler coordinates and draft SMA drainage area are existing in SDE as Object Ids 298 in the IP_Sampler_Location table and 380 in the Drainage_Area table Note: These objects should stay in proposed status in SDE until the 2022 IP is implemented. Until that time, SS092306 and its associated SMA drainage area are still active under the 2010 IP.	T	CCN-93443
V.3 2531	8/22/2022	PJ-SMA-5.1	Site Boundary Change - 22-016 (Septic System). Retire Site	T	CCN-93443
V.3 2532	8/22/2022	PJ-SMA-5.1	Retire Control - Life Cycle Ended -Control ID: J00603010009 - Earthen Berm	T	CCN-93443
V.3 2533	8/22/2022	PJ-SMA-5.1	Retire Control - Life Cycle Ended -Control ID: J00604010004 - Earthen Channel/Swale	T	CCN-93443
V.3 2534	8/22/2022	PJ-SMA-5.1	Retire Control - Life Cycle Ended -Control ID: J00606010007 - Rock Check Dam	T	CCN-93443
V.3 2535	8/22/2022	PJ-SMA-5.1	SMA Boundary Modification, Updated Area in Map Revision	T	CCN-93443
V.3 2536	8/22/2022	PJ-SMA-5.1	Minor Sampler Adjustment, Updated location with coordinates in Map Revision 15 (amendment V.3 2537).	T	CCN-93443
V.3 2537	8/22/2022	PJ-SMA-5.1	Map Revision (15)	T	CCN-93443

Attachment 1, Amendments (continued)

Amendment Number	Effective Date	SMA Number or Section Number	Description of Changes	Type of Change*	Reference
V.3 2538	8/31/2022	PJ-SMA-4.05	Per issuance of 2022 IP, effective date 8/1/2022, please update all DB systems as necessary to: • Retire SWMU 09-004(G) (Settling Tank) as an IP site associated with PJ-SMA-4.05 in MainConn, SDE, and EIM, retire date 8/1/2022 • Produce new map revision without 09-004(b). Remove associated IP Site from label for 09-005(g). This Site that was administratively added to the databases on the 2010 IP is included in the 2022 IP, and is now the only site associated with PJ-SMA-4.05.	T	CCN-95183
V.3 2539	8/31/2022	PJ-SMA-4.05	Site Boundary Change - 09-004(G) (Settling Tank). Retire Site	T	CCN-95183
V.3 2540	8/31/2022	PJ-SMA-4.05	Map Revision (11)	T	CCN-95183
V.3 2541	9/1/2022	2M-SMA-1.5	Per maintenance WO BMP-93072 conducted on 6/28/2022, please updated as necessary to: • Culvert E00604040002 has been removed. Removal date 7/12/2022 • Building 22-0014 has been demolished. Removal date 6/28/2022.	T	CCN-94023
V.3 2542	12/6/2022	PJ-SMA-14.2	Per control measure/installation WO BMP-95500, completed 8/29/2022, please update as necessary to: • Retire Straw Wattle J01803060006, retire date 8/29/2022 • Add new Straw Wattle J01803060007 as a replacement run-on/sediment control for -0006, same map location. Install date 8/29/2022. Per new 2022 IP map reporting requirements, please update as necessary to: • Update SMA label on maps to include the sampling location coordinates (lat/long and northing/easting). • Update Site labels on maps to include area (in acres) of site boundary that is within SMA boundary. • Ensure that most current infrastructure (e.g., roads, structures, utilities, etc.) layers available at this time are used for this map revision.	T	CCN-96423
V.3 2543	12/6/2022	PJ-SMA-14.2	Retire Control - Damaged and/or Replaced-Control ID: J01803060006 - Straw Wattle	T	CCN-96423
V.3 2544	12/6/2022	PJ-SMA-14.2	New Control - Replacement -Control ID: J01803060007 - Straw Wattle	T	CCN-96423
V.3 2545	12/6/2022	PJ-SMA-14.2	Map Revision (9)	T	CCN-96423

Attachment 1, Amendments (continued)

Amendment Number	Effective Date	SMA Number or Section Number	Description of Changes	Type of Change*	Reference
V.3 2546	2/7/2023	2M-SMA-1	Per new 2022 IP map reporting requirements, please update as necessary to: • Update SMA label on maps to include the sampling location coordinates (lat/long and northing/easting). • Update Site labels on maps to include area (in acres) of site boundary that is within SMA boundary • Ensure that most current infrastructure (e.g., roads, structures, utilities, etc.) layers available at this time are used for this map revision.	T	CCN-97405
V.3 2547	2/7/2023	2M-SMA-1	Map Revision (17)	T	CCN-97405
V.3 2548	2/7/2023	2M-SMA-1.42	Per new 2022 IP map reporting requirements, please update as necessary to: • Update SMA label on maps to include the sampling location coordinates (lat/long and northing/easting). • Update Site labels on maps to include area (in acres) of site boundary that is within SMA boundary • Ensure that most current infrastructure (e.g., roads, structures, utilities, etc.) layers available at this time are used for this map revision.	T	CCN-97408
V.3 2549	2/7/2023	2M-SMA-1.42	Map Revision (14)	T	CCN-97408
V.3 2550	2/7/2023	2M-SMA-1.43	Per new 2022 IP map reporting requirements, please update as necessary to: • Update SMA label on maps to include the sampling location coordinates (lat/long and northing/easting). • Update Site labels on maps to include area (in acres) of site boundary that is within SMA boundary • Ensure that most current infrastructure (e.g., roads, structures, utilities, etc.) layers available at this time are used for this map revision.	T	CCN-97409
V.3 2551	2/7/2023	2M-SMA-1.43	Map Revision (11)	T	CCN-97409
V.3 2552	2/7/2023	2M-SMA-1.44	Per new 2022 IP map reporting requirements, please update as necessary to: • Update SMA label on maps to include the sampling location coordinates (lat/long and northing/easting). • Update Site labels on maps to include area (in acres) of site boundary that is within SMA boundary • Ensure that most current infrastructure (e.g., roads, structures, utilities, etc.) layers available at this time are used for this map revision.	T	CCN-97410

Attachment 1, Amendments (continued)

Amendment Number	Effective Date	SMA Number or Section Number	Description of Changes	Type of Change*	Reference
V.3 2553	2/7/2023	2M-SMA-1.44	Map Revision (18)	T	CCN-97410
V.3 2554	2/7/2023	2M-SMA-1.45	Per new 2022 IP map reporting requirements, please update as necessary to: • Update SMA label on maps to include the sampling location coordinates (lat/long and northing/easting). • Update Site labels on maps to include area (in acres) of site boundary that is within SMA boundary • Ensure that most current infrastructure (e.g., roads, structures, utilities, etc.) layers available at this time are used for this map revision.	T	CCN-97411
V.3 2555	2/7/2023	2M-SMA-1.45	Map Revision (13)	T	CCN-97411
V.3 2556	2/7/2023	2M-SMA-1.5	Per new 2022 IP map reporting requirements, please update as necessary to: • Update SMA label on maps to include the sampling location coordinates (lat/long and northing/easting). • Update Site labels on maps to include area (in acres) of site boundary that is within SMA boundary • Ensure that most current infrastructure (e.g., roads, structures, utilities, etc.) layers available at this time are used for this map revision.	T	CCN-97412
V.3 2557	2/7/2023	2M-SMA-1.5	Map Revision (12)	T	CCN-97412
V.3 2558	2/7/2023	2M-SMA-1.65	Per new 2022 IP map reporting requirements, please update as necessary to: • Update SMA label on maps to include the sampling location coordinates (lat/long and northing/easting). • Update Site labels on maps to include area (in acres) of site boundary that is within SMA boundary • Ensure that most current infrastructure (e.g., roads, structures, utilities, etc.) layers available at this time are used for this map revision.	T	CCN-97413
V.3 2559	2/7/2023	2M-SMA-1.65	Map Revision (10)	T	CCN-97413

Attachment 1, Amendments (continued)

Amendment Number	Effective Date	SMA Number or Section Number	Description of Changes	Type of Change*	Reference
V.3 2560	2/7/2023	2M-SMA-1.67	Per new 2022 IP map reporting requirements, please update as necessary to: • Update SMA label on maps to include the sampling location coordinates (lat/long and northing/easting). • Update Site labels on maps to include area (in acres) of site boundary that is within SMA boundary. • Ensure that most current infrastructure (e.g., roads, structures, utilities, etc.) layers available at this time are used for this map revision.	T	CCN-97414
V.3 2561	2/7/2023	2M-SMA-1.67	Map Revision (12)	T	CCN-97414
V.3 2562	2/7/2023	2M-SMA-1.7	Per new 2022 IP map reporting requirements, please update as necessary to: • Update SMA label on maps to include the sampling location coordinates (lat/long and northing/easting). • Update Site labels on maps to include area (in acres) of site boundary that is within SMA boundary. • Ensure that most current infrastructure (e.g., roads, structures, utilities, etc.) layers available at this time are used for this map revision.	T	CCN-97415
V.3 2563	2/7/2023	2M-SMA-1.7	Map Revision (12)	T	CCN-97415
V.3 2564	2/7/2023	2M-SMA-1.8	Per new 2022 IP map reporting requirements, please update as necessary to: • Update SMA label on maps to include the sampling location coordinates (lat/long and northing/easting). • Update Site labels on maps to include area (in acres) of site boundary that is within SMA boundary. • Ensure that most current infrastructure (e.g., roads, structures, utilities, etc.) layers available at this time are used for this map revision.	T	CCN-97416
V.3 2565	2/7/2023	2M-SMA-1.8	Map Revision (13)	T	CCN-97416
V.3 2566	2/8/2023	2M-SMA-1.9	Per new 2022 IP map reporting requirements, please update as necessary to: • Update SMA label on maps to include the sampling location coordinates (lat/long and northing/easting). • Update Site labels on maps to include area (in acres) of site boundary that is within SMA boundary. • Ensure that most current infrastructure (e.g., roads, structures, utilities, etc.) layers available at this time are used for this map revision.	T	CCN-97406

Attachment 1, Amendments (continued)

Amendment Number	Effective Date	SMA Number or Section Number	Description of Changes	Type of Change*	Reference
V.3 2567	2/8/2023	2M-SMA-1.9	Map Revision (8)	T	CCN-97406
V.3 2568	2/7/2023	2M-SMA-2	Per new 2022 IP map reporting requirements, please update as necessary to: • Update SMA label on maps to include the sampling location coordinates (lat/long and northing/easting). • Update Site labels on maps to include area (in acres) of site boundary that is within SMA boundary. • Ensure that most current infrastructure (e.g., roads, structures, utilities, etc.) layers available at this time are used for this map revision.	T	CCN-97407
V.3 2569	2/7/2023	2M-SMA-2	Map Revision (13)	T	CCN-97407
V.3 2570	3/2/2023	2M-SMA-2.2	Per preparations for implementation of new 2022 Individual Permit, please update as necessary to: • Generate draft project map for SMA using proposed monitoring location SS223231 and associated drainage area identified in 2016 SIP reviews. The sampler coordinates and draft SMA drainage area are existing in SDE as Object Ids 495 in the IP_Sampler_Location table and 1282 in the Drainage_Area table. Note: These objects should stay in proposed status in SDE until the 2022 IP is implemented. Until that time, SS093214 and its associated SMA drainage area are still active under the 2010 IP.	T	CCN-93439
V.3 2571	3/2/2023	2M-SMA-2.2	SMA Boundary Modification, Updated Area in Map Revision	T	CCN-93439
V.3 2572	3/2/2023	2M-SMA-2.2	Minor Sampler Adjustment, Updated location with coordinates in Map Revision 9 (amendment V.3 2573).	T	CCN-93439
V.3 2573	3/2/2023	2M-SMA-2.2	Map Revision (9)	T	CCN-93439
V.3 2574	2/7/2023	2M-SMA-3	Per new 2022 IP map reporting requirements, please update as necessary to: • Update SMA label on maps to include the sampling location coordinates (lat/long and northing/easting). • Update Site labels on maps to include area (in acres) of site boundary that is within SMA boundary. • Ensure that most current infrastructure (e.g., roads, structures, utilities, etc.) layers available at this time are used for this map revision.	T	CCN-97417
V.3 2575	2/7/2023	2M-SMA-3	Map Revision (22)	T	CCN-97417

Attachment 1, Amendments (continued)

Amendment Number	Effective Date	SMA Number or Section Number	Description of Changes	Type of Change*	Reference
V.3 2576	2/8/2023	3M-SMA-0.2	Per new 2022 IP map reporting requirements, please update as necessary to: • Update SMA label on maps to include the sampling location coordinates (lat/long and northing/easting). • Update Site labels on maps to include area (in acres) of site boundary that is within SMA boundary. • Ensure that most current infrastructure (e.g., roads, structures, utilities, etc.) layers available at this time are used for this map revision.	T	CCN-97418
V.3 2577	2/8/2023	3M-SMA-0.2	Map Revision (14)	T	CCN-97418
V.3 2578	2/27/2023	3M-SMA-0.4	Per new 2022 IP map reporting requirements, please update as necessary to: • Update SMA label on maps to include the sampling location coordinates (lat/long and northing/easting). • Update Site labels on maps to include area (in acres) of site boundary that is within SMA boundary. • Ensure that most current infrastructure (e.g., roads, structures, utilities, etc.) layers available at this time are used for this map revision.	T	CCN-97419
V.3 2579	2/27/2023	3M-SMA-0.4	Map Revision (13)	T	CCN-97419
V.3 2580	2/8/2023	3M-SMA-0.5	Per new 2022 IP map reporting requirements, please update as necessary to: • Update SMA label on maps to include the sampling location coordinates (lat/long and northing/easting). • Update Site labels on maps to include area (in acres) of site boundary that is within SMA boundary. • Ensure that most current infrastructure (e.g., roads, structures, utilities, etc.) layers available at this time are used for this map revision.	T	CCN-97420
V.3 2581	2/8/2023	3M-SMA-0.5	Map Revision (11)	T	CCN-97420
V.3 2582	2/8/2023	3M-SMA-0.6	Per new 2022 IP map reporting requirements, please update as necessary to: • Update SMA label on maps to include the sampling location coordinates (lat/long and northing/easting). • Update Site labels on maps to include area (in acres) of site boundary that is within SMA boundary. • Ensure that most current infrastructure (e.g., roads, structures, utilities, etc.) layers available at this time are used for this map revision.	T	CCN-97421

Attachment 1, Amendments (continued)

Amendment Number	Effective Date	SMA Number or Section Number	Description of Changes	Type of Change*	Reference
V.3 2583	2/8/2023	3M-SMA-0.6	Map Revision (12)	T	CCN-97421
V.3 2584	2/8/2023	3M-SMA-2.6	Per new 2022 IP map reporting requirements, please update as necessary to: • Update SMA label on maps to include the sampling location coordinates (lat/long and northing/easting). • Update Site labels on maps to include area (in acres) of site boundary that is within SMA boundary. • Ensure that most current infrastructure (e.g., roads, structures, utilities, etc.) layers available at this time are used for this map revision.	T	CCN-97422
V.3 2585	2/8/2023	3M-SMA-2.6	Map Revision (10)	T	CCN-97422
V.3 2586	2/8/2023	3M-SMA-4	Per new 2022 IP map reporting requirements, please update as necessary to: • Update SMA label on maps to include the sampling location coordinates (lat/long and northing/easting). • Update Site labels on maps to include area (in acres) of site boundary that is within SMA boundary. • Ensure that most current infrastructure (e.g., roads, structures, utilities, etc.) layers available at this time are used for this map revision.	T	CCN-97423
V.3 2587	2/8/2023	3M-SMA-4	Map Revision (10)	T	CCN-97423
V.3 2588	2/9/2023	PJ-SMA-1.05	Per new 2022 IP map reporting requirements, please update as necessary to: • Update SMA label on maps to include the sampling location coordinates (lat/long and northing/easting). • Update Site labels on maps to include area (in acres) of site boundary that is within SMA boundary. • Ensure that most current infrastructure (e.g., roads, structures, utilities, etc.) layers available at this time are used for this map revision.	T	CCN-97429
V.3 2589	2/9/2023	PJ-SMA-1.05	Map Revision (13)	T	CCN-97429

Attachment 1, Amendments (continued)

Amendment Number	Effective Date	SMA Number or Section Number	Description of Changes	Type of Change*	Reference
V.3 2590	2/27/2023	PJ-SMA-2	Per new 2022 IP map reporting requirements, please update as necessary to: • Update SMA label on maps to include the sampling location coordinates (lat/long and northing/easting). • Update Site labels on maps to include area (in acres) of site boundary that is within SMA boundary. • Ensure that most current infrastructure (e.g., roads, structures, utilities, etc.) layers available at this time are used for this map revision. Per spatial PRS Database Change request CR2020-1549, approved 7/30-2020: • Include updated spatial presentation of Site 09-009 in this map revision.	T	CCN-97434
V.3 2591	2/27/2023	PJ-SMA-2	Map Revision (13)	T	CCN-97434
V.3 2592	2/27/2023	PJ-SMA-3.05	Per new 2022 IP map reporting requirements, please update as necessary to: • Update SMA label on maps to include the sampling location coordinates (lat/long and northing/easting). • Update Site labels on maps to include area (in acres) of site boundary that is within SMA boundary. • Ensure that most current infrastructure (e.g., roads, structures, utilities, etc.) layers available at this time are used for this map revision.	T	CCN-97435
V.3 2593	2/27/2023	PJ-SMA-3.05	Map Revision (12)	T	CCN-97435
V.3 2594	2/27/2023	PJ-SMA-4.05	Per new 2022 IP map reporting requirements, please update as necessary to: • Update SMA label on maps to include the sampling location coordinates (lat/long and northing/easting). • Update Site labels on maps to include area (in acres) of site boundary that is within SMA boundary. • Ensure that most current infrastructure (e.g., roads, structures, utilities, etc.) layers available at this time are used for this map revision.	T	CCN-97436
V.3 2595	2/27/2023	PJ-SMA-4.05	Map Revision (12)	T	CCN-97436

Attachment 1, Amendments (continued)

Amendment Number	Effective Date	SMA Number or Section Number	Description of Changes	Type of Change*	Reference
V.3 2596	2/27/2023	PJ-SMA-5	Per new 2022 IP map reporting requirements, please update as necessary to: • Update SMA label on maps to include the sampling location coordinates (lat/long and northing/easting). • Update Site labels on maps to include area (in acres) of site boundary that is within SMA boundary. • Ensure that most current infrastructure (e.g., roads, structures, utilities, etc.) layers available at this time are used for this map revision.	T	CCN-97437
V.3 2597	2/27/2023	PJ-SMA-5	Map Revision (19)	T	CCN-97437
V.3 2598	2/27/2023	PJ-SMA-5.1	Per new 2022 IP map reporting requirements, please update as necessary to: • Update SMA label on maps to include the sampling location coordinates (lat/long and northing/easting). • Update Site labels on maps to include area (in acres) of site boundary that is within SMA boundary. • Ensure that most current infrastructure (e.g., roads, structures, utilities, etc.) layers available at this time are used for this map revision.	T	CCN-97438
V.3 2599	2/27/2023	PJ-SMA-5.1	Map Revision (16)	T	CCN-97438
V.3 2600	2/27/2023	PJ-SMA-6	Per new 2022 IP map reporting requirements, please update as necessary to: • Update SMA label on maps to include the sampling location coordinates (lat/long and northing/easting). • Update Site labels on maps to include area (in acres) of site boundary that is within SMA boundary. • Ensure that most current infrastructure (e.g., roads, structures, utilities, etc.) layers available at this time are used for this map revision.	T	CCN-97439
V.3 2601	2/27/2023	PJ-SMA-6	Map Revision (15)	T	CCN-97439
V.3 2602	2/27/2023	PJ-SMA-7	Per new 2022 IP map reporting requirements, please update as necessary to: • Update SMA label on maps to include the sampling location coordinates (lat/long and northing/easting). • Update Site labels on maps to include area (in acres) of site boundary that is within SMA boundary. • Ensure that most current infrastructure (e.g., roads, structures, utilities, etc.) layers available at this time are used for this map revision.	T	CCN-97440

Attachment 1, Amendments (continued)

Amendment Number	Effective Date	SMA Number or Section Number	Description of Changes	Type of Change*	Reference
V.3 2603	2/27/2023	PJ-SMA-7	Map Revision (13)	T	CCN-97440
V.3 2604	2/27/2023	PJ-SMA-8	Per new 2022 IP map reporting requirements, please update as necessary to: • Update SMA label on maps to include the sampling location coordinates (lat/long and northing/easting). • Update Site labels on maps to include area (in acres) of site boundary that is within SMA boundary. • Ensure that most current infrastructure (e.g., roads, structures, utilities, etc.) layers available at this time are used for this map revision.	T	CCN-97441
V.3 2605	2/27/2023	PJ-SMA-8	Map Revision (14)	T	CCN-97441
V.3 2606	2/27/2023	PJ-SMA-9	Per new 2022 IP map reporting requirements, please update as necessary to: • Update SMA label on maps to include the sampling location coordinates (lat/long and northing/easting). • Update Site labels on maps to include area (in acres) of site boundary that is within SMA boundary. • Ensure that most current infrastructure (e.g., roads, structures, utilities, etc.) layers available at this time are used for this map revision.	T	CCN-97442
V.3 2607	2/27/2023	PJ-SMA-9	Map Revision (10)	T	CCN-97442
V.3 2608	2/9/2023	PJ-SMA-10	Per new 2022 IP map reporting requirements, please update as necessary to: • Update SMA label on maps to include the sampling location coordinates (lat/long and northing/easting). • Update Site labels on maps to include area (in acres) of site boundary that is within SMA boundary. • Ensure that most current infrastructure (e.g., roads, structures, utilities, etc.) layers available at this time are used for this map revision.	T	CCN-97443
V.3 2609	2/9/2023	PJ-SMA-10	Map Revision (18)	T	CCN-97443

Attachment 1, Amendments (continued)

Amendment Number	Effective Date	SMA Number or Section Number	Description of Changes	Type of Change*	Reference
V.3 2610	2/9/2023	PJ-SMA-11	Per new 2022 IP map reporting requirements, please update as necessary to: • Update SMA label on maps to include the sampling location coordinates (lat/long and northing/easting). • Update Site labels on maps to include area (in acres) of site boundary that is within SMA boundary. • Ensure that most current infrastructure (e.g., roads, structures, utilities, etc.) layers available at this time are used for this map revision.	T	CCN-97444
V.3 2611	2/9/2023	PJ-SMA-11	Map Revision (20)	T	CCN-97444
V.3 2612	2/9/2023	PJ-SMA-11.1	Per new 2022 IP map reporting requirements, please update as necessary to: • Update SMA label on maps to include the sampling location coordinates (lat/long and northing/easting). • Update Site labels on maps to include area (in acres) of site boundary that is within SMA boundary. • Ensure that most current infrastructure (e.g., roads, structures, utilities, etc.) layers available at this time are used for this map revision.	T	CCN-97445
V.3 2613	2/9/2023	PJ-SMA-11.1	Map Revision (18)	T	CCN-97445
V.3 2614	2/27/2023	PJ-SMA-13.7	Per new 2022 IP map reporting requirements, please update as necessary to: • Update SMA label on maps to include the sampling location coordinates (lat/long and northing/easting). • Update Site labels on maps to include area (in acres) of site boundary that is within SMA boundary. • Ensure that most current infrastructure (e.g., roads, structures, utilities, etc.) layers available at this time are used for this map revision.	T	CCN-97430
V.3 2615	2/27/2023	PJ-SMA-13.7	Map Revision (9)	T	CCN-97430
V.3 2616	2/9/2023	PJ-SMA-14.3	Per new 2022 IP map reporting requirements, please update as necessary to: • Update SMA label on maps to include the sampling location coordinates (lat/long and northing/easting). • Update Site labels on maps to include area (in acres) of site boundary that is within SMA boundary. • Ensure that most current infrastructure (e.g., roads, structures, utilities, etc.) layers available at this time are used for this map revision.	T	CCN-97431

Attachment 1, Amendments (continued)

Amendment Number	Effective Date	SMA Number or Section Number	Description of Changes	Type of Change*	Reference
V.3 2617	2/9/2023	PJ-SMA-14.3	Map Revision (13)	T	CCN-97431
V.3 2618	2/8/2023	PJ-SMA-14.4	Per control measure/installation WO BMP-95501, completed 8/29/2022, please update as necessary to: • Retire Coir Log J02003140012, retire date 8/29/2022 • Add new Coir Log J02003140014 as a replacement run-on/erosion control for -0012, same map location. Install date 8/29/2022. Per new 2022 IP map reporting requirements, please update as necessary to: • Update SMA label on maps to include the sampling location coordinates (lat/long and northing/easting). • Update Site labels on maps to include area (in acres) of site boundary that is within SMA boundary. • Ensure that most current infrastructure (e.g., roads, structures, utilities, etc.) layers available at this time are used for this map revision.	T	CCN-91073
V.3 2619	2/8/2023	PJ-SMA-14.4	Retire Control - Damaged and/or Replaced-Control ID: J02003140012 - Coir Log	T	CCN-91073
V.3 2620	2/8/2023	PJ-SMA-14.4	New Control - Replacement -Control ID: J02003140014 - Coir Log	T	CCN-91073
V.3 2621	2/8/2023	PJ-SMA-14.4	Map Revision (12)	T	CCN-91073
V.3 2622	2/9/2023	PJ-SMA-14.6	Per new 2022 IP map reporting requirements, please update as necessary to: • Update SMA label on maps to include the sampling location coordinates (lat/long and northing/easting). • Update Site labels on maps to include area (in acres) of site boundary that is within SMA boundary. • Ensure that most current infrastructure (e.g., roads, structures, utilities, etc.) layers available at this time are used for this map revision.	T	CCN-97432
V.3 2623	2/9/2023	PJ-SMA-14.6	Map Revision (10)	T	CCN-97432
V.3 2624	2/9/2023	PJ-SMA-14.8	Per new 2022 IP map reporting requirements, please update as necessary to: • Update SMA label on maps to include the sampling location coordinates (lat/long and northing/easting). • Update Site labels on maps to include area (in acres) of site boundary that is within SMA boundary. • Ensure that most current infrastructure (e.g., roads, structures, utilities, etc.) layers available at this time are used for this map revision.	T	CCN-97433

Attachment 1, Amendments (continued)

Amendment Number	Effective Date	SMA Number or Section Number	Description of Changes	Type of Change*	Reference
V.3 2625	2/9/2023	PJ-SMA-14.8	Map Revision (9)	T	CCN-97433
V.3 2626	2/9/2023	PJ-SMA-16	Per new 2022 IP map reporting requirements, please update as necessary to: • Update SMA label on maps to include the sampling location coordinates (lat/long and northing/easting). • Update Site labels on maps to include area (in acres) of site boundary that is within SMA boundary. • Ensure that most current infrastructure (e.g., roads, structures, utilities, etc.) layers available at this time are used for this map revision.	T	CCN-97446
V.3 2627	2/9/2023	PJ-SMA-16	Map Revision (7)	T	CCN-97446
V.3 2628	2/9/2023	PJ-SMA-17	Per new 2022 IP map reporting requirements, please update as necessary to: • Update SMA label on maps to include the sampling location coordinates (lat/long and northing/easting). • Update Site labels on maps to include area (in acres) of site boundary that is within SMA boundary. • Ensure that most current infrastructure (e.g., roads, structures, utilities, etc.) layers available at this time are used for this map revision.	T	CCN-97447
V.3 2629	2/9/2023	PJ-SMA-17	Map Revision (4)	T	CCN-97447
V.3 2630	2/27/2023	PJ-SMA-19	Per new 2022 IP map reporting requirements, please update as necessary to: • Update SMA label on maps to include the sampling location coordinates (lat/long and northing/easting). • Update Site labels on maps to include area (in acres) of site boundary that is within SMA boundary. • Ensure that most current infrastructure (e.g., roads, structures, utilities, etc.) layers available at this time are used for this map revision.	T	CCN-97448
V.3 2631	2/27/2023	PJ-SMA-19	Map Revision (6)	T	CCN-97448

Attachment 1, Amendments (continued)

Amendment Number	Effective Date	SMA Number or Section Number	Description of Changes	Type of Change*	Reference
V.3 2632	2/9/2023	PJ-SMA-18	Per new 2022 IP map reporting requirements, please update as necessary to: • Update SMA label on maps to include the sampling location coordinates (lat/long and northing/easting). • Update Site labels on maps to include area (in acres) of site boundary that is within SMA boundary. • Ensure that most current infrastructure (e.g., roads, structures, utilities, etc.) layers available at this time are used for this map revision.	T	CCN-97449
V.3 2633	2/9/2023	PJ-SMA-18	Map Revision (8)	T	CCN-97449
V.3 2634	2/27/2023	PJ-SMA-20	Per new 2022 IP map reporting requirements, please update as necessary to: • Update SMA label on maps to include the sampling location coordinates (lat/long and northing/easting). • Update Site labels on maps to include area (in acres) of site boundary that is within SMA boundary. • Ensure that most current infrastructure (e.g., roads, structures, utilities, etc.) layers available at this time are used for this map revision.	T	CCN-97450
V.3 2635	2/27/2023	PJ-SMA-20	Map Revision (7)	T	CCN-97450
V.3 2636	2/27/2023	STRM-SMA-1.05	Per new 2022 IP map reporting requirements, please update as necessary to: • Update SMA label on maps to include the sampling location coordinates (lat/long and northing/easting). • Update Site labels on maps to include area (in acres) of site boundary that is within SMA boundary. • Ensure that most current infrastructure (e.g., roads, structures, utilities, etc.) layers available at this time are used for this map revision.	T	CCN-97425
V.3 2637	2/27/2023	STRM-SMA-1.05	Map Revision (11)	T	CCN-97425
V.3 2638	2/27/2023	STRM-SMA-1.5	Per new 2022 IP map reporting requirements, please update as necessary to: • Update SMA label on maps to include the sampling location coordinates (lat/long and northing/easting). • Update Site labels on maps to include area (in acres) of site boundary that is within SMA boundary. • Ensure that most current infrastructure (e.g., roads, structures, utilities, etc.) layers available at this time are used for this map revision.	T	CCN-97426

Attachment 1, Amendments (continued)

Amendment Number	Effective Date	SMA Number or Section Number	Description of Changes	Type of Change*	Reference
V.3 2639	2/27/2023	STRM-SMA-1.5	Map Revision (15)	T	CCN-97426
V.3 2640	2/27/2023	STRM-SMA-4.2	Per new 2022 IP map reporting requirements, please update as necessary to: • Update SMA label on maps to include the sampling location coordinates (lat/long and northing/easting). • Update Site labels on maps to include area (in acres) of site boundary that is within SMA boundary. • Ensure that most current infrastructure (e.g., roads, structures, utilities, etc.) layers available at this time are used for this map revision.	T	CCN-97427
V.3 2641	2/27/2023	STRM-SMA-4.2	Map Revision (12)	T	CCN-97427
V.3 2642	2/27/2023	STRM-SMA-5.05	Per new 2022 IP map reporting requirements, please update as necessary to: • Update SMA label on maps to include the sampling location coordinates (lat/long and northing/easting). • Update Site labels on maps to include area (in acres) of site boundary that is within SMA boundary. • Ensure that most current infrastructure (e.g., roads, structures, utilities, etc.) layers available at this time are used for this map revision.	T	CCN-97428
V.3 2643	2/27/2023	STRM-SMA-5.05	Map Revision (10)	T	CCN-97428
V.3 2644	2/6/2023	Volume 3	Per 2022 SDPPP Draft editorial decision, update Maintenance Connection and attribute tables in SDE as necessary to change Rip Rap to Riprap. Note: DB change only, all project maps produced under SMA-specific CCNs have been modified as applicable.	E	CCN-97380
V.3 2645	3/2/2023	Volume 3 Attachment 2	Per 2022 IP, effective August 1, 2022, please update as necessary to: • Update Map number map_19-0004-04_pajarito_canyon_watershed.mxd to include new SMA location for PJ-SMA_9.2. This is a new SMA on the 2022 IP. Per the 2022 IP, PJ-SMA-13 and PJ-SMA-14 should no longer be included on the map.	T	CCN-97026
V.3 2646	3/2/2023	Volume 3 Attachment 2	Vicinity Map Revision (map_19-0004-11_pajarito_canyon_watershed_2023.mxd)	T	CCN-97026
V.3 2647	2/27/2023	PJ-SMA-2	Site Boundary Change - 09-009. Updated location in Map Revision 13 (amendment V.3 2591)	T	CCN-97434

Attachment 1, Amendments (continued)

Amendment Number	Effective Date	SMA Number or Section Number	Description of Changes	Type of Change*	Reference
V.3 2648	8/1/2022	Volume 3	Per the 2022 IP, effective August 1, 2022, Retire the following SMAs and associated Sites in the Pajarito Watershed. All active controls at these SMAs are also retired and have been abandoned in place. Decommission the associated monitoring location(s) as necessary: • PJ-SMA-13 (J015) and Site 18-002(a). Decommission SS102335. Retire controls J01503010003 and J0150204005. • PJ-SMA-14 (J017) and Site 54-004. Decommission SS2465. Retire controls J01701010004, J01703020002, J01703020003, J01708010001, J01703010005, and J01703010006.	T	CCN-96244
V.3 2649	8/1/2022	Volume 3	Site Boundary Change - Retire 18-002(a)	T	CCN-96244
V.3 2650	8/1/2022	Volume 3	Site Boundary Change - Retire 54-004	T	CCN-96244
V.3 2651	8/1/2022	Volume 3	SMA Boundary Modification - Retire PJ-SMA-13	T	CCN-96244
V.3 2652	8/1/2022	Volume 3	SMA Boundary Modification - Retire PJ-SMA-14	T	CCN-96244
V.3 2653	8/1/2022	Volume 3	Retire Control - Life Cycle Ended -Control ID: J01503010003 - Earthen Berm	T	CCN-96244
V.3 2654	8/1/2022	Volume 3	Retire Control - Life Cycle Ended -Control ID: J01502040005 - Established Vegetation	T	CCN-96244
V.3 2655	8/1/2022	Volume 3	Retire Control - Life Cycle Ended -Control ID: J01703020002 - Base Course Berm	T	CCN-96244
V.3 2656	8/1/2022	Volume 3	Retire Control - Life Cycle Ended -Control ID: J01703020003 - Base Course Berm	T	CCN-96244
V.3 2657	8/1/2022	Volume 3	Retire Control - Life Cycle Ended -Control ID: J01708010001 - Earth Cap	T	CCN-96244
V.3 2658	8/1/2022	Volume 3	Retire Control - Life Cycle Ended -Control ID: J01703010005- Earthen Berm	T	CCN-96244
V.3 2659	8/1/2022	Volume 3	Retire Control - Life Cycle Ended -Control ID: J01703010006- Earthen Berm	T	CCN-96244
V.3 2660	8/1/2022	Volume 3	Retire Control - Life Cycle Ended -Control ID: J01701010004 - Seed and Wood Mulch	T	CCN-96244
V.3 2661	9/1/2022	2M-SMA-1.5	Retire Control - Damaged and/or Replaced-Control ID: E00604040002 - Culvert	T	CCN-94023
V.3 2662	9/1/2022	2M-SMA-1.5	Map Revision (11)	T	CCN-94023
V.3 2663	5/10/2022 0:00	PJ-SMA-3.05	SMA Boundary Modification, Updated Area in Map Revision 11 (amendment V.3 2525)	T	CCN-92055
V.3 2664	5/10/2022 0:00	PJ-SMA-11	SMA Boundary Modification, Updated Area in Map Revision 19 (amendment V.3 2529)	T	CCN-92084

Attachment 1, Amendments (continued)

Amendment Number	Effective Date	SMA Number or Section Number	Description of Changes	Type of Change*	Reference
V.3 2665	3/9/2023	2M-SMA-2.5	Per new 2022 IP map reporting requirements, please update as necessary to: • Update SMA label on maps to include the sampling location coordinates (lat/long and northing/easting). • Update Site labels on maps to include area (in acres) of site boundary that is within SMA boundary. • Ensure that most current infrastructure (e.g., roads, structures, utilities, etc.) layers available at this time are used for this map revision.	T	CCN-97852
V.3 2666	3/9/2023	2M-SMA-2.5	Map Revision (9)	T	CCN-97852
V.3 2667	12/6/2022	PJ-SMA-9.2	Per issuance of 2022 IP, effective date 8/1/2022 and bmp verification BMP-92592, please update all DB systems as necessary to: • Add "PJ-SMA-9.2" as an IP SMA in MainConn, SDE, and EIM, active date 8/1/2022. Permitted Feature ID is J011, associated with RG-TA-06, located in Pajarito Canyon, Watershed is Pajarito Canyon. • Add SWMU 40-001(C) (Septic System) as an IP Site associated with PJ-SMA-9.2 in MainConn, SDE, and EIM, active date 8/1/2022. • Add "PJ-SMA-9.2" as an IP SMA in MainConn, SDE, and EIM, active date 8/1/2022. Permitted Feature ID is J011, associated with RG-TA-06, located in Pajarito Canyon, Watershed is Pajarito Canyon. • Add 5 applications of Coir Logs installed as "additional" runoff/sediment controls for new SMA. Accept date 8/1/2022. See attached installation map for locations. Note: Controls will be certified for baseline installation after approval of the 2022 Sampling Implementation Plan. • Add Sampling location SS202346 (1620015.233E, 1767046.579N) and generate SMA boundary using this pour-point location. Produce new map revision after SMA updates and control additions are complete. Note: 40-002(c) is also associated with 2M-SMA-2.5 on the 2022 IP.	T	CCN-78699

Attachment 1, Amendments (continued)

Amendment Number	Effective Date	SMA Number or Section Number	Description of Changes	Type of Change*	Reference
V.3 2667 (cont.)	12/6/2022	PJ-SMA-9.2	Per new 2022 IP map reporting requirements, please update as necessary to: • Update SMA label on maps to include the sampling location coordinates (lat/long and northing/easting). • Update Site labels on maps to include area (in acres) of site boundary that is within SMA boundary Ensure that most current infrastructure (e.g., roads, structures, utilities, etc.) layers available at this time are used for this map revision.	T	CCN-78699
V.3 2668	12/6/2022	PJ-SMA-9.2	New Control - Augmenting Existing/Baseline Control-Control ID: J01103140001 - Coir Log	T	CCN-78699
V.3 2669	12/6/2022	PJ-SMA-9.2	New Control - Augmenting Existing/Baseline Control-Control ID: J01103140002 - Coir Log	T	CCN-78699
V.3 2670	12/6/2022	PJ-SMA-9.2	New Control - Augmenting Existing/Baseline Control-Control ID: J01103140003 - Coir Log	T	CCN-78699
V.3 2671	12/6/2022	PJ-SMA-9.2	New Control - Augmenting Existing/Baseline Control-Control ID: J01103140004 - Coir Log	T	CCN-78699
V.3 2672	12/6/2022	PJ-SMA-9.2	New Control - Augmenting Existing/Baseline Control-Control ID: J01103140005 - Coir Log	T	CCN-78699
V.3 2673	12/6/2022	PJ-SMA-9.2	SMA Boundary Modification, Updated Area in Map Revision 1	T	CCN-78699

Attachment 1, Amendments (continued)

Amendment Number	Effective Date	SMA Number or Section Number	Description of Changes	Type of Change*	Reference
V.3 2667	12/6/2022	PJ-SMA-9.2	Per issuance of 2022 IP, effective date 8/1/2022 and bmp verification BMP-92592, please update all DB systems as necessary to: • Add "PJ-SMA-9.2" as an IP SMA in MainConn, SDE, and EIM, active date 8/1/2022. Permitted Feature ID is J011, associated with RG-TA-06, located in Pajarito Canyon, Watershed is Pajarito Canyon. • Add SWMU 40-001(C) (Septic System) as an IP Site associated with PJ-SMA-9.2 in MainConn, SDE, and EIM, active date 8/1/2022. • Add "PJ-SMA-9.2" as an IP SMA in MainConn, SDE, and EIM, active date 8/1/2022. Permitted Feature ID is J011, associated with RG-TA-06, located in Pajarito Canyon, Watershed is Pajarito Canyon. • Add 5 applications of Coir Logs installed as "additional" runoff/sediment controls for new SMA. Accept date 8/1/2022. See attached installation map for locations. Note: Controls will be certified for baseline installation after approval of the 2022 Sampling Implementation Plan. • Add Sampling location SS202346 (1620015.233E, 1767046.579N) and generate SMA boundary using this pour-point location. Produce new map revision after SMA updates and control additions are complete. Note: 40-002(c) is also associated with 2M-SMA-2.5 on the 2022 IP. Per new 2022 IP map reporting requirements, please update as necessary to: • Update SMA label on maps to include the sampling location coordinates (lat/long and northing/easting). • Update Site labels on maps to include area (in acres) of site boundary that is within SMA boundary. • Ensure that most current infrastructure (e.g., roads, structures, utilities, etc.) layers available at this time are used for this map revision.	T	CCN-78699
V.3 2668	12/6/2022	PJ-SMA-9.2	New Control - Augmenting Existing/Baseline Control-Control ID: J01103140001 - Coir Log	T	CCN-78699

*T = Technical, E = Errata.

Attachment 2
Vicinity Map