ESHID-602441

Environmental Protection & Compliance Division
Los Alamos National Laboratory
PO Box 1663, K491
Los Alamos, New Mexico 87545
(505) 667-2211

National Nuclear Security Administration
Los Alamos Field Office
3747 West Jemez Road, *A316*
Los Alamos, New Mexico, 87544
(505) 665-7314/Fax (505) 667-5948

Date: JUN 07 2017
Symbol: EPC-DO: 17-196
LA-UR: 17-22189
Locates Action No.: *N/A*

Mr. John E. Kieling, Chief
Hazardous Waste Bureau
New Mexico Environment Department
2905 Rodeo Park Drive East, Building 1
Santa Fe, NM 87505-6303

Subject: **Notification of Class 1 Permit Modification Facility Description Updates for the Technical Area 63 Transuranic Waste Facility Container Storage Unit, Los Alamos National Laboratory Hazardous Waste Facility Permit, EPA I.D. #NM0890010515 (NA/LA)**

Dear Mr. Kieling:

The purpose of this letter is to notify the New Mexico Environment Department Hazardous Waste Bureau (NMED-HWB) of a Class 1 permit modification to the Los Alamos National Laboratory (LANL) Hazardous Waste Facility Permit (the Permit) for the Technical Area (TA)-63 Transuranic Waste Facility (TWF) container storage unit. The Permit was issued to the Department of Energy (DOE) and Los Alamos National Security, LLC (LANS), the Permittees, in November 2010.

On December 19, 2013, NMED-HWB approved the addition of the TA-63 TWF storage unit to the Permit. In July 2014 and March 2016, the Permittees also submitted additional Class 1 Notifications of Permit Modification to revise the design and construction details for the facility in the Permit. Construction of the facility began in August 2014 and has been completed.

This permit revision includes additional revisions to the description of the facility in the Permit. These revisions involve minor description changes for the retention basin at the facility and revisions to the Permit figures for the TA-63 TWF to show three emergency gate locations, the addition of two structures outside the permitted storage unit and other updates.

The Permittees have prepared this permit modification in accordance with Title 40 of the Code of Federal Regulations (40 CFR) §270.42(a)(1). The changes made to the Permit as part of this modification all fall

under the conditions of Appendix I of 40 CFR §270.42 for Class 1 permit modifications. A full description of the permit modification, rationale for the classification types, the necessary permit revisions, and a signed certification page are included in Enclosure 1.

Three hard copies and one electronic copy of this submittal will be delivered to the NMED-HWB. The hardcopy submittal contains pages or sections where text has been changed rather than copies of full attachments of the Permit. The electronic copy will be provided to NMED-HWB including a reproduction of the hardcopy in portable document format (.pdf) and the word processing and figure files used to create this submittal.

Notification of this modification will be sent to the NMED-HWB-maintained LANL facility mailing list within ninety days of the transmittal of this permit modification request in accordance with 40 CFR §270.42(a)(1)(ii).

If you have comments or questions regarding this permit modification, please contact Karen E. Armijo, DOE, at (505) 665-7314 or Mark Haagenstad, LANS, at (505) 665-2014.

Sincerely,

John C. Bretzke
Division Leader

Sincerely,

Karen E. Armijo
Permitting and Compliance Program Manager

JCB/KEA: am

Enclosure(s): Enclosure 1 Class 1 Permit Modification Facility Description Updates for the Technical Area 63 Transuranic Waste Facility Container Storage Unit, Los Alamos National Laboratory Hazardous Waste Facility Permit

Copy: Laurie King, USEPA/Region 6, Dallas, TX (E-File)
Neelam Dhawan, NMED/HWB, Santa Fe, NM (E-File)
Siona Briley, NMED/HWB, Santa Fe, NM (E-File)
Darlene S. Rodriquez, NA-LA, (E-File)
Jody M. Pugh, NA-LA, (E-File)
Karen E. Armijo, NA-LA, (E-File)
David Stewart, NA-LA, (E-File)
Sophia M. Calabaza, NA-LA, (E-File)
Craig S. Leasure, PADOPS, (E-File)
William R. Mairson, PADOPS, (E-File)
Michael T. Brandt, ADESH, (E-File)
Raeanna Sharp-Geiger, ADESH, (E-File)
Brett A. Cederdahl, PM1, (E-File)
Denise C. Gelston, EWMO-DO, (E-File)
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Victoria R. Baca, DESHS-EWMS (E-File)
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COPY

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New Mexico Environment Department
2905 Rodeo Park Drive East, Building 1
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Subject: **Notification of Class 1 Permit Modification Facility Description Updates for the Technical Area 63 Transuranic Waste Facility Container Storage Unit, Los Alamos National Laboratory Hazardous Waste Facility Permit, EPA I.D. #NM0890010515 (NA/LA)**

Dear Mr. Kieling:

The purpose of this letter is to notify the New Mexico Environment Department Hazardous Waste Bureau (NMED-HWB) of a Class 1 permit modification to the Los Alamos National Laboratory (LANL) Hazardous Waste Facility Permit (the Permit) for the Technical Area (TA)-63 Transuranic Waste Facility (TWF) container storage unit. The Permit was issued to the Department of Energy (DOE) and Los Alamos National Security, LLC (LANS), the Permittees, in November 2010.

On December 19, 2013, NMED-HWB approved the addition of the TA-63 TWF storage unit to the Permit. In July 2014 and March 2016, the Permittees also submitted additional Class 1 Notifications of Permit Modification to revise the design and construction details for the facility in the Permit. Construction of the facility began in August 2014 and has been completed.

This permit revision includes additional revisions to the description of the facility in the Permit. These revisions involve minor description changes for the retention basin at the facility and revisions to the Permit figures for the TA-63 TWF to show three emergency gate locations, the addition of two structures outside the permitted storage unit and other updates.

The Permittees have prepared this permit modification in accordance with Title 40 of the Code of Federal Regulations (40 CFR) §270.42(a)(1). The changes made to the Permit as part of this modification all fall

ENCLOSURE 1

Class 1 Permit Modification
Facility Description Updates for the
Technical Area 63 Transuranic Waste Facility
Container Storage Unit,
Los Alamos National Laboratory
Hazardous Waste Facility Permit

EPC-DO: 17-196

LA-UR-17-22189

Date: JUN 07 2017

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Permit Modification Notification

This document contains a notification for a Class 1 permit modification to the Los Alamos National Laboratory (LANL) Hazardous Waste Facility Permit (the Permit). The Permit was issued to the Department of Energy (DOE) and Los Alamos National Security, LLC (LANS), collectively described herein as "the Permittees," in November 2010 by the New Mexico Environment Department – Hazardous Waste Bureau (NMED-HWB). The Environmental Protection Agency Identification Number for LANL is NM0890010515. On December 20, 2013, the NMED-HWB approved the addition of the Technical Area (TA)-63 Transuranic Waste Facility (TWF) container storage unit to the Permit. In July 2014 and March 2016, the Permittees also submitted Class 1 Notifications of Permit Modification to revise the description of the facility in the Permit to include minor design and construction related changes to the project design that had been incorporated after 2013.

Construction of the facility began in August 2014 and has been completed. The permit revisions included in this submittal reflect additional revisions to the description of the facility in the Permit. These revisions involve minor description changes for the retention basin at the facility and revisions to the Permit figures for the TA-63 TWF to show three emergency gate locations, the addition of two structures outside the permitted storage unit and other updates. All the changes meet the criteria for Class 1 permit modifications as contained in Title 40 of the Code of Federal Regulations (40 CFR §270.42, Appendix I, *Classification of Permit Modification*).

These changes specifically involve text revisions to the facility description in Permit Attachment A, *Unit Descriptions,* and revisions to Figures 55 in Permit Attachment N, *Figures,* and G-27.1 in Permit Attachment G.27, *Technical Area 63, Transuranic Waste Facility Closure Plan*. The text and figure modifications with supporting information are provided in Attachments 1 through 4 of this document. The modifications to the text of the Permit have been identified using redline and strikeout format. Table 1, *Summary of Changes to the Permit Associated with the Technical Area 63 TWF*, describes the following: 1) each location within the Permit where changes are required, 2) a brief description of the changes made at that location and 3) a summary of the justification for the change. A certification page is included in Attachment 5 in accordance with the requirements of 40 CFR §270.11.

A. Retention Basin Freeboard

The discussion of the design capacity for the TA-63 TWF retention basin requires a text correction. The retention basin dimensions described in Permit Attachment A, *Unit Descriptions*, Section A.6.5, *Retention Basin*, were revised by the 2014 Permit modification (LANL, 2014) as the designed depth had been changed due to an alteration of the original slope of the retention basin floor. The total designed volume capacity of 137,450 gallons was not changed but the depth increase indicated a 1 foot freeboard rather than the 0.5 foot freeboard originally given in the discussion. The revised section contains a sentence that states: "The designed total retention basin volume also includes 1.0 ft. of freeboard, resulting in a total capacity of 137,450 gallons…" This revision did not address the 6 inch depth of the overflow curbing cut-out in the south west corner of the retention basin. Subtracting the depth of the

overflow cut-out corrects the freeboard height description to 0.5 feet and the sentence has now been altered to state that in this modification. This change does not affect the designed retention basin capacity. Attachment 1 of this document includes two figure drawings with the general plan of the retention basin and the construction detail showing the dimensions for the overflow. It also includes a photograph of the overflow curbing cutout and the text revision for Permit Section A.6.5.

Rationale for Class 1 Permit Modification

The Permittees are submitting this change to the NMED-HWB as a Class 1 permit modification notification in accordance with the conditions of 40 CFR §270.42, Appendix I, *Classification of Permit Modification*, Item A.1, for an informational change. The change is a simple correction of the unit description and does not alter the function or designed capacity of the retention basin.

B. Retention Basin Sealant

The TA-63 TWF retention basin description given in Permit Attachment A, *Unit Descriptions*, Section A.6.5, *Retention Basin*, includes a statement that an additive to the concrete mixture would be used to improve the concrete's water resistance. As included in the TA-63 TWF Construction Notice (LANL, 2017), the final product (Xypex) that was used for water-proofing the retention basin is better described as a penetrating sealant than a supplementary additive to the concrete. The sealant coats the concrete but also penetrates the walls and floor of the retention basin over a given time period. The previous sentence stated: "The concrete mixture used for construction of the retention basin is supplemented with an additive to improve the concrete's water resistance." The sentence has been altered to state that the concrete mixture is coated with a penetrating sealant for that purpose. Attachment 2 of this submittal includes the text change, a product information brochure, and a summary of the sealant application process.

Rationale for Class 1 Permit Modification

The Permittees are submitting this change to the NMED-HWB as a Class 1 permit modification notification in accordance with the conditions of 40 CFR §270.42, Appendix I, *Classification of Permit Modification*, Item A.3, for equipment upgrading or replacement with functionally equivalent components. The change in the retention basin's waterproofing component is limited to a product substitution for the same purpose and does not alter the presence or functionality of the requirement.

C. Addition of Emergency Personnel Gates to the Security Barrier System

Three emergency personnel exit gates (crash gates) are present in the security fence as constructed for the TA-63 TWF on the east and south sides. These gates are opened from the inside of the fence line for the purpose of aiding the exit of personnel in emergency situations. They are not routinely kept open for any other purpose and are a security feature of the fence because they cannot be opened from the outside. Figure 55, *Technical Area (TA) 63 Transuranic Waste Facility* and Permit Section A.6.7, *Security and Access Control*, are revised to include the gates in the facility description and provide their locations. Revision details are included in Attachment 3. Figure 55 has been modified to show the location of the three gates and a descriptive note has been added. A sentence has been added to Permit Section A.6.7 stating:

"Three emergency personnel one-way exit gates are also present in the fence." Attachment 3 also includes a facility construction figure with gate details previously submitted in the TA-63 TWF Construction Notice (LANL, 2017).

Rationale for Class 1 Permit Modification

The Permittees are submitting this change to the NMED-HWB as a Class 1 permit modification notification in accordance with the conditions of 40 CFR §270.42, Appendix I, *Classification of Permit Modification*, Item A.1, for an informational change. The change is a simple correction of the unit description and does not alter the general function of the facility security barrier system.

D. Addition of Two Facility Structures

Permit Section A.6.6, *Other Project Structures*, Permit Figure 55, *Technical Area (TA) 63 Transuranic Waste Facility*, and Permit Figure G.27-1, *Transuranic Waste Facility Soil Sampling Grid*, have been revised to include descriptions and locations of two equipment structures associated with the TA-63 TWF. The two concrete structures are located north of TA-63-0144 (the Operations Support Building), are not within the permitted storage unit and are not used to manage hazardous waste containers. The structures are concrete enclosures for two seismic power cutoff systems. The seismic systems are control relays used to shut off power to the TA-63 TWF waste storage buildings and characterization trailers in the event of an earthquake to prevent potential electrical fires involving waste containers. A sentence has been added to Permit Section A.6.6 stating that two seismic power cutoff system enclosures are present north of the Operations Support Building. Figure 55 has been revised to provide the location of the concrete structures. Figure G.27-1 has been revised to show the location of the concrete structures and also to provide other changes updating the depiction of the surrounding area such as removed buildings, parking lots, and the facility vehicle barrier. Attachment 4 includes these revisions.

Rationale for Class 1 Permit Modification

The Permittees are submitting this change to the NMED-HWB as a Class 1 permit modification notification in accordance with the conditions of 40 CFR §270.42, Appendix I, *Classification of Permit Modification*, Item A.1, for an informational change. The change is a simple correction of the unit description. The structures are not in the permitted unit and no waste management conditions in the permit are otherwise affected.

Table 1. Summary of Changes to the Permit Associated with the TA-63 Transuranic Waste Facility

Permit Section	Revision Description	40 CFR §270.42, Appendix I Item	Justification
Permit Attachment A, *Unit Descriptions*, Section A.6.5, *Retention Basin*	Retention basin freeboard description	A.1	The change in the free-board height is needed in the facility description to correct the previously modified description of the retention basin.
Permit Attachment A, *Unit Descriptions*, Section A.6.5, *Retention Basin*	Retention basin sealant	A.3	The change is needed in the facility description to provide additional information for a replacement with an equivalent product.
Permit Attachment A, *Unit Descriptions*, Section A.6.7, *Security and Access Control* and Figure 55, *Technical Area (TA) 63 Transuranic Waste Facility*	Addition of emergency personnel gates to the security barrier system	A.1	The change is needed in the facility description to provide information regarding the presence of the gates in the security barrier system.
Permit Figure 55, *Technical Area (TA) 63 Transuranic Waste Facility*	Addition of two facility structures	A.1	The change is needed in the facility description to add two non-waste management systems support structures associated with the facility.

References

Los Alamos National Laboratory Hazardous Waste Facility Permit, issued by the New Mexico Environment Department, Hazardous Waste Bureau, November 30, 2010 and subsequent approved revisions.

LANL, 2014. *Notification of Class 1 Permit Modification Updates Associated with the Technical Area 63 Transuranic Waste Facility Container Storage Unit of the Los Alamos National Laboratory Hazardous Waste Facility Permit*, July 28, 2014, LAUR 14-25375. Los Alamos National Laboratory, Los Alamos, New Mexico. (Incorporated into the Permit by the New Mexico Environment Department, August 15, 2014, HWB-LANL-14-050)

LANL, 2016. *Class 1 Permit Modification Construction Updates for the Technical Area 63 Transuranic Waste Facility Container Storage Unit, Los Alamos National Laboratory Hazardous Waste Facility Permit,* March 11, 2016, LAUR 16-21335. Los Alamos National Laboratory, Los Alamos, New Mexico. (Incorporated into the Permit by the New Mexico Environment Department, September 28, 2016, HWB-LANL-16-017)

LANL, 2017. Technical Area 63 Transuranic Waste Facility Container Storage Unit Construction Notice, Los Alamos National Laboratory, Hazardous Waste Facility Permit, EPA ID #NM0890010515, EPC-DO-16-361, January 13, 2017, LA-UR-16-29607. Los Alamos National Laboratory, Los Alamos, New Mexico.

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Attachment 1
Retention Basin Freeboard

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Permit Section A.6.5, *Retention Basin*
Text Revision for Retention Basin Freeboard

EPC-DO-17-196
LA-UR-17-22189

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existing trailers are proposed to be moved at the unit, a request for a Permit modification must be submitted in accordance with Permit Section 3.1(3).

A.6.5 Retention Basin

The retention basin is located south of the storage buildings and characterization trailers in the south-western corner of the permitted unit. The retention basin is designed to collect surface storm water or melt water run-off from the concrete pavement via the slope (ranging from 1.1% to 2.5%) of the concrete pad, and in the event of a fire at the unit, fire suppression water that could flow out of the storage buildings or from other unit structures to the concrete pad.

The designed volume capacity for the retention basin includes the potential for a combination of both events. This includes run-off from a projected 25 year frequency and 2 hour duration precipitation event (1.94 inches of precipitation resulting in approximately 95,400 gallons (12,750 cubic ft.) from 1.82 acres). For a fire suppression event, an estimate of suppression water needed is calculated from NFPA 13 factors (380 gpm for 30 min. of sprinkler demand and 500 gpm for 30 min. fire hose stream allowance), for a total of approximately 26,400 gallons (3,530 cubic ft.). Volume from both events results in a total capacity of approximately 121,800 gallons (approximately 16,300 cubic ft.). The designed total retention basin volume also includes a minimum of 0.5~~1~~ ft of freeboard, resulting in a total capacity of 137,450 gallons (18,375 cubic ft.). The dimensions of the basin are 125 ft by 42 ft by 5.5 ft deep. The retention basin is equipped with a manual release valve that may be used to discharge collected water that meets appropriate surface water discharge standards, as required by Permit Section 3.14.2. The concrete mixture used for construction of the retention basin is coated with a penetrating sealant~~supplemented with an additive~~ to improve the concrete's water resistance.

Routine inspections of the retention basin pursuant to Permit Section 2.6, *General Inspection Requirements* and subsequent repairs as required by Permit Section 2.6.2, *Repair of Equipment and Structures* are conducted to ensure that the integrity of the retention basin is maintained.

A.6.6 Other Project Structures

Other project structures are present at the TWF to provide support for the hazardous waste management activities at the unit. These structures are either located outside the boundary of the hazardous waste management unit or are not used to store or manage hazardous waste.

The Operations Support Building provides offices and services for operations personnel and management. Personnel are housed in the separate building to ensure that radiological exposures are as low as reasonably achievable (ALARA) by increasing distance from the waste management activities. The Operations Support Building is approximately 75 ft by 80 ft. Operations and characterization personnel are housed in this building, although it will not be occupied continuously. However, it provides storage of waste container data and monitoring of key operational parameters (e.g., fire alarm systems, safety equipment status indicators, and communication systems including the public address system) and specific safety structure, system, and component status. The building is located outside the security control fence; windows provide visual observation of the control area.

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TA-63 TWF Construction Drawings

DWG-102355-C55443-C-1017, *Retention Basin Foundation Plan*

DWG-102355-C55443-C-5000, *Miscellaneous Details*
(See "Overflow Detail")

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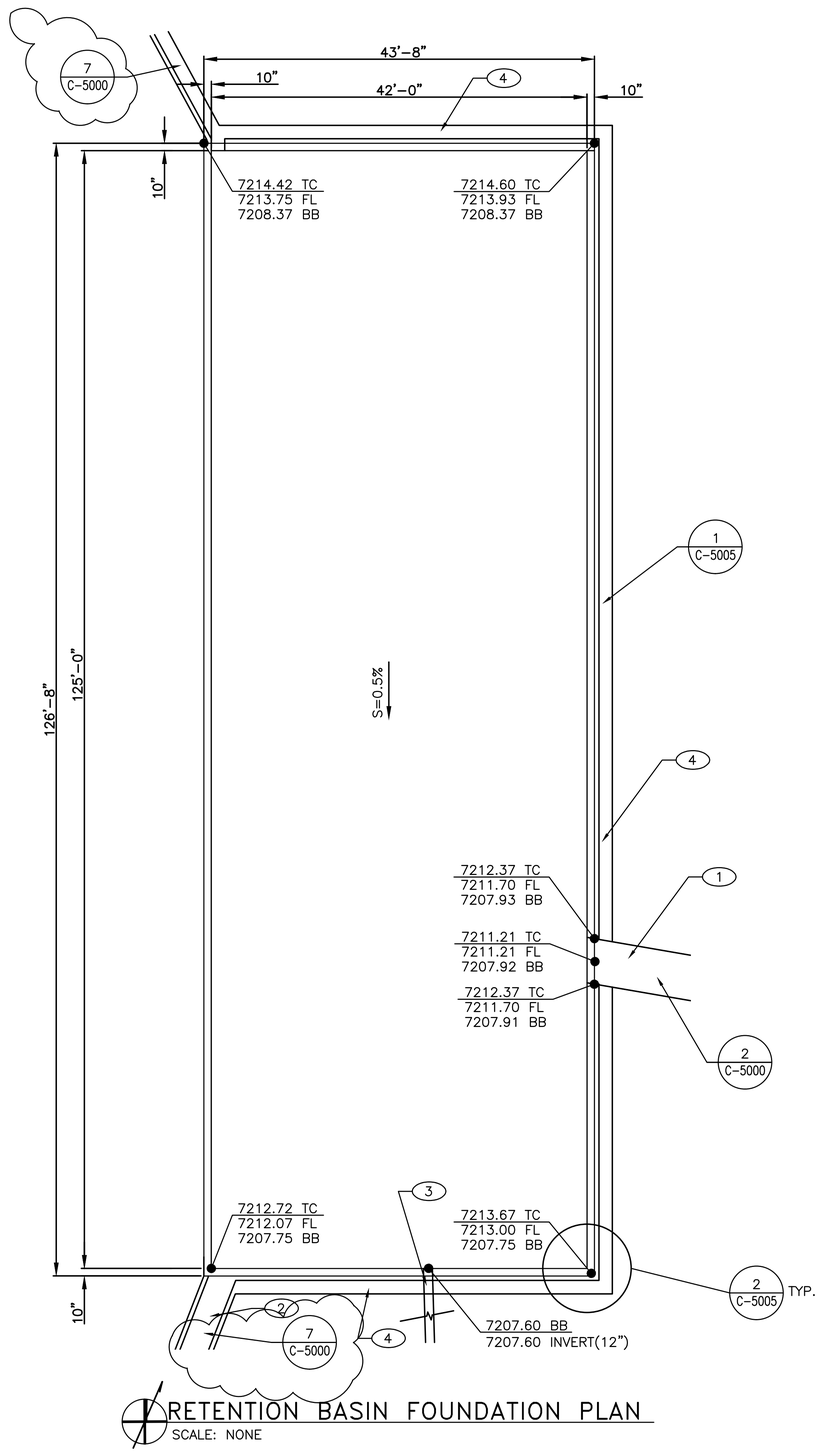

RETENTION BASIN FOUNDATION PLAN

SCALE: NONE

KEYED NOTES

1. 5' CONCRETE VALLEY GUTTER
2. CONCRETE CURB AND GUTTER SPILL WAY, GUTTER PAN CAN VARY TO MATCH BUILDING CONTOUR. MAX PAN THICKNESS TO BE 8".
3. 12" CULVERT PIPE WITH GATE VALVE
4. CONCRETE CURB & GUTTER

GENERAL STRUCTURAL NOTES

1. CODES AND STANDARDS:

   LANL ENGINEERING STANDARDS MANUAL (ESM)–ISD 341–2, CHAPTER 5 SECTION 11.

   DOE–STD–1020 "NATURAL PHENOMENA HAZARDS DESIGN AND EVALUATION CRITERIA FOR DEPARTMENT OF ENERGY FACILITIES"

   DOE–STD–1201–93 "NATURAL PHENOMENA HAZARDS PERFORMANCE CATEGORIZATION CRITERIA FOR STRUCTURES, SYSTEMS AND COMPONENTS"

   DOE–STD–1189–2008, "INTEGRATION OF SAFETY INTO THE DESIGN PROCESS"

   ASCE–7–05 MINIMUM DESIGN LOADS FOR BUILDINGS AND OTHER STRUCTURES

   INTERNATIONAL BUILDING CODE IBC–2006

   ACI 318–08 "BUILDING CODE REQUIREMENTS FOR STRUCTURE CONCRETE" CODE AND COMMENTARY

   ASCE 4–98 SEISMIC ANALYSIS OF SAFETY–RELATED NUCLEAR STRUCTURES AND COMMENTARY

   ACI 349–01 CODE REQUIREMENTS FOR NUCLEAR SAFETY RELATED CONCRETE STRUCTURES

   BROOKHAVEN NATIONAL LABORATORY, BNL–BNL–52361, SEISMIC DESIGN AND EVALUATION GUIDELINES FOR THE DOE HIGH–LEVEL WASTE STORAGE TANKS AND APPURTENANCES

   GEOTECHNICAL REPORT WNNNM JV NO.: 11–002–GRPT–002

   ACI 350.2R–04 CONCRETE STRUCTURES FOR CONTAINMENT OF HAZARDOUS MATERIALS

2. DESIGN DATA:

   REINFORCED CONCRETE FOUNDATIONS – NOMINAL WEIGHT (150 pcf)
   REINFORCED CONCRETE COMPRESSIVE STRENGTH f'c = 4.0 ksi AT 28 DAYS

   GRADE 60 REINFORCING STEEL–DEFORMED BARS AND STIRRUPS, ASTM A615, fy = 60 ksi

   MINIMUM SPLICE LENGTH FOR CONTINUOUS #5 REINFORCING = 2'–2" AND FOR #6 REINFORCING = 2'–7".

   RETENTION BASIN SLAB & WALLS SHALL BE WATER CURED PER SPECIFICATIONS.

   DO NOT BACKFILL WALLS UNTIL CONCRETE HAS OBTAINED FULL 28 DAY STRENGTH. BACKFILL EVENLY AROUND BASIN.

   SEISMIC LOADS (ESM CHAPTER 5 – STRUCTURE, ASCE 7–05, SECTION 12 REFER TO PROJECT DESIGN CALCULATIONS.

   SEE SHEET C–1000 FOR LOCATION AND LAYOUT OF RETENTION BASIN.

3. RETENTION BASIN SHALL BE SEALED WITH XYPEX CONCRETE SEALANT OR APPROVED EQUAL IN ACCORDANCE WITH SPECIFICATION 09 9201.

NO	DATE	CLASS REV	ADC	DESCRIPTION	DWN	DSGN	CHKD	SUB	APP
4	01–22–16	U		INCORP. FCN–057	MR	MT	Tim	BS	
				DRN–14–63–0144–0043					
3	03–27–14	U		UPDATE BASIN FOUNDATION ELEVATIONS	CH	KC	TM	BS	
2	03–20–14	U		UPDATE BASIN FOUNDATION ELEVATIONS	CH	KC	TM	BS	
1	11–06–13	U	EA	CLASSIFICATION UPDATE	CH	KC	TM		EA

WEIDLINGER-NAVARRO JV NORTHERN NM

TRU WASTE FACILITY PROJECT

RETENTION BASIN FOUNDATION PLAN

BLDG TA–63

DRAWN	C HOGUE
DESIGN	K CHRISMAN
CHECKED	T MELTON
DATE	11–06–13

SUBMITTED
BRIAN SULLIVAN

APPROVED FOR RELEASE
ED ARTIGLIA

Los Alamos NATIONAL LABORATORY
P0 Box 1663
Los Alamos, New Mexico 87545

SHEET C–1017
26 OF 827

CLASSIFICATION U
REVIEWER ED ARTIGLIA
DATE 11–06–13

PROJECT ID 102355
DRAWING NO C55443
REV 4

MANUEL TARIN, III NEW MEXICO 18741 PROFESSIONAL ENGINEER
01/28/2016

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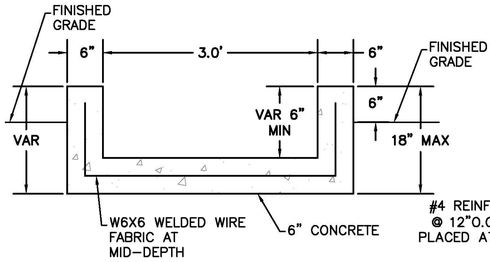
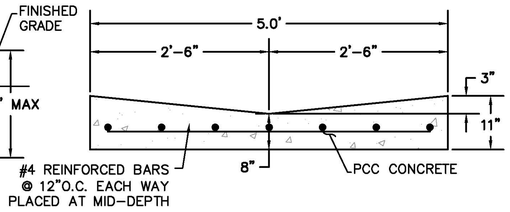
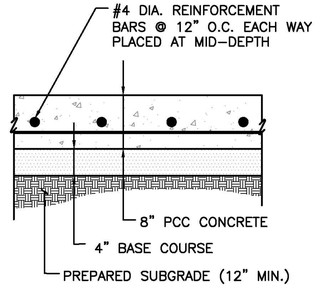
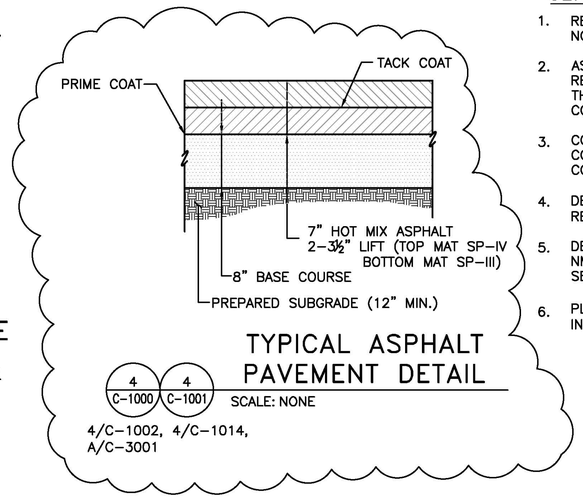








GENERAL NOTES

1. REFER TO GEOTECHNICAL REPORT & WNNNM JV NO:11-002-GRPT-002.
2. ASPHALT CONCRETE MATERIALS QUALITY CONSTRUCTION REQUIREMENTS SHOULD CONFORM TO SECTIONS 416, 417, 423 OF THE CURRENT NMDOT SPECIFICATIONS FOR HIGHWAY AND BRIDGE CONSTRUCTION.
3. CONCRETE SHOULD BE PER SPECIFICATION 03 3001 REINFORCED CONCRETE OR 03 3053 MISCELLANEOUS CAST-IN-PLACE CONCRETE.
4. DETECTABLE WARNING SURFACE (TRUNCATED DOMES) SHALL BE RECESSED INTO CONCRETE
5. DETECTABLE WARNING SURFACE SHALL COMPLY WITH THE LATEST NMDOT SPECIFICATIONS FOR HIGHWAY & BRIDGE CONSTRUCTION SECTION 608.2.4
6. PLACE ½"WIDE PREMOULDED EXPANSION JOINT FILTER MATERIAL AT INTERVALS NOT TO EXCEED 3 CONTROL JOINTS. (20' MINIMUM)

1/C-1002 / 1/C-1003 — OVERFLOW DETAIL — SCALE: NONE

1/C-1000, 1/C-1005, 1/C-1017

2/C-1000 / 2/C-1001 — VALLEY GUTTER DETAIL — SCALE: NONE

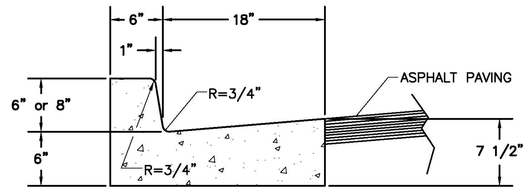
2/C-1004, 2/C-1014, 2/C-1017

3/C-1000 / 3/C-1001 / 3/C-1002 / 3/C-1005 — TYPICAL CONCRETE PAVEMENT DETAIL — SCALE: NONE

B/C-3001, C/C-3001, D/C-3001, E/C-3001

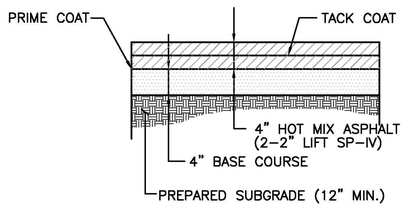
4/C-1000 / 4/C-1001 — TYPICAL ASPHALT PAVEMENT DETAIL — SCALE: NONE

4/C-1002, 4/C-1014, A/C-3001

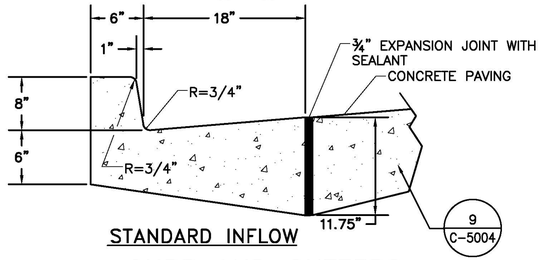


STANDARD INFLOW

5/C-1002 — PARKING LOT CURB AND GUTTERS-STANDARD INFLOW — SCALE: NONE



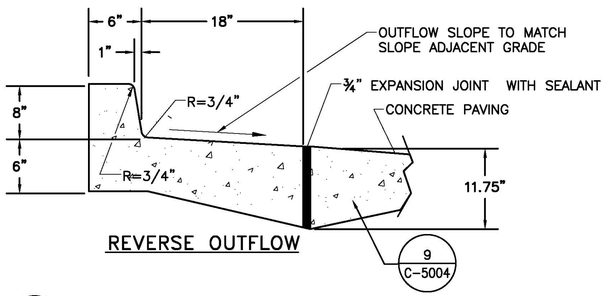
6/C-1000 / 6/C-1002 — TYPICAL PARKING LOT ASPHALT PAVEMENT DETAIL — SCALE: NONE



STANDARD INFLOW

7/C-1000 / 7/C-1001 — CURB AND GUTTERS -STANDARD INFLOW — SCALE: NONE

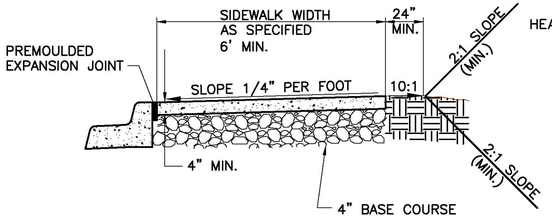
7/C-1002, 7/C-1014, 7/C-1015, 7/C-3000



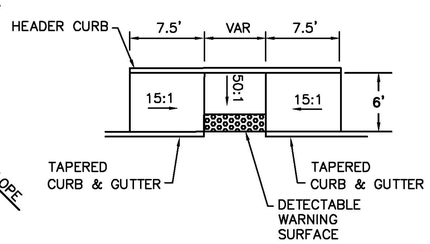
REVERSE OUTFLOW

8/C-1000 / 8/C-1001 — CURB AND GUTTERS-REVERSE OUTFLOW — SCALE: NONE

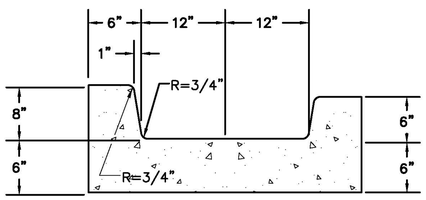
8/C-1014, 8/C-3000



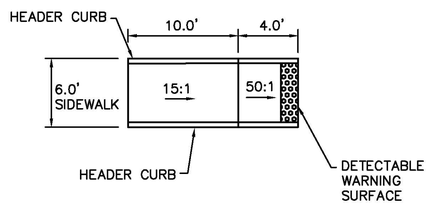
9/C-1001 / 9/C-1002 / 9/C-1014 — SIDEWALK — SCALE: NONE



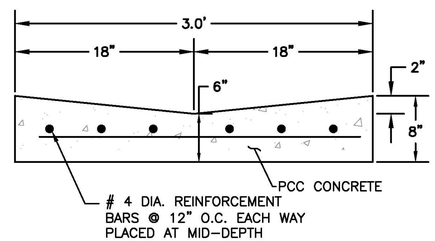
10/C-1002 — ADA RAMP — SCALE: NONE



11/C-1001 / 11/C-1005 — CURB CUT DETAIL — SCALE: NONE



12/C-1002 / 12/C-1005 — SIDEWALK ADA RAMP — SCALE: NONE



13/C-1000 / 13/C-1001 — VALLEY GUTTER DETAIL — SCALE: NONE

MANUEL TARIN, III NEW MEXICO 18741 PROFESSIONAL ENGINEER

07/18/2016

NO	DATE	CLASS REV	ADC	DESCRIPTION	DWN	DSGN	CHKD	SUB	APP
5	07-18-16	U		FCN AS-BUILTS	MR	MT	ESC	BS	
4	12-10-15	U		INCORP. FCR-081, DCN-241	MR	MT	ESC	BS	
3	05-14-14	U		102355-DRN-C55443-0001 REVISED CALL OUT	DP	CLL	ESC	BS	
2	01-06-14	U		DRN-14-63-0144-0034 REVISED GENERAL NOTE	DP	CLL	ESC	BS	EA
1	11-06-13	U		REVISED SITE LAYOUT	DP	CLL	ESC	BS	EA

WEIDLINGER-NAVARRO JV NORTHERN NM

TRU WASTE FACILITY PROJECT

MISCELLANEOUS DETAILS

BLDG TA-63

DRAWN	D PADILLA
DESIGN	C LEY
CHECKED	E CORDOVA
DATE	11-06-13

SUBMITTED: BRIAN SULLIVAN

APPROVED FOR RELEASE: ED ARTIGLIA

Los Alamos NATIONAL LABORATORY — P0 Box 1663, Los Alamos, New Mexico 87545

SHEET C-5000

41 OF 827

CLASSIFICATION U | REVIEWER ED ARTIGLIA | DATE 11-06-13

PROJECT ID 102355 | DRAWING NO C55443 | REV 5

M:\TRN\10-100-205-05\CADD\SHEETS\102355-C-5000-R4.DWG 7/18/2016 11:18 AM

TA-63 TWF Retention Basin
Overflow Cutout Photograph

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TA-63 Transuranic Waste Facility

Retention Basin

Curbing Outflow, Southwest Corner

EPC-DO-17-196
LA-UR-17-22189

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Attachment 2

Retention Basin Sealant

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Permit Section A.6.5, *Retention Basin*
Text Revision for Retention Basin Sealant

EPC-DO-17-196
LA-UR-17-22189

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existing trailers are proposed to be moved at the unit, a request for a Permit modification must be submitted in accordance with Permit Section 3.1(3).

A.6.5 Retention Basin

The retention basin is located south of the storage buildings and characterization trailers in the south-western corner of the permitted unit. The retention basin is designed to collect surface storm water or melt water run-off from the concrete pavement via the slope (ranging from 1.1% to 2.5%) of the concrete pad, and in the event of a fire at the unit, fire suppression water that could flow out of the storage buildings or from other unit structures to the concrete pad.

The designed volume capacity for the retention basin includes the potential for a combination of both events. This includes run-off from a projected 25 year frequency and 2 hour duration precipitation event (1.94 inches of precipitation resulting in approximately 95,400 gallons (12,750 cubic ft.) from 1.82 acres). For a fire suppression event, an estimate of suppression water needed is calculated from NFPA 13 factors (380 gpm for 30 min. of sprinkler demand and 500 gpm for 30 min. fire hose stream allowance), for a total of approximately 26,400 gallons (3,530 cubic ft.). Volume from both events results in a total capacity of approximately 121,800 gallons (approximately 16,300 cubic ft.). The designed total retention basin volume also includes a minimum of 0.5~~1~~ ft of freeboard, resulting in a total capacity of 137,450 gallons (18,375 cubic ft.). The dimensions of the basin are 125 ft by 42 ft by 5.5 ft deep. The retention basin is equipped with a manual release valve that may be used to discharge collected water that meets appropriate surface water discharge standards, as required by Permit Section 3.14.2. The concrete mixture used for construction of the retention basin is coated with a penetrating sealant~~supplemented with an additive~~ to improve the concrete's water resistance.

Routine inspections of the retention basin pursuant to Permit Section 2.6, *General Inspection Requirements* and subsequent repairs as required by Permit Section 2.6.2, *Repair of Equipment and Structures* are conducted to ensure that the integrity of the retention basin is maintained.

A.6.6 Other Project Structures

Other project structures are present at the TWF to provide support for the hazardous waste management activities at the unit. These structures are either located outside the boundary of the hazardous waste management unit or are not used to store or manage hazardous waste.

The Operations Support Building provides offices and services for operations personnel and management. Personnel are housed in the separate building to ensure that radiological exposures are as low as reasonably achievable (ALARA) by increasing distance from the waste management activities. The Operations Support Building is approximately 75 ft by 80 ft. Operations and characterization personnel are housed in this building, although it will not be occupied continuously. However, it provides storage of waste container data and monitoring of key operational parameters (e.g., fire alarm systems, safety equipment status indicators, and communication systems including the public address system) and specific safety structure, system, and component status. The building is located outside the security control fence; windows provide visual observation of the control area.

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Xypex Application and Product Information

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Xypex Application

Xypex Concentrate is the product used to seal the concrete retention basin at the TA-63 Transuranic Waste Facility (TWF). It includes Portland cement and alkaline earth compounds in its product form before application. The Safety Data Sheet (SDS) for the product indicates that the material should not be allowed to enter water courses in that form. As stated in the SDS, the addition of cementitious products to water may cause a rise in the pH value and therefore may be toxic to aquatic life under certain circumstances.

However, the application of the Xypex and subsequent reaction with concrete modifies the original product. The alkaline and reactive chemicals in Xypex use water as a migrating medium to enter and travel down the capillaries of the concrete by diffusion. This process precipitates a chemical reaction between Xypex, moisture and the by-products of cement hydration, forming a new non-soluble crystalline structure. This structure fills the capillary tracts rendering the concrete waterproof and preventing any further mobilization of the product.

This process requires that the Xypex be applied with certain procedures. For concrete structures that hold liquids, Xypex should be cured for 3 days and allowed to set for 12 days before filling the structure with liquid as described in the manufacturer's product information included with this submittal. Reviewing the construction notes for the TWF project, the application of the Xypex was completed on September 11, 2015. The Xypex was permitted to cure until October 8, 2015 when water from flushing out piping systems at TWF was discharged into the pond. This cure time was in excess of the 12 day cure period. When cured, Xypex product applications are certified for use in potable water collection systems by NSF International to ANSI 61 standards for drinking water system components.

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XYPEX® CONCENTRATE

07160 | CEMENTITIOUS CRYSTALLINE

Concrete Waterproofing

Description

Xypex is a unique chemical treatment for the waterproofing, protection and repair of concrete. XYPEX CONCENTRATE is the most chemically active product within the Xypex Crystalline Waterproofing System. When mixed with water, this light grey powder is applied as a cementitious slurry coat to above-grade or below-grade concrete, either as a single coat or as the first of a two-coat application. It is also mixed in Dry-Pac form for sealing strips at construction joints, or for the repairing of cracks, faulty construction joints and honeycombs. Xypex prevents the penetration of water and other liquids from any direction by causing a catalytic reaction that produces a non-soluble crystalline formation within the pores and capillary tracts of concrete and cement-based materials.

Recommended for:

- Reservoirs
- Sewage and Water Treatment Plants
- Underground Vaults
- Secondary Containment Structures
- Foundations
- Tunnels and Subway Systems
- Swimming Pools
- Parking Structures

Advantages

- Resists extreme hydrostatic pressure
- Becomes an integral part of the substrate
- Can seal hairline cracks up to 0.4 mm
- Allows concrete to breathe
- Highly resistant to aggressive chemicals
- Non-toxic
- Does not require a dry surface
- Cannot puncture, tear or come apart at the seams
- No costly surface priming or leveling prior to application
- Does not require sealing, lapping and finishing of seams at corners, edges or between membranes
- Can be applied to the positive or the negative side of the concrete surface
- Does not require protection during backfilling or during placement of steel, wire mesh or other materials
- Less costly to apply than most other methods
- Not subject to deterioration
- Permanent

Packaging

Xypex Concentrate is available in 20 lb. (9.1 kg) pails, 60 lb. (27.2 kg) pails and 50 lb. (22.7 kg) bags.

Storage

Xypex products must be stored dry at a minimum temperature of 45ºF (7ºC). Shelf life is one year when stored under proper conditions.

Coverage

For normal surface conditions, the coverage rate for each Xypex coat is 6 to 7.2 sq. ft./lb. (1.25 - 1.5 lb./sq. yd. or 0.65 - 0.8 kg/m^2).

Test Data

PERMEABILITY

U.S. Army Corps of Engineers (USACE) CRD C48-73, "Permeability of Concrete", Pacific Testing Labs, Seattle, USA

Two in. (51 mm) thick, 2000 psi (13.8 MPa) Xypex-treated concrete samples were pressure tested up to a 405 ft. (124 m) water head (175 psi/1.2 MPa), the limit of the testing apparatus. While untreated samples showed marked leakage, the Xypex-treated samples (as a result of the crystallization process) became totally sealed and exhibited no measurable leakage.

DIN 1048, "Water Impermeability of Concrete", Bautest – Corporation for Research & Testing of Building Materials, Augsburg, Germany

Twenty cm thick Xypex-treated concrete samples were pressure tested up to 7 bars (230 ft./70 m water head) for 24 hours to determine water impermeability. While the reference specimens measured water penetration up to a depth of 92 mm, Xypex-treated samples measured water penetration of zero to an average of 4 mm.

ÖNORM B 3303, "Water Impermeability of Concrete", Technologisches Gerwerbemuseum, Federal Higher Technical Education & Research Institute, Vienna, Austria

Xypex-treated concrete samples were pressure tested to a maximum 7 bars (230 ft./70 m water head) for 10 days. Test revealed that while 25 ml of water had penetrated the untreated concrete samples, zero ml had penetrated the Xypex-treated samples. Test specimens were then

broken and showed water penetration to a depth of 15 mm on untreated samples but no measurable water penetration on the Xypex-treated samples.

CSN 1209/1321, "Impermeability and Resistance to Pressurized Water", Institute of Civil Engineering, Technology and Testing, Bratislava, Slovak Republic

Xypex-treated and untreated concrete samples were exposed to 1.2 MPa of pressure to determine water permeability. Results showed the Xypex-treated samples provided effective protection against hydrostatic water pressure. Treated and untreated samples were also subjected to contact with silage juices and various petroleum products (e.g. diesel oil, transformer oil, gasoline) at 14 kPa for 28 days. The Xypex-treated samples significantly reduced the penetration of these solutions.

CHEMICAL RESISTANCE

ASTM C 267-77, "Chemical Resistance to Mortars", Pacific Testing Labs, Seattle, USA

Xypex-treated cylinders and untreated cylinders were exposed to hydrochloric acid, caustic soda, toluene, mineral oil, ethelyne glycol, pool chlorine and brake fluid and other chemicals. Results indicated that chemical exposure did not have any detrimental effects on the Xypex coating. Tests following chemical exposure measured an average 17% higher compressive strength in the Xypex-treated specimens over the untreated control samples.

IWATE University Technical Report, "Resistance to Acid Attack", Tokyo, Japan

Xypex-treated mortar and untreated mortar were measured for acid resistance after exposure to a 5% H_2SO_4 solution for 100 days. Xypex suppressed concrete erosion to 1/8 of the reference samples.

FREEZE/THAW DURABILITY

ASTM C 672, "Standard Test Method for Scaling Resistance of Concrete Surfaces Exposed to De-Icing Chemicals", Twin City Testing Lab, St. Paul, USA

Xypex-treated samples restricted chloride ion concentration to below the level necessary to promote electrolytic corrosion of reinforcing steel. Visual examination of untreated panels after 50 freeze/thaw cycles showed a marked increase in surface deterioration compared to Xypex-treated samples.

JIS A 6204, "Concrete Freeze/Thaw", Japan Testing Center for Construction Materials, Tokyo, Japan

The resonating frequency of both untreated and Xypex-treated concrete samples were measured throughout 435 freeze/thaw cycles. At 204 cycles, the Xypex-treated samples showed 96% relative durability compared to 90% in the untreated samples. At 435 cycles, the Xypex-treated samples measured 91% relative durability compared to 78% in the untreated reference samples.

POTABLE WATER EXPOSURE

NSF 61, "Drinking Water System Component-Health Effects", NSF International, Ann Arbor, USA

Exposure testing of potable water in contact with Xypex-treated samples indicated no harmful effects.

RADIATION RESISTANCE

U.S.A. Standard No. N69, "Protective Coatings for the Nuclear Industry", Pacific Testing Labs, Seattle, USA

After exposure to 5.76×10^4 rads of gamma radiation, the Xypex treatment revealed no ill effects or damages.

Application Procedures

1. **SURFACE PREPARATION** Concrete surfaces to be treated must be clean and free of laitance, dirt, film, paint, coating or other foreign matter. Surfaces must also have an open capillary system to provide "tooth and suction" for the Xypex treatment. If surface is too smooth (e.g. where steel forms are used) or covered with excess form oil or other foreign matter, the concrete should be lightly sandblasted, waterblasted, or etched with muriatic (HCL) acid.

2. **STRUCTURAL REPAIR** Rout out cracks, faulty construction joints and other structural defects to a depth of 1.5 in. (37 mm) and a width of 1 in. (25 mm). Apply a brush coat of Xypex Concentrate as described in steps 5 & 6 and allow to dry for 10 minutes. Fill cavity by tightly compressing Dry-Pac into the groove with pneumatic packing tool or with hammer and wood block. Dry-Pac is prepared by mixing six parts Xypex Concentrate powder with one part water to a dry, lumpy consistency.

NOTE:

i. Against a direct flow of water (leakage) or where there is excess moisture due to seepage, use Xypex Patch'n Plug then Xypex Dry-Pac followed by a brush coat of Xypex Concentrate. (Refer to Xypex Specifications and Applications Manual for full details.)

ii. For expansion joints or chronic moving cracks, flexible materials such as expansion joint sealants should be used.

3. **WETTING CONCRETE** Xypex requires a saturated substrate and a damp surface. Concrete surfaces must be thoroughly saturated with clean water prior to the application so as to aid the proper curing of the treatment and to ensure the growth of the crystalline formation

deep within the pores of the concrete. Remove excess surface water before the application. If concrete surface dries out before application, it must be re-wetted.

4. **MIXING FOR SLURRY COAT** Mix Xypex powder with clean water to a creamy consistency in the following proportions:

For Brush Application

1.25 - 1.5 lb./sq. yd. (0.65 - 0.8 kg/m^2)
5 parts powder to 2 parts water

2.0 lb./sq. yd. (1.0 kg/m^2)
3 parts powder to 1 part water

For Spray Application

1.25 - 1.5 lb./sq. yd. (0.65 - 0.8 kg/m^2)
5 parts powder to 3 parts water
(ratio may vary with equipment type)

Do not mix more Xypex material than can be applied in 20 minutes. Do not add water once mix starts to harden. Protect hands with rubber gloves.

5. **APPLYING XYPEX** Apply Xypex with a semi-stiff nylon bristle brush, push broom (for large horizontal surfaces) or specialized spray equipment. The coating must be uniformly applied and should be just under 1/16 in. (1.25 mm). When a second coat (Xypex Concentrate or Xypex Modified) is required, it should be applied after the first coat has reached an initial set but while it is still “green” (less than 48 hours). Light pre-watering between coats may be required due to drying. The Xypex treatment must not be applied under rainy conditions or when ambient temperature is below 40ºF (4ºC). For recommended equipment, contact Xypex Chemical Corporation or your nearest Xypex distributor.

6. **CURING** A misty fog spray of clean water must be used for curing the Xypex treatment. Curing should begin as soon as the Xypex has set to the point where it will not be damaged by a fine spray of water. Under normal conditions, it is sufficient to spray Xypex-treated surfaces three times per day for two to three days. In hot or arid climates, spraying may be required more frequently. During the curing period, the coating must be protected from rainfall, frost, wind, the puddling of water and temperatures below 36ºF (2ºC) for a period of not less than 48 hours after application. If plastic sheeting is used as protection, it must be raised off the Xypex to allow the coating to breathe. Xypex Gamma Cure may be used in lieu of water curing for certain applications (consult with Xypex Chemical Corporation or your nearest Xypex distributor).

NOTE: For concrete structures that hold liquids (e.g. reservoirs, swimming pools, tanks, etc.), Xypex should be cured for three days and allowed to set for 12 days before filling the structure with liquid.

Technical Services

For more instructions, alternative application methods, or information concerning the compatibility of the Xypex treatment with other products or technologies, contact the Technical Services Department of Xypex Chemical Corporation or your local Xypex representative.

Safe Handling Information

Xypex is alkaline. As a cementitious powder or mixture, Xypex may cause significant skin and eye irritation. Directions for treating these problems are clearly detailed on all Xypex pails and packaging. The Manufacturer also maintains comprehensive and up-to-date Material Safety Data Sheets on all its products. Each sheet contains health and safety information for the protection of workers and customers. The Manufacturer recommends you contact Xypex Chemical Corporation or your local Xypex representative to obtain copies of Material Safety Data Sheets prior to product storage or use.

Warranty

The Manufacturer warrants that the products manufactured by it shall be free from material defects and will be consistent with its normal high quality. Should any of the products be proven defective, the liability to the Manufacturer shall be limited to replacement of the product ex factory. The Manufacturer makes no warranty as to merchantability or fitness for a particular purpose and this warranty is in lieu of all other warranties expressed or implied. The user shall determine the suitability of the product for his intended use and assume all risks and liability in connection therewith.

13731 Mayfield Place, Richmond, BC, Canada V6V 2G9 Toll-free: 1.800.961.4477
Tel: 604.273.5265 Fax: 604.270.0451 E-mail: info@xypex.com Web: www.xypex.com

ISO 9001:2008
FM 63167

Attachment 3

Facility Emergency Safety Gates

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Permit Section A.6.7, *Security and Access Control*
Text Revision

EPC-DO-17-196
LA-UR-17-22189

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Vehicle access to the hazardous waste management unit is through a gated driveway located east of the concrete pad. Gates are kept closed and vehicle access to the controlled area within the unit fence line requires check-in at the Operations Support Building. Pedestrian access to the controlled area also requires check-in through the Operations Support Building.

A fire water supply tank and a utility building that houses two fire water pumps and instrumentation needed to ensure operation of the fire suppression system are located to the north of the Operations Support Building outside the controlled area fence. Two seismic power cutoff system enclosures are also present north of the building. A back-up power generator is located east of the Operations Support Building.

Regional aquifer monitoring well R-46 is located outside of the hazardous waste management unit north of the site.

An equipment storage shed used to store items such as metal pallets, containers used to over-pack waste containers, and snow removal equipment is located on the west side of the TWF. There is no fire protection in this building. A separate building designated the Characterization Source and Matrix Management (CSMM) Building will house radioactive sealed sources for calibration of RTR and HENC sensors sources.

A.6.7 Security and Access Control

The DOE restricts access to the entire Facility through a variety of methods. Guard stations control public access to Pajarito Road east and west of TA-63. Therefore, only properly identified LANS and DOE employees authorized to enter the facility or individuals under their escort have access to the TWF. The TWF is enclosed by a security barrier system with controlled access gates. This includes a continuous section of prefabricated steel vehicle barriers and an eight foot high chain link fence. Two vehicle access gates are integrated into the fence line. Controlled entry to the unit is provided by a system of access controls (badge readers and administrative controls are required prior to entrance) to ensure that only authorized personnel are granted access. Three emergency personnel one-way exit gates are also present in the fence. These access controls also ensure that all facility personnel can be identified and located in an emergency.

The TWF is patrolled by facility security personnel to prevent unauthorized entry. Warning signs stating “Danger – Unauthorized Personnel Keep Out,” are posted on the perimeter fences and gates in accordance with Permit Section 2.5.2, *Warning Signs*. The text on the signs are bilingual (i.e., English and Spanish) and indicate “No Trespassing by Order of the United States Department of Energy.” The signs are legible from a distance of 25 feet.

A.6.8 Required Equipment

In accordance with Permit Attachment D, *Contingency Plan*, emergency equipment is located throughout the TWF and includes fire alarms, fire response systems, alarm systems, internal communications, spill kits, and decontamination equipment.

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Figure 55, *Technical Area TA) 63 Transuranic Waste Facility*

Figure Revision

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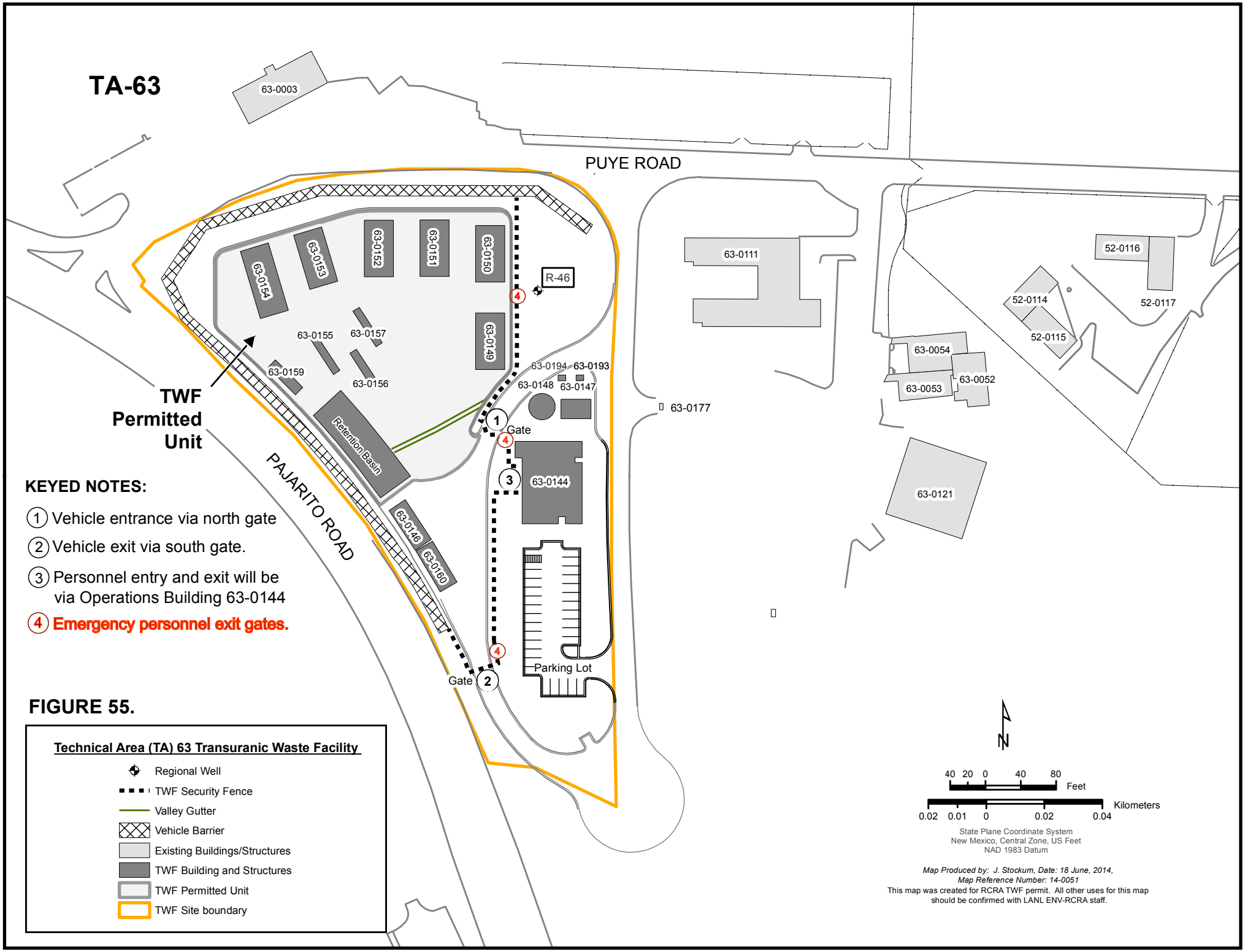
TA-63
63-0003
PUYE ROAD
63-0154
63-0153
63-0152
63-0151
63-0150
R-46
63-0155
63-0157
63-0149
63-0159
63-0156
63-0194
63-0193
63-0148
63-0147
TWF
Permitted
Unit
Retention Basin
PAJARITO ROAD
Gate
1
4
3
63-0144
63-0146
63-0160
Gate
2
Parking Lot
63-0111
63-0177
52-0116
52-0114
52-0117
52-0115
63-0054
63-0053
63-0052
63-0121
KEYED NOTES:
1 Vehicle entrance via north gate
2 Vehicle exit via south gate.
3 Personnel entry and exit will be via Operations Building 63-0144
4 Emergency personnel exit gates.
FIGURE 55.
Technical Area (TA) 63 Transuranic Waste Facility
Regional Well
TWF Security Fence
Valley Gutter
Vehicle Barrier
Existing Buildings/Structures
TWF Building and Structures
TWF Permitted Unit
TWF Site boundary
N
40 20 0 40 80
Feet
0.02 0.01 0 0.02 0.04
Kilometers
State Plane Coordinate System
New Mexico, Central Zone, US Feet
NAD 1983 Datum
Map Produced by: J. Stockum, Date: 18 June, 2014,
Map Reference Number: 14-0051
This map was created for RCRA TWF permit. All other uses for this map
should be confirmed with LANL ENV-RCRA staff.

DWG-102355-C55443-C-5006, *Miscellaneous Details*

(See "Pedestrian Gate Detail")

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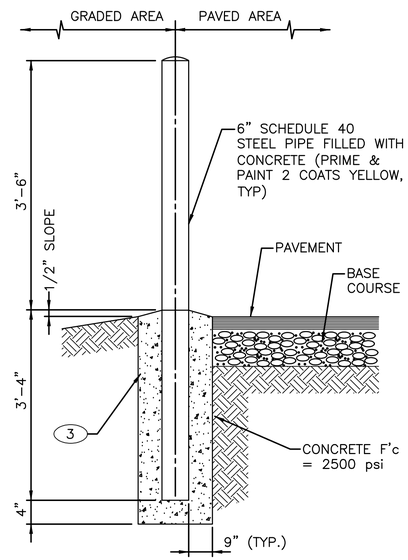
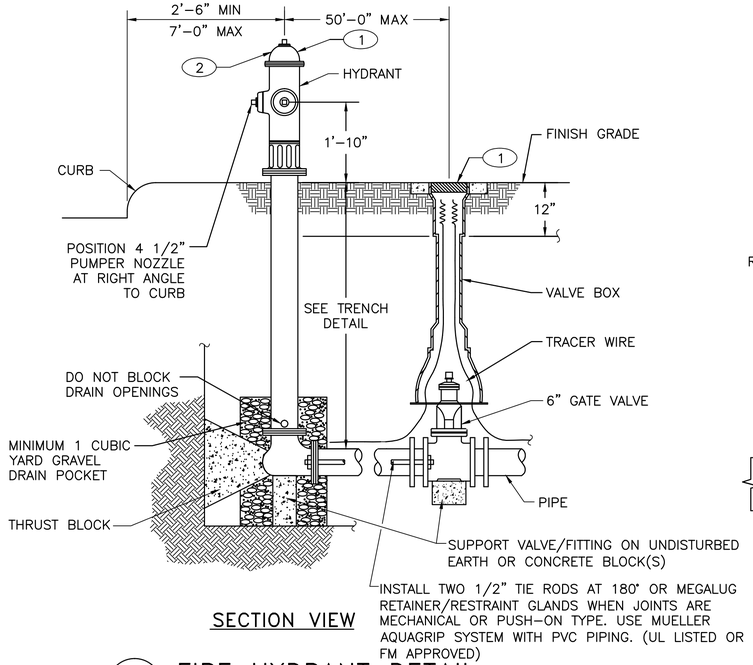


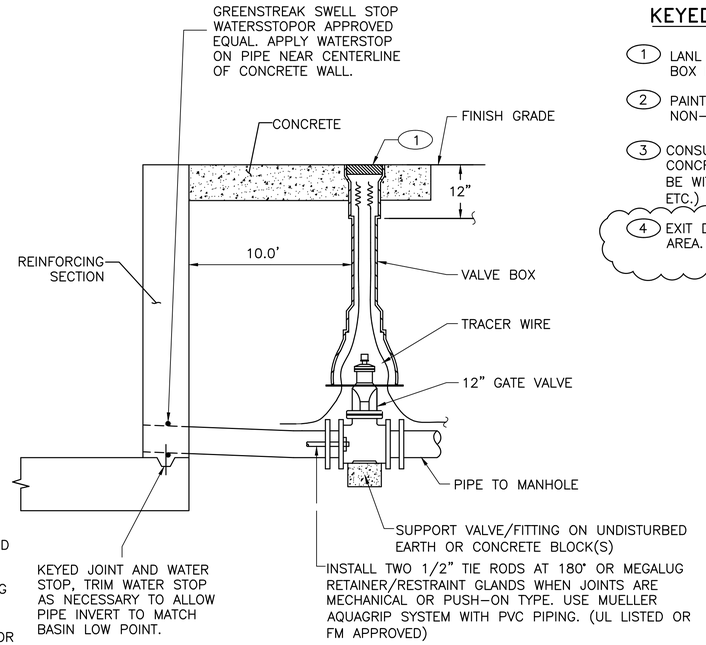
SECTION VIEW

1 C-5004 **BOLLARD DETAIL**
SCALE: NONE



SECTION VIEW

2 C-1006 **FIRE HYDRANT DETAIL**
SCALE: NONE

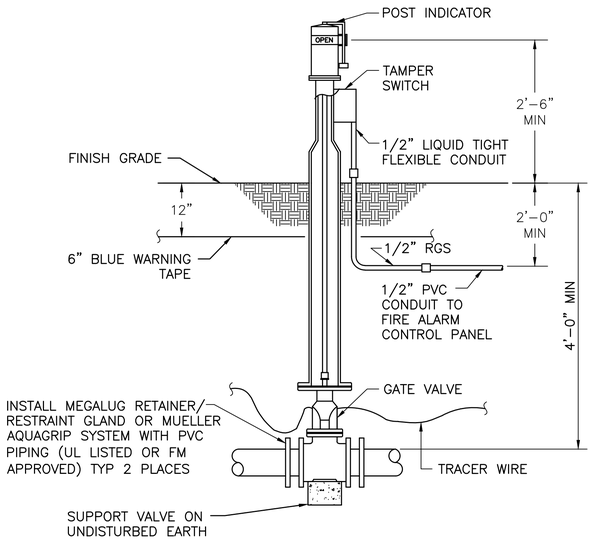


SECTION VIEW

3 C-1012 **BASIN-12" GATE VALVE**
SCALE: NONE

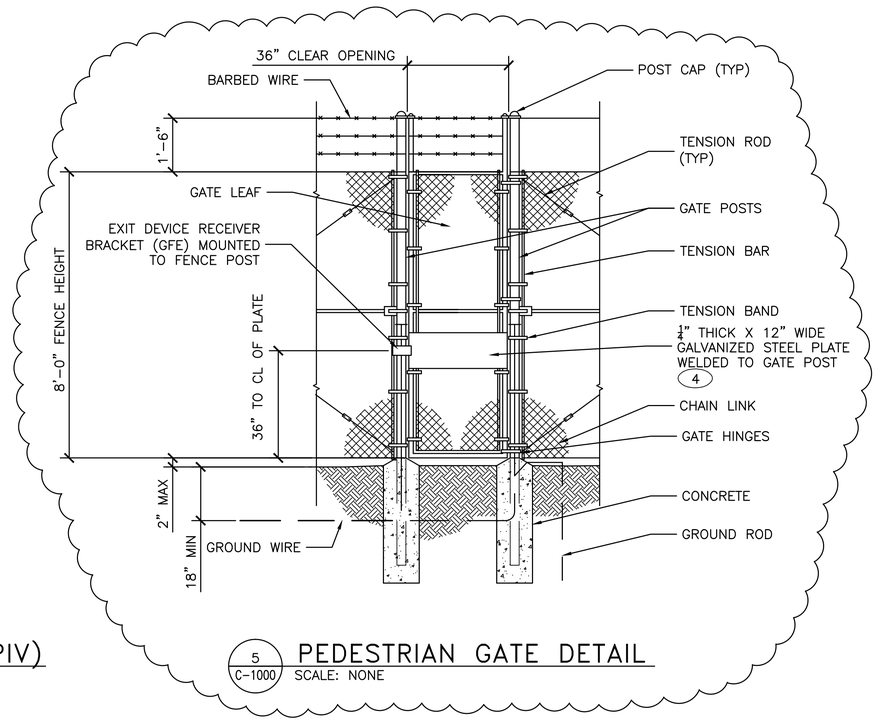
KEYED NOTES

1. LANL WILL NUMBER (METAL STAMP) THE FIRE HYDRANT AND/OR VALVE BOX LID.
2. PAINT HYDRANT BONNET BLACK AND ATTACH LABEL – CAUTION: NON-POTABLE WATER, DO NOT DRINK
3. CONSULT STRUCTURAL ENGINEER OF RECORD BEFORE POURING CONCRETE FOUNDATION FOR BOLLARD IF SIDE OF FOUNDATION WILL BE WITHIN 18" OF BELOW-GRADE OBJECTS (E.G., PIPES, CONDUITS, ETC.) THAT OCCURS WITHIN THE HEIGHT OF THE FOUNDATION.
4. EXIT DEVICE IS GFE. DOOR SHALL SWING OUT FROM THE SECURE AREA. COORDINATE HARDWARE INSTALLATION WITH LANL.



ELEVATION VIEW

4 C-1007 **SHUT-OFF VALVE DETAIL FOR FIRE LINE (PIV)**
SCALE: NONE



5 C-1000 **PEDESTRIAN GATE DETAIL**
SCALE: NONE

NO	DATE	CLASS REV	ADC	DESCRIPTION	DWN	DSGN	CHKD	SUB	APP
4	02-11-16	U		INCORP. FCR-333 DCN-474 ADDED DTL 5, REARRANGED DTLS	MR	MT	ESC	BS	
3	01-19-16	U		INCORP. FCR-157 DCN-311	MR	MT	ESC	BS	
2	01-06-14	U		REVISED NOTES DRN 14.63.0144.0034	DP	CLL	ESC	BS	
1	11-06-13	U		CLASSIFICATION UPDATE	DP	CLL	ESC	BS	

WEIDLINGER-NAVARRO JV NORTHERN NM

TRU WASTE FACILITY PROJECT

MISCELLANEOUS DETAILS

BLDG TA-63

DRAWN	D PADILLA
DESIGN	C LEY
CHECKED	E CORDOVA
DATE	11-06-13

SUBMITTED: BRIAN SULLIVAN
APPROVED FOR RELEASE: ED ARTIGLIA

Los Alamos NATIONAL LABORATORY
P0 Box 1663
Los Alamos, New Mexico 87545

SHEET C-5006
47 OF 827

CLASSIFICATION U
REVIEWER ED ARTIGLIA
DATE 11-06-13

PROJECT ID 102355
DRAWING NO C55443
REV 4

MANUEL TARIN, III NEW MEXICO 18741 PROFESSIONAL ENGINEER
02/11/2016

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Attachment 4
Additional Facility Structures

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Permit Section A.6.6, *Other Project Structures*
Text Revision

EPC-DO-17-196
LA-UR-17-22189

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Vehicle access to the hazardous waste management unit is through a gated driveway located east of the concrete pad. Gates are kept closed and vehicle access to the controlled area within the unit fence line requires check-in at the Operations Support Building. Pedestrian access to the controlled area also requires check-in through the Operations Support Building.

A fire water supply tank and a utility building that houses two fire water pumps and instrumentation needed to ensure operation of the fire suppression system are located to the north of the Operations Support Building outside the controlled area fence. Two seismic power cutoff system enclosures are also present north of the building. A back-up power generator is located east of the Operations Support Building.

Regional aquifer monitoring well R-46 is located outside of the hazardous waste management unit north of the site.

An equipment storage shed used to store items such as metal pallets, containers used to over-pack waste containers, and snow removal equipment is located on the west side of the TWF. There is no fire protection in this building. A separate building designated the Characterization Source and Matrix Management (CSMM) Building will house radioactive sealed sources for calibration of RTR and HENC sensors sources.

A.6.7 Security and Access Control

The DOE restricts access to the entire Facility through a variety of methods. Guard stations control public access to Pajarito Road east and west of TA-63. Therefore, only properly identified LANS and DOE employees authorized to enter the facility or individuals under their escort have access to the TWF. The TWF is enclosed by a security barrier system with controlled access gates. This includes a continuous section of prefabricated steel vehicle barriers and an eight foot high chain link fence. Two vehicle access gates are integrated into the fence line. Controlled entry to the unit is provided by a system of access controls (badge readers and administrative controls are required prior to entrance) to ensure that only authorized personnel are granted access. Three emergency personnel one-way exit gates are also present in the fence. These access controls also ensure that all facility personnel can be identified and located in an emergency.

The TWF is patrolled by facility security personnel to prevent unauthorized entry. Warning signs stating “Danger – Unauthorized Personnel Keep Out,” are posted on the perimeter fences and gates in accordance with Permit Section 2.5.2, *Warning Signs*. The text on the signs are bilingual (i.e., English and Spanish) and indicate “No Trespassing by Order of the United States Department of Energy.” The signs are legible from a distance of 25 feet.

A.6.8 Required Equipment

In accordance with Permit Attachment D, *Contingency Plan*, emergency equipment is located throughout the TWF and includes fire alarms, fire response systems, alarm systems, internal communications, spill kits, and decontamination equipment.

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Figure 55, *Technical Area TA) 63 Transuranic Waste Facility*

Figure Revision

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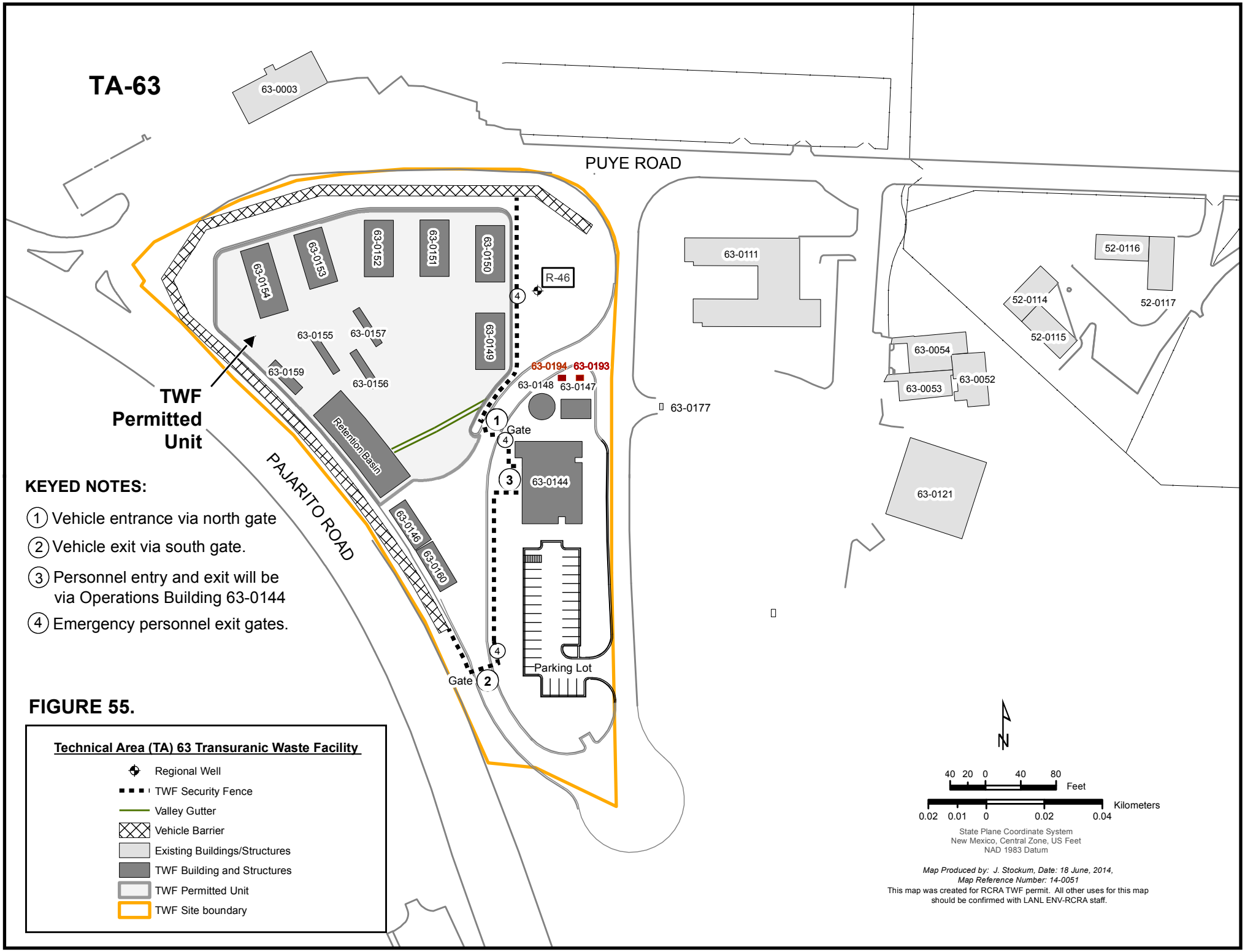
TA-63
63-0003
PUYE ROAD
63-0154
63-0153
63-0152
63-0151
63-0150
63-0155
63-0157
63-0149
63-0159
63-0156
R-46
63-0194
63-0193
63-0148
63-0147
63-0111
52-0116
52-0114
52-0117
52-0115
63-0054
63-0053
63-0052
63-0177
TWF
Permitted
Unit
Retention Basin
Gate
1
63-0144
3
63-0121
PAJARITO ROAD
63-0146
63-0160
Parking Lot
Gate
2
KEYED NOTES:
1 Vehicle entrance via north gate
2 Vehicle exit via south gate.
3 Personnel entry and exit will be via Operations Building 63-0144
4 Emergency personnel exit gates.
FIGURE 55.
Technical Area (TA) 63 Transuranic Waste Facility
Regional Well
TWF Security Fence
Valley Gutter
Vehicle Barrier
Existing Buildings/Structures
TWF Building and Structures
TWF Permitted Unit
TWF Site boundary
N
40 20 0 40 80
Feet
0.02 0.01 0 0.02 0.04
Kilometers
State Plane Coordinate System
New Mexico, Central Zone, US Feet
NAD 1983 Datum
Map Produced by: J. Stockum, Date: 18 June, 2014,
Map Reference Number: 14-0051
This map was created for RCRA TWF permit. All other uses for this map
should be confirmed with LANL ENV-RCRA staff.

Figure G.27-1, *Transuranic Waste Facility Soil Sampling Grid*

Figure Revision

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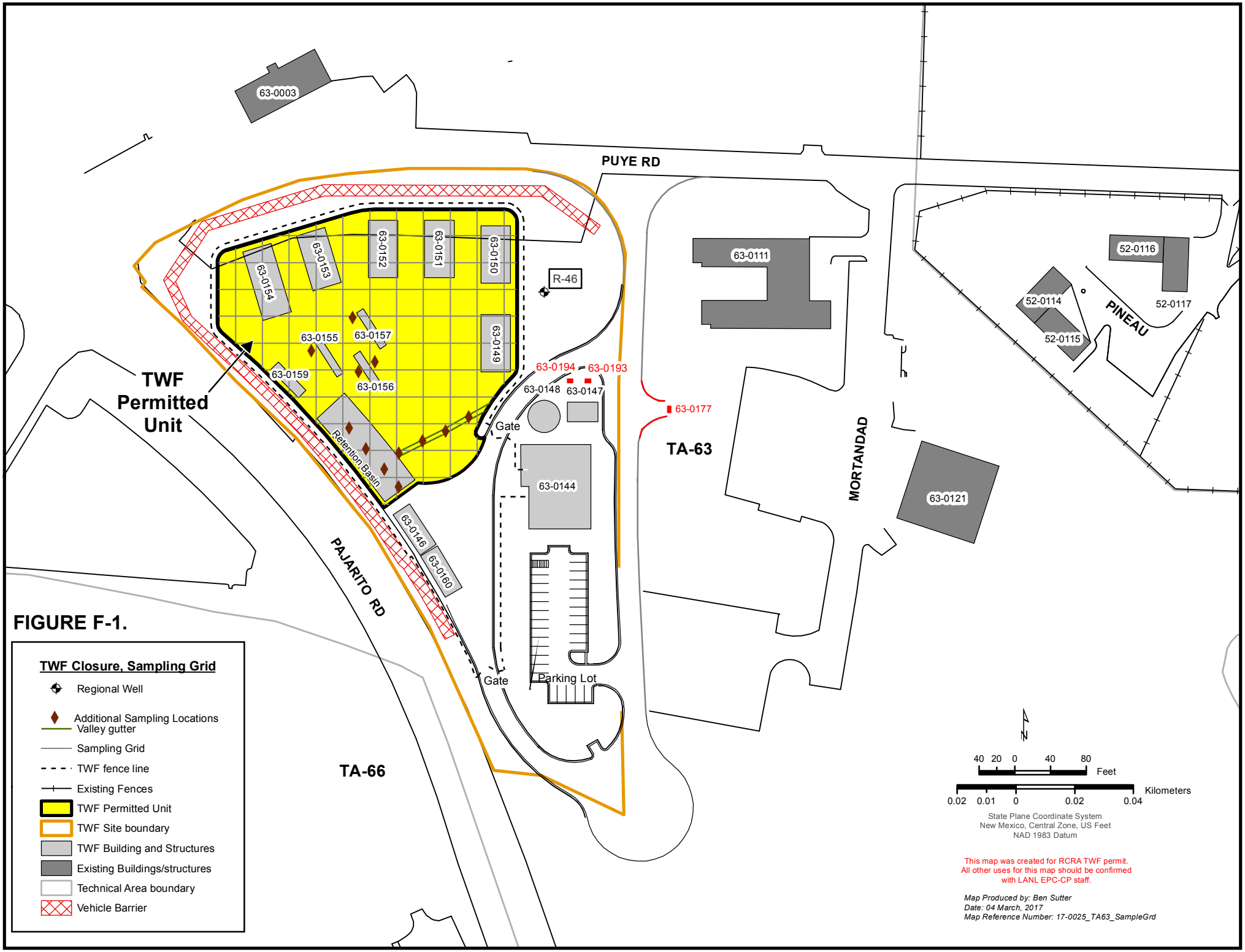
63-0003
PUYE RD
63-0111
52-0116
52-0114
52-0115
52-0117
PINEAU
63-0154
63-0153
63-0152
63-0151
63-0150
63-0149
R-46
63-0155
63-0157
63-0159
63-0156
TWF Permitted Unit
63-0194
63-0193
63-0148
63-0147
63-0177
Gate
TA-63
MORTANDAD
Retention Basin
63-0144
63-0121
63-0146
63-0160
PAJARITO RD
Gate
Parking Lot
TA-66
FIGURE F-1.
TWF Closure, Sampling Grid
Regional Well
Additional Sampling Locations
Valley gutter
Sampling Grid
TWF fence line
Existing Fences
TWF Permitted Unit
TWF Site boundary
TWF Building and Structures
Existing Buildings/structures
Technical Area boundary
Vehicle Barrier
N
40 20 0 40 80
Feet
0.02 0.01 0 0.02 0.04
Kilometers
State Plane Coordinate System
New Mexico, Central Zone, US Feet
NAD 1983 Datum
This map was created for RCRA TWF permit.
All other uses for this map should be confirmed
with LANL EPC-CP staff.
Map Produced by: Ben Sutter
Date: 04 March, 2017
Map Reference Number: 17-0025_TA63_SampleGrd

Attachment 5

Certification

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Document: Class 1 TA-63 TWF Description Update
Date: June 2017

CERTIFICATION

I certify under penalty of law that this document and all attachments were prepared under my direction or supervision in accordance with a system designed to assure that qualified personnel properly gather and evaluate the information submitted. Based on my inquiry of the person or persons who manage the system, or those persons directly responsible for gathering the information, the information submitted is, to the best of my knowledge and belief, true, accurate, and complete. I am aware that there are significant penalties for submitting false information, including the possibility of fine and imprisonment for knowing violations.

5-24-17

John C. Bretzke
Division Leader
Environmental Protection and Compliance Division
Los Alamos National Security, LLC
Los Alamos National Laboratory
Operator

Date Signed

31 May 2017

Karen E. Armijo
Environmental Permitting and Compliance
Program Manager
National Nuclear Security Administration
Los Alamos Field Office
U.S. Department of Energy
Owner/Operator

Date Signed

EPC-DO:17-196
LA-UR-17-22189