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EPA ID NUMBER CA1570024504

Hazardous Waste Support Facility

RCRA Part B Permit Renewal Application

Edwards Air Force Base

Prepared for:

412th Civil Engineer Group
Environmental Management Division
120 North Rosamond Blvd., Building 3735
Edwards AFB, CA 93524-8600

XXX 2017

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ACCS	90-Day Accumulation Site
AFB	Air Force Base
AFRL	Air Force Research Laboratory
AFTC	Air Force Test Center
AOC	area of concern
bgs	below ground surface
CA	California
CCR	California Code of Regulations
CERCLA	Comprehensive Environmental Response, Compensation, and Liability Act of 1980
CEV	412th Test Wing Civil Engineering Group Environmental Management Division
CFR	Code of Federal Regulations
CoC	contaminant of concern
COPC	contaminant of potential concern
DoD	Department of Defense
DOT	Department of Transportation
DPT	Direct-Push Technology
DTSC	Department of Toxic Substances Control
EKAPCD	Eastern Kern Air Pollution Control District
EPA	U.S. Environmental Protection Agency
ESI/RFA	Expanded Source Investigation/RCRA Facility Assessment
FFA	Federal Facility Agreement
HAZWOPER	Hazardous Waste Operations and Emergency Response
HW	hazardous waste
HWSF	Hazardous Waste Support Facility
IAP	initial accumulation point
LDR	Land Disposal Restriction
m^3	cubic meters
MDC	maximum detected concentrations
msl	mean sea level
µg/L	microgram per liter
OU	Operable Unit

PPE	Personal Protective Equipment
ppm	parts per million
PQL	Practical Quantitation Limit
QA/QC	Quality Assurance/Quality Control
RCRA	Resource Conservation and Recovery Act
RDT&E	Research, Development, Test and Evaluation
RME	Reasonable Maximum Exposure
RWQCB	Regional Water Quality Control Board
SDS	Safety Data Sheet
SRA	Streamlined Risk Assessment
SSSL	Site Specific Screening Levels
SWMU	Solid Waste Management Unit
TCE	Trichloroethylene
TCLP	Toxicity Characteristic Leaching Procedure
TOC	Total Organic Carbon
TPH	Total Petroleum Hydrocarbons
TSDF	Treatment, Storage, and Disposal Facility
TSS	Total Suspended Solids
USAF	United States Air Force
USGS	United States Geological Survey
UHC	Underlying Hazardous Constituent
UTS	Universal Treatment Standards
VOC	Volatile Organic Compound
WAP	Waste Analysis Plan
WTID	Waste Turn In Document

AA. GENERAL INFORMATION REQUIREMENTS

AA.1 DESCRIPTION OF ACTIVITIES THAT REQUIRE A RCRA PERMIT

Edwards Air Force Base (AFB) is located in the Mojave Desert of California (CA), approximately 60 miles north-northeast of Los Angeles. Edwards AFB is home of the Air Force Test Center (AFTC), and is responsible for United States Air Force (USAF) Research, Development, Test and Evaluation (RDT&E) of new and modified aircraft weapon systems and sub-systems. The RDT&E operations include testing various types of munitions dropped from aircraft and firing small and large caliber weapons. The Air Force Research Laboratory (AFRL) is also located at Edwards AFB and is responsible for RDT&E of liquid and solid rocket motor propellant systems. Under this mission, Edwards AFB is also host to many tenant organizations from within the Department of Defense (DoD) and other governmental agencies, as well as a number of private contractors working on aircraft and system development. The many operations that support the Edwards AFB mission results in the generation of hazardous wastes (HW) subject to Resource Conservation and Recovery Act (RCRA) regulation. Facilities on Edwards AFB are used to manage HW and require a RCRA HW Facility Permit.

Edwards AFB generates a wide range of HWs from aircraft, laboratory, facility and field maintenance and operations located throughout the base. These wastes are collected at dozens of 90-day Accumulation Sites (ACCS) and 270-day Initial Accumulation Points (IAP) that are co-located with the operations generating the HWs. On or before the ACCS and IAP time limits, HWs are transferred to the Hazardous Waste Support Facility (HWSF). The HWSF is used to store HW for up to one-year, after which such stored HW must be manifested and shipped off-site for eventual disposition. No HW treatment or HW disposal operations occur at the HWSF. The HWSF is defined as a storage facility in Title 22 of the California Code of Regulations (CCR) 66264.170, and as such requires a RCRA permit to operate.

Presently, a RCRA HW Facility Permit (United States Environmental Protection Agency [EPA] Identification Number CA1570024504, Permit Number 05-SAC-07) is in place for the HWSF. The current HW Facility Permit was issued by the California Environmental Protection Agency's Department of Toxic Substances Control (DTSC) on 7 November 2005, and will expire on 7 November 2015. Edwards AFB seeks to obtain a renewal of its HW Facility Permit for its HWSF operations by submission of a RCRA Part B Permit Renewal Application.

Current Permit Modification History
The record of modifications to the HWSF part of the current permit is as follows:

- 3 September 2008 – Class 2 modification to update the physical description of the HWSF, and to include new operational procedures and container management practices that consolidate several non-RCRA HW streams.
- 17 September 2012 – Class 1 modification to change owner name from the 95th Air Base Wing to the 412th Test Wing due to USAF reorganization at Edwards AFB.
- 21 May 2013 – Class 1 modification for HWSF physical site changes, including fencing/gate changes and new road surfaces.

This 2015 Edwards AFB RCRA Part B Permit Renewal Application (hereafter referred to as "Application") incorporates all of the above modifications.

Application Organization
Organization of the 2015 Edwards AFB RCRA Part B Permit Renewal Application (hereafter referred to as "Application") is addressed in Section A of the Base-Wide Information Application document.

This Application was prepared using the most current information available. Supporting documents referenced throughout the Application are the most recently available versions. All supporting information/documents are subject to revision. To the extent that changes to facility operations and any supporting information/documents result in a change to any of the environmental and health protective measures explicitly contained in this Application, a request for permit modification will be submitted using the procedures given in 22 CCR 66270.42. Changes to facility operations and supporting information/documents that do not affect the environmental and health protective measures contained in this Application will not constitute a permit modification.

AA.2 NAME, MAILING ADDRESS, AND LOCATION OF FACILITY, INCLUDING A TOPOGRAPHIC MAP

The 412th Test Wing Civil Engineer Group, Environmental Management Division (hereafter referred to as "CEV"), performs Edwards AFB environmental management functions. The official mailing address and general location information are addressed in Section A of the Base-Wide Information Application document.

The HWSF is located on the north side of Main Base at Edwards AFB. The HWSF is located approximately 9.4 miles north of the Edwards AFB South-Gate, 7.4 miles northeast of the West-Gate, 3.5 miles south of the North-Gate, and just east of Rosamond Boulevard. Appendix 10a provides a topographic map of the HWSF and surrounding area out to at least 1-mile beyond the center of HWSF in all directions. A more detailed topographic map is included in Section BB.

AA.3 STANDARD INDUSTRIAL CLASSIFICATION CODE

This item is addressed in Section A of the Base-Wide Information Application document.

AA.4 OWNER/OPERATOR

This item is addressed in Section A of the Base-Wide Information Application document.

AA.5 INDIAN LANDS

This item is addressed in Section A of the Base-Wide Information Application document.

AA.6 DESCRIPTION OF PROCESSES USED FOR STORING HAZARDOUS WASTE

HW is generated on-site from various USAF RDT&E programs, including AFRL activities, conducted at Edwards AFB. The types of HW generated from these programs may change according to the nature of program requirements. HW is generated from sources including: aircraft and facility maintenance and

repair activities, RDT&E operations, AFRL RDT&E operations, field activities, as well as cleanup of occasional chemical spills. HW streams and associated waste profiles are described in Section CC, Appendix 11 and Appendix 12 of this Application document. The HW and associated waste profiles are reviewed annually.

CEV maintains a Waste Analysis Plan (WAP), which is reviewed and updated annually. The most recent version is included in Appendix 12 and all pertinent portions of the WAP have been included in this Application document. The scope of the WAP covers all HW streams generated on-site that are stored at the HWSF. The WAP was prepared according to the requirements of 22 CCR 66264.13(b).

Within Edwards AFB are ACCS and IAP sites co-located with base operations that generate the HW. The number of ACCS and IAP sites varies according to need. The ACCS and IAP sites are managed as non-permitted units according to the requirements in 22 CCR 66262.34 for accumulation time and quantity limits. CEV are responsible for ensuring that HWs are transported to the HWSF once ACCS and IAP sites reach their accumulation time or quantity limit. HWs can be stored at the HWSF for up to one-year upon arrival of the HW within the facility, after which HWs must be shipped off-site for eventual disposition. The HWSF can manage up to 40,480 gallons of HW. The estimated annual quantity of HW throughput in the HWSF is 4,056 tons. No HW treatment or HW disposal operations occur at the HWSF. Information regarding HWSF processes and procedures are provided in Sections CC, DD and FF of this Application document.

AA.7 SPECIFICATION OF HAZARDOUS WASTES LISTED OR DESIGNATED UNDER CCR CHAPTER 11

This item is addressed in Section A of the Base-Wide Information Application document.

AA.8 LISTING OF ALL PERMITS OR CONSTRUCTION APPROVALS

This item is addressed in Section A of the Base-Wide Information Application document.

BB. FACILITY DESCRIPTION

BB.1 GENERAL DESCRIPTION OF THE HWSF

The HWSF is a rectangular area approximately 300 feet by 400 feet located within the Edwards AFB Main Base area. A chain-link fence encloses the HWSF. There is additional similar internal fencing within the HWSF. A schematic diagram of the HWSF is provided in Figure BB-1. The major features of the HWSF are as follows:

- Building 4916 – fixed structure where HWs are managed;
- Loading and Waste Bulking/Consolidation Area – paved area south of Building 4916 where HWs are managed;
- Building 4922 – an office building; and
- HWSF Yard – open area for equipment and supplies storage and a drum-crusher.

All HWs are handled and stored only in the HWSF area to the east of the internal fencing. No HWs are handled in the HWSF Yard area west of the internal fencing, or in Building 4922.

BB.2 TOPOGRAPHIC MAP

BB.2.a General Requirements

A topographic map of the HWSF (showing distances of 2,000 feet or more beyond the HWSF boundaries) is provided in Appendix 10b of this application. All the information required under 22 CCR 66270.14(b)(18) is not on a single map; a discussion and/or the location of items not shown on the topographic map in Appendix 10b is provided in the following subsections.

BB.2.a.1 Scale and Date

The scale and date when the map was generated are shown on the map.

BB.2.a.2 The 100-year Floodplain Area

Information on the 100-year floodplain area is addressed in Section B of the Base-Wide Information Application document.

The HWSF is not located within a 100-year floodplain.

BB.2.a.3 Surface Water Features

Information on surface water features is addressed in Section B of the Base-Wide Information Application document.

No surface water bodies are present at the HWSF.

BB.2.a.4 Surrounding Land Use

Information on surrounding land use is addressed in Section B of the Base-Wide Information Application document.

The HWSF is located on the north side of Main Base at Edwards AFB. The Main Base area covers a large portion of the central part of the base and is used for aircraft RDT&E operations and support. The HWSF is fully within the boundaries of Edwards AFB.

BB.2.a.5 Wind Rose

A wind rose displaying pertinent meteorological information for Edwards AFB is included on the topographic map provided in Appendix 10b. The wind rose summarizes the average wind velocity and direction monitored at Edwards AFB during a 27-year period from 1973 to 1999. The prevailing wind direction is from the southwest.

BB.2.a.6 Map Orientation

The north arrow is shown on the topographic maps in Appendix 10.

BB.2.a.7 Legal Boundaries

The HWSF is located within the legal boundaries of Edwards AFB, approximately 4.6 miles south of the northern boundary. The legal boundaries of the HWSF are shown on the topographic map in Appendix 10b. Longitude and latitude coordinates are given in Section BB.2.a.12.

BB.2.a.8 Access Control

The HWSF is surrounded by a chain-link fence and includes gated entry points that remain closed at all times. Additional discussion of access control is provided in Section FF.1.

BB.2.a.9 Injection and Withdrawal Wells

There are no injection wells on Edwards AFB or within the vicinity of the HWSF. The water supply wells nearest to the HWSF are Wells C-3 and C-4 approximately 6 miles to the southwest in an open area on base. The HWSF is located in an area of Edwards AFB that is subject to ongoing Comprehensive Environmental Response, Compensation, and Liability Act of 1980 (CERCLA) activities. For the purposes of CERCLA management, the HWSF is located in Operable Unit 8 (OU 8), Site 61. Site 61 includes numerous groundwater monitoring wells used to support CERCLA activities. Additional information on monitoring wells Site 61 and in the vicinity of the HWSF is provided in Section EE of this Application document.

BB.2.a.10 Buildings and Other Structures

Figure BB-1 illustrates the major building and structures within the HWSF. Additional information on Building 4916 and the Processing/Storage Bays is provided in Section DD.

BB.2.a.11 Drainage and Flood Control Barriers

The HWSF is not located within a 100-year floodplain. Surface drainage follows the slope of the terrain, flowing generally to the south-southeast across the HWSF area, except where it is intercepted by engineered drainage channels or the Edwards AFB storm drain system. The majority of surface runoff in the area is diverted away from the HWSF by engineered drainage channels that run parallel to Rosamond Boulevard and Forbes Avenue.

Since the HWSF is not prone to flooding, barriers for drainage or flood control are not shown on the topographic map. HWs are stored in the HWSF Building 4916 and Processing/Storage Bays, and have raised concrete foundations and flooring. Flooring within these areas is sloped to collect any storm water in sumps or low areas. Thus, the stored HWs are protected from external meteorological conditions and may not come into contact with flood waters.

When there is the possibility of rain, any HWs being staged for shipment and temporarily in outside areas are covered by a trap or canopy to prevent storm water intrusion. The outdoor HW storage areas are curbed to provide a barrier from storm water run-off to HW storage areas, and to prevent potential spills from entering storm water runoff.

BB.2.a.12 Location of the Treatment Unit(s) and Decontamination Areas

The HWSF is located on a relatively level elevation between 2,335 and 2,350 feet above mean sea level (msl). The terrain slopes gently towards the east from a high elevation of 2,445 feet msl, located on a granite butte due west of the HWSF, to a low elevation of 2,285 feet msl, located along Forbes Avenue due east of the HWSF.

The specific location of the HWSF is as follows:

General Location

Township:	10 N
Range:	10 W
Section:	SW 1/4 of Section 24
Quadrangle:	Edwards, United States Geological Survey (USGS) 7.5 Minute Series, 2013
Principal Median:	San Bernardino

The assessor's parcel number is not applicable, as the HWSF is situated totally within Edwards AFB boundaries.

HWSF Boundaries and Center

NE Corner:	Latitude 34^{o} 56.663' N, Longitude 117^{o} 53.760' W
SE Corner:	Latitude 34^{o} 56.614' N, Longitude 117^{o} 53.749' W
SW Corner:	Latitude 34^{o} 56.610' N, Longitude 117^{o} 53.828' W
NW Corner:	Latitude 34^{o} 56.659' N, Longitude 117^{o} 53.831' W
HWSF Center:	Latitude 34^{o} 56.637' N, Longitude 117^{o} 53.791' W

The nearest buildings to the HWSF are Buildings 4900 and 4904, located approximately 1,000 feet south of the HWSF and Buildings 4906 and 4908, located approximately 1,500 feet east of the HWSF. A railroad easement borders the HWSF to the east, as shown on the detailed topographic map. With the exception of the listed buildings and the railroad easement, the HWSF is surrounded mostly by open space. Nearby areas, out to 4.6 miles from the HWSF, are entirely within the boundaries of Edwards AFB. Table BB-1 lists the locations of specific nearby points of interest from the HWSF.

A "buffer zone" is defined in 22 CCR 66260.10 as "an area of land which surrounds a HW facility and on which certain land uses and activities are restricted to protect the public health and safety and environment from existing or potential hazards caused by the migration of hazardous waste." A minimum distance from the HWSF to other buildings has been established as a "buffer zone" to protect personnel from potential hazards. This minimum distance is set at 1,000 feet.

BB.2.a.13 Location of Solid Waste Management Units

The HWSF is a Solid Waste Management Unit (SWMU) and is discussed in Section JJ of this Application document. There are four SWMUs and two Areas of Concern (AOC) within 2,000 feet of the HWSF perimeter. These are discussed Section JJ of this Application document.

BB.2.b Additional Information on the Topographic Map for Land Disposal Facilities

22 CCR 66270.14(c) requires that specific information be provided by owners or operators of HW facilities containing a "regulated unit". A regulated unit is defined in 22 CCR 66264.90 as a surface impoundment, waste pile, or land treatment unit or landfill that receives HW. This subsection is not applicable to Edwards AFB as the HWSF is not a surface impoundment, waste pile, land treatment unit or landfill.

BB.3 FACILITY LOCATION INFORMATION

This section presents information about the physical location of the HWSF and its proximity to seismically active faults and the 100-year floodplain. Additional information on the general geologic and hydrogeologic features of Edwards AFB used to support compliance with 22 CCR 66270.14(b)(11) requirements is provided in Section B of the Base-Wide Information Application document.

BB.3.a Seismic Requirements

The seismic location standard prohibits the placement of hazardous waste management facilities within 200 feet of a fault displaying Holocene (less than 10,000 years before present) displacement.

As shown on the local fault and seismicity map provided in Appendix 4 of the Base-Wide Information Application document, the nearest fault to the HWSF is the postulated extension of the Blake Ranch Fault. The HWSF is located approximately 14,000 feet northeast of the postulated extension of the Blake Ranch Fault. All of the faults on Edwards AFB have displayed no evidence of Holocene displacement. Therefore, the HWSF is in compliance with the seismic standard as specified under 22 CCR 66270.14(b)(11).

Additional information on seismic protection measures used within the HWSF is provided in Section DD of this Application document.

BB.3.b Flood Plain Requirements

Because of its federal facility status, no Federal Insurance Administration flood maps have been generated for Edwards AFB. The *Edwards AFB Comprehensive Plan (latest version)* indicates that the HWSF is not in any flood-prone areas and is 0.54 miles west of the edge of Rogers Dry Lake. In general,

flood-prone areas at Edwards AFB are the Rogers, Rosamond, and Buckhorn dry lakebeds, and a major ephemeral stream channel that conducts seasonal runoff into Rogers Dry Lake. The HWSF is not located within these flood-prone areas.

The HWSF is located approximately 2,335 feet above msl, about 65 feet higher than the 100-year flood limits. Thus, the HWSF is not within the 100-year floodplain.

BB.4 TRAFFIC PATTERNS

General information on traffic patterns is provided in Section B of the Base-Wide Information Application document.

The permanent access roads into the HWSF are shown on the topographic maps included in Appendix 10. Generally, personnel and vehicles enter the HWSF through one of two graded dirt roads intersecting with Rosamond Boulevard. The north road is approximately 0.2 miles long from Rosamond Boulevard to the main HWSF gate. The south road is approximately 0.4 miles long from Rosamond Boulevard to the main HWSF gate.

Vehicles that access the HWSF include privately owned vehicles (personnel who work at the HWSF), pickup trucks (up to 1 ton), flatbed trucks (up to 2.5 tons), and flatbed tractor trailers (up to 15 tons). HWs from ACCS and IAP sites located throughout Edwards AFB travel on paved roads within Edwards AFB to the HWSF and do not travel on any off-site roads. Vehicles used for this activity include pickup trucks (up to 1 ton) and flatbed trucks (up to 2.5 tons), and access the HWSF as required. Waste transporters picking up HW for shipment off-site will travel to/from the HWSF by Rosamond Boulevard. Off-site accesses to Rosamond Boulevard are from Highway 58 and the North-Gate, Highway 14 and the West-Gate, and Lancaster Boulevard and the South-Gate. Off-site transportation of HW occurs approximately once per month with about 60 to 150 drums transported on a single flatbed tractor trailer (up to 15 tons). Traffic on the two HWSF graded dirt roads are very light, usually less than one vehicle per hour. Traffic on the two nearby major paved roads, Rosamond Boulevard and Forbes Avenue, is also light during working hours. The heaviest use of these major roads is between the hours of 0700 to 0800 and 1600 to 1630, when Edwards AFB employees are commuting to and from their work areas. The estimated volume of traffic into and out of the HWSF is up to 8 vehicles per day.

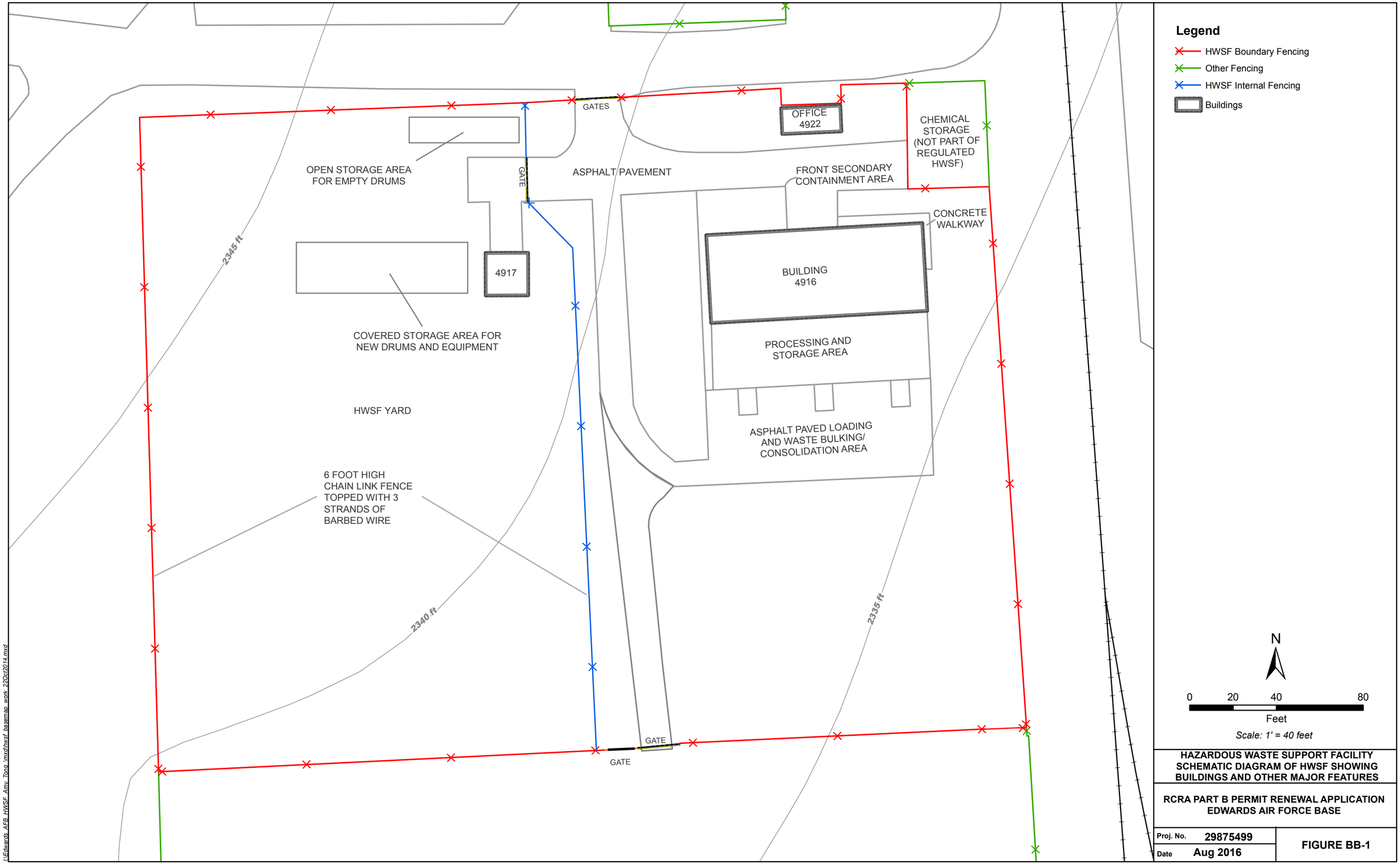
There are no traffic signals associated with the HWSF. A 4-way stop sign is located at the intersection of Rosamond Boulevard and Forbes Avenue, intercepting most of the incoming and outgoing traffic from the HWSF.

The load-bearing capacity of the any of the roads that access the HWSF, and are within the HWSF, have not been determined.

Table BB-1. Locations of Nearby Points of Interest

Description	Compass Direction From the HWSF	Distance From the HWSF	
		(kilometers)	(miles)
Nearest Fenceline Point	N	7.4	4.6
Nearest Observed Residential Location (in unincorporated Kern County)	N	7.5	4.7
Nearest Occupational Location (HWSF is a manned facility)		0	0
Nearest Residential Community – North Edwards	N	8.5	5.3
South Base Area	NW	5.1	3.2
Main Base Area		0	0
Air Force Research Laboratory	NE	17.1	10.7
Military Family Housing Area	NW	3.5	2.2

Figure BB-1. Schematic Diagram of HWSF Showing Buildings and Other Major Features



HAZARDOUS WASTE SUPPORT FACILITY
SCHEMATIC DIAGRAM OF HWSF SHOWING
BUILDINGS AND OTHER MAJOR FEATURES

RCRA PART B PERMIT RENEWAL APPLICATION
EDWARDS AIR FORCE BASE

Proj. No. 29875499	FIGURE BB-1
Date Aug 2016	

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CC. WASTE CHARACTERISTICS

CC.1 CHEMICAL AND PHYSICAL ANALYSES

This section is submitted in accordance with the requirements of 22 CCR 66270.14(b)(2) and (3), and 22 CCR 66264.13. This section describes the chemical and physical nature of HWs stored at the HWSF.

Additional information concerning the waste characteristic information and data specific HWs stored at HWSF is provided in the following subsections, and in the WAP, included as Appendix 12 of this Application document. The WAP provides procedures for sampling, testing, and evaluating the waste to ensure that sufficient information is available for its safe handling and disposal.

CC.1.a Containerized Waste

The HWSF stores all HWs in containers. 22 CCR 66270.15(b) requires a demonstration of compliance with 22 CCR 66264.176 and 22 CCR 66264.177(c). All containers holding ignitable or reactive wastes are located much greater than 15 meters (50 feet) from the Edwards AFB property line, as Figure BB-1 demonstrates. All containers holding ignitable or reactive wastes will either be stored at an IAP, an ACCS, or the HWSF. An IAP is a non-permitted storage/accumulation point (also known as a satellite accumulation point) where HW is initially accumulated in containers at or near the point of HW generation, and is under the control of the HW process supervisor. Accumulation time for an IAP may not exceed 270 days. An ACCS is a non-permitted HW storage/IAP consolidation site where HW is stored for a period not to exceed 90 days in containers at or near the point of HW generation and IAPs.

Empty containers are identified and managed according to the decision flowchart depicted on Figure CC-1. Used oils and fuel are identified and managed according to the decision flowchart presented in the WAP. All other wastes are managed according to general waste handling procedures that are shown on Figure CC-2.

Additional information on containers used in the HWSF and container management is provided in Sections DD and FF of this Application document.

CC.1.a.1 Waste Identification and Characterization

Edwards AFB generates a wide variety of HWs because of the numerous and diverse activities that occur on site. HW generation activities can be grouped together into, but not limited to, the following broad categories:

- Propellant RDT&E activities at AFRL;
- Aircraft maintenance and repair;
- RDT&E related to manned and unmanned flights;
- Cleanup of occasional chemical spills;
- Repair and maintenance of the buildings and physical structures of the Base; and

- Chemicals cleared from buildings when programs are completed or terminated and the tenant leaves.

HWs are generated from, but not limited to, the following processes:

- Degreasing with halogenated and non-halogenated solvents;
- Painting and surface preparation;
- Etching and descaling of metals with corrosives;
- Photo-processing with photo-chemicals;
- AFRL propellant mixing and testing;
- Sandblasting to remove paint;
- Machining with cutting fluids;
- Testing and replacing batteries;
- Off-specification and shelf-life expired chemicals;
- Cleaning up chemical spills; and
- Preventive maintenance by replacing hydraulic oils, fluids, and other oils.

Appendix 11 provides all EPA-listed HWs (Appendix 11a), California-listed HWs (Appendix 11b), and Edwards AFB HW profile descriptions (Appendix 11c) that the HWSF typically manages and stores.

CC.1.b Waste in Tank Systems

No tank systems are used at the HWSF to store or treat HW. This subsection is not applicable.

CC.1.c Waste in Piles

No waste piles are used at the HWSF to store or treat HW. This subsection is not applicable.

CC.1.d Landfilled Wastes

No landfills are used at the HWSF to dispose of HW. This subsection is not applicable.

CC.1.e Wastes Incinerated and Wastes Used in Performance Tests

No incinerators are used at the HWSF to burn HW. This subsection is not applicable.

CC.1.f Wastes to be Land Treated

No land treatment units are used at the HWSF to treat or dispose of HW. This subsection is not applicable.

CC.1.g Wastes in Miscellaneous Units

The HWSF is not a miscellaneous unit as defined in 22 CCR 66264.600. This subsection is not applicable.

CC.1.h Wastes in Boilers and Industrial Furnaces

No boilers or industrial furnaces are used at the HWSF to burn HW. This subsection is not applicable.

CC.1.i Wastes on Drip Pads

No drip pads are used at the HWSF to treat or store any HW. This subsection is not applicable.

CC.2 WASTE ANALYSIS PLAN

The WAP is included as Appendix 12 of Application document. The WAP provides procedures for sampling, testing, and evaluating the waste to ensure that sufficient information is available for its safe handling and disposal.

CC.2.a Parameters and Rationale

Discussion of waste analysis parameters and rationale is provided in Section 4 of the WAP. Additionally, it should be noted that Edwards AFB staff provide HW characterization, manifesting, transport, and recordkeeping support. In the event a new waste stream is identified, the procedures presented in the WAP will be followed for characterization of the waste.

CC.2.b Test Methods

Discussion of test methods is presented in the WAP.

CC.2.c Sampling Methods

Discussion of sampling strategies is presented in the WAP.

CC.2.d Frequency of Analyses

Discussion of sampling frequency is presented in the WAP.

CC.2.e Additional Requirements for Wastes Generated Off Site

Edwards AFB does not accept any HWs from off-site generators.

CC.2.f Additional Requirements for Ignitable, Reactive, or Incompatible Wastes

Precautions to prevent the accidental ignition or reaction of ignitable, reactive, or incompatible wastes are described in Section FF of this Application document.

CC.3 WASTE ANALYSIS REQUIREMENTS PERTAINING TO LAND DISPOSAL RESTRICTIONS

Relating to Land Disposal Restrictions (LDRs), 22 CCR 66264.13(a)(1) requires that the LDR regulations in 22 CCR 66268 be met prior to treatment and/or disposal of HW off-site. LDR regulations are aimed at protecting ground water/drinking water resources. Thus, there are certain HWs, which are restricted from land disposal, but under limited circumstances may continue to be disposed of in HW landfills (22 CCR 66268.1 et seq.). To determine how the LDRs apply, HW originators must perform waste characterization based on process knowledge and/or analyses (22 CCR 66261, Appendix I through Appendix III).

LDR notifications/certifications cover a variety of circumstances as presented in 22 CCR 66268. Some of the circumstances under which a generator's HW meets LDR conditions and must complete an LDR notification/certification are as follows:

- A restricted HW not meeting applicable treatment standards (22 CCR 66267.(a)(2));
- A restricted HW that can be land disposed without further treatment (22 CCR 66268.7(a)(3));
- HW subject to an exemption from LDR prohibitions (22 CCR 66268.7(a)(4));
- Restricted asbestos-containing waste that can be land disposed without further treatment (22 CCR 66268.7(a)(11));
- A lab-pack containing specified HWs (22 CCR 66268.7(a)(9)); and
- A lab-pack containing RCRA organic HWs (22 CCR 66268.7(a)(9)).

After HW has been characterized, a multi-step decision process must be followed:

- If the HW is a LDR waste and does not meet treatment standards, Edwards AFB must submit a one-time written notification to the off-site Treatment, Storage, and Disposal Facility (TSDF) where the waste is being shipped (22 CCR 66268.7(a)(2)).
- If the HW is a LDR waste and can be land disposed without further treatment, Edwards AFB must submit a one-time written notification to the off-site TSDF, stating the HW meets treatment criteria (22 CCR 66268.7(a)(3)).
- If the HW is subject to an exemption from LDR, Edwards AFB must submit a one-time written notification to the off-site TSDF, stating that (if an exemption applies) the waste is not prohibited from land disposal (22 CCR 66268.7(a)(4)).
- The retention of records supporting LDR requirements is also required and, for most applications, will be retained for at least 3 years (22 CCR 66268.7(a)(8)).

If the HW fails to meet the LDRs, the HWSF manager or designee will ensure that the HW will not be shipped without the appropriate notifications per Title 40 of the Code of Federal Regulations (CFR) 268.7 and 22 CCR 66268.7. An example of an LDR notification is provided in Appendix 11d. Other LDR notification forms may be used at the discretion of the HWSF manager, or as provided by the off-site TSDF.

CC.3.a Waste Analysis

22 CCR 66268.7(a) and 40 CFR 268.7(a) require that, for all applicable characteristically HWs that may be land disposed, the generator must evaluate whether any of the constituents listed in 22 CCR 66268.48 and 40 CFR 268.48 are expected to be present above treatment standards. Such HWs will be analyzed when constituents are suspected of being present at or above Universal Treatment Standards (UTSs). UTSs are presented as a consolidated list of each constituent and their treatment standard (wastewater and non-wastewater) that appear in 22 CCR 66268.48 and is known as the UTS table.

The analytical methods selected will be based on the generator's knowledge of the HW (e.g., product data and/or HW generation process information) and the type of treatment standard against which the HW is compared. The Edwards AFB HW generator will ensure the laboratory's target analyte list for each given

method includes all analytes of concern (e.g., those analytes required to determine if the waste is characteristically hazardous as well as those Underlying Hazardous Constituents (UHCs) suspected to be present at or above treatment standards).

The total suspended solids (TSS) and total organic carbon (TOC) contents of a waste are required to differentiate between wastewater (less than 1% by weight of TOC and TSS) and non-wastewater so that results may be compared to the appropriate UTS. Unless the waste is easily determined to be a non-wastewater because of a high TOC content (e.g., organic solvent waste) or high solids content (greater than 1% TSS, which is 10,000 parts per million [ppm] solids), TOC and TSS analyses may be conducted on waste streams that are being analyzed for UHCs.

Many organic compounds are included in the UHC list presented in 40 CFR 268.48. Treatment standards are typically based on total analyses; however, some compounds require Toxicity Characteristic Leaching Procedure (TCLP) analyses (e.g., methanol). Total analysis will be conducted if the waste is suspected to contain toxic characteristic organics as defined by 40 CFR 261.24 and organic UHCs. Results from the total analyses will be compared to the TCLP limits. For liquids (less than 0.5% TSS), total analysis results are equivalent to TCLP results. For solids, the results of the total analysis can be divided by 20 (the dilution factor used in TCLP analyses for solids) prior to comparison to toxicity characteristic standards presented in 40 CFR 261.24. This evaluation assumes a worst-case condition where all constituents are completely leached from the waste during extraction. If results indicate that toxicity characteristic standards may have been exceeded for solids, then a TCLP analysis may be conducted to determine actual leachability, if the EPA-established holding time criteria can be met.

CC.3.b Notification, Certification, and Recordkeeping Requirements

LDR regulations require a generator that is managing a LDR HW, which is excluded from the definition of hazardous or solid waste, or exempt from Subtitle C regulations under 40 CFR 261.2 – 261.6 subsequent to the point of generation, to document the waste, its exclusion or exemption, and the disposition of the waste.

CC.3.b.1 LDR Forms to Vendors from Wastes Shipped Off-Site.

If a HW does not meet the treatment standards in 40 CFR 268.40, 268.45, and/or 268.49, the generator must send a one-time written notice, at a minimum, to each TSDF receiving the waste. A new notification will be provided whenever there is a change in the waste profile or treatment facility.

CC.3.b.2 One Time Notice to File for Excluded Materials.

For an area generating an excluded, exempt, or recycled HW, the HWSF manager, or designee, will generate and file a one-time notice. At a minimum this notice will state such generation, the subsequent exclusion from the definition of solid or HW or exemption from Subtitle C regulation, and the disposition of the waste in the HWSF waste management file. A new notice will be generated whenever there is a change in the waste profile.

CC.3.c Requirements Pertaining to the Storage of Restricted Wastes

The storage of HWs restricted from land disposal under 22 CCR 66268 is prohibited, unless the following conditions are met:

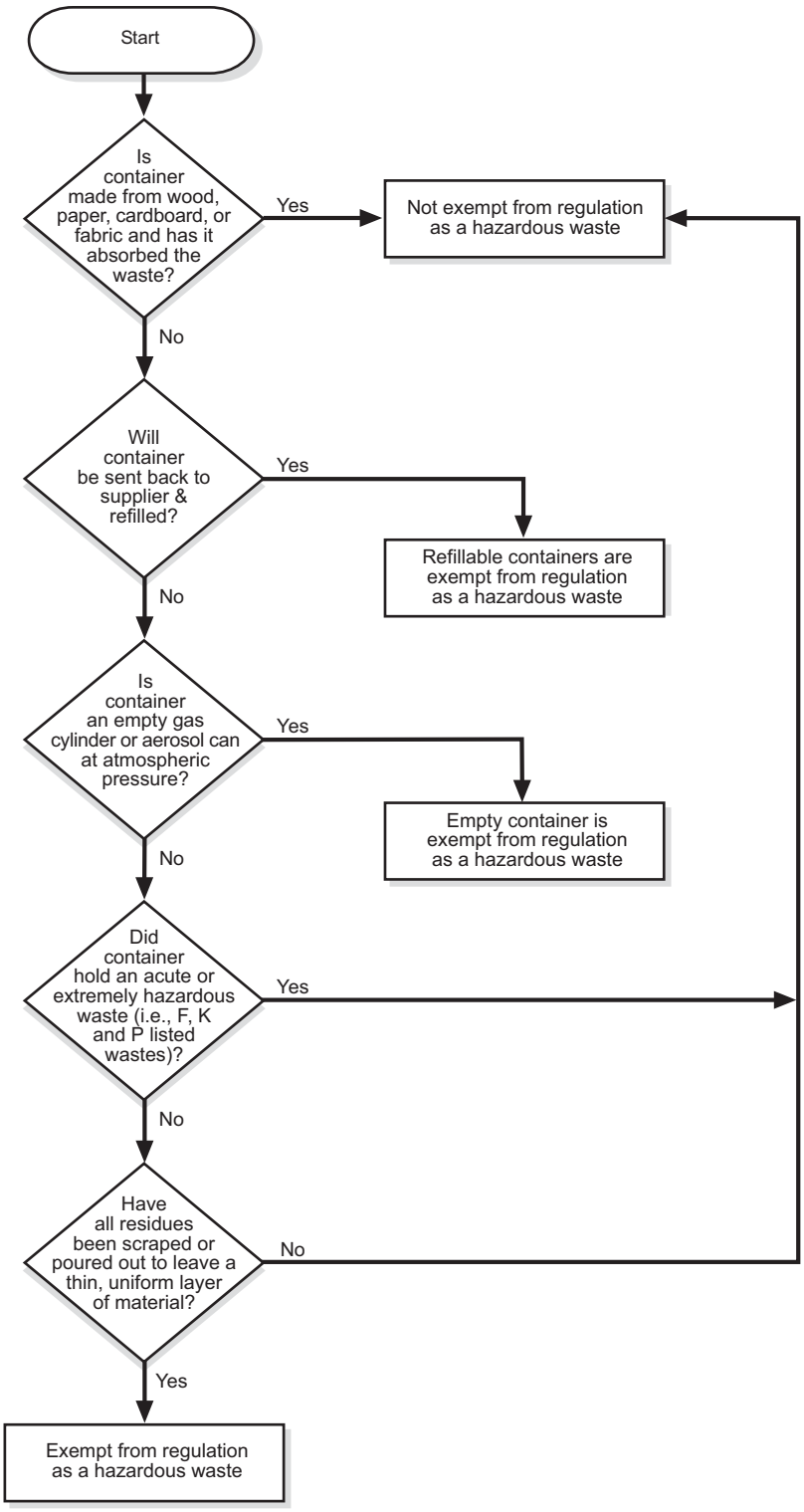
- A generator stores such wastes in containers or containment buildings on site solely for the purpose of the accumulation of such quantities as necessary to facilitate proper disposal, and the generator complies with 22 CCR 66262.34 and Chapters 14 and 15 of Division 4.5 (Environmental Health Standards for the Management of Hazardous Waste Division) of CCR, Title 22;
- Each container of HW is clearly marked to identify its contents and the date each period of accumulation begins; and
- A transporter stores manifested shipments of such wastes at a transfer facility for six days or less, or 10 days or less for transfer facilities in areas zoned industrial by a local planning authority.

The HWSF will only store HWs restricted from land disposal under 22 CCR 66268 that comply with the above conditions.

CC.3.d Exemptions, Extensions, and Variances to Land Disposal Restrictions

This section is not applicable to the HWSF. No case-by-case extension for RCRA wastes has been requested, nor has a petition been approved by the DTSC. In addition, no variance for non-RCRA wastes has been requested by or granted to Edwards AFB. There are no surface impoundments requesting LDR exemptions, and there are no exemptions requested for newly identified or listed wastes.

Figure CC-1. Decision Flowchart for Managing Empty Containers



DECISION FLOWCHART FOR MANAGING EMPTY CONTAINERS

Project No.: 29875499	Date: May 2015	Project: RCRA PART B PERMIT RENEWAL APPLICATION EDWARDS AIR FORCE BASE	Figure CC-1

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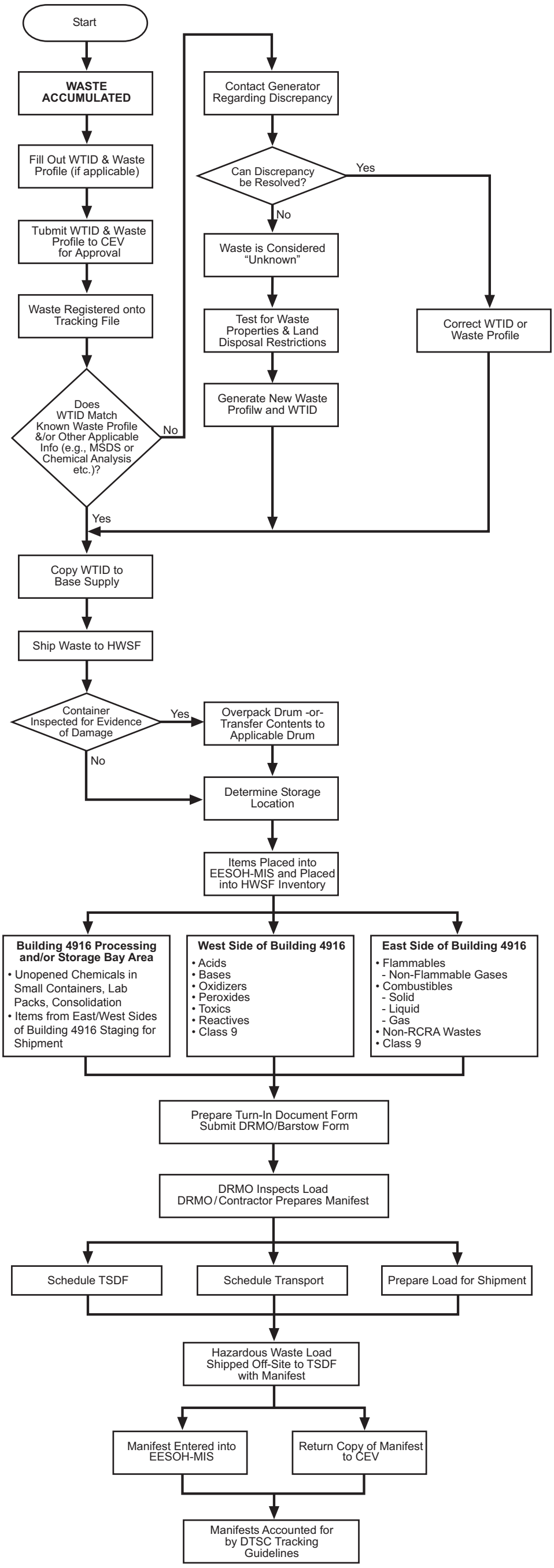
Task 3 - Permit Renewal\2014 Figures/decision flowchart empty contain.fh10

Figure CC-2. Flow Chart of General Waste Handling Procedures



FLOW CHART OF GENERAL WASTE HANDLING PROCEDURES

Project No.: 29875499	Date: May 2015	Project: RCRA PART B PERMIT RENEWAL APPLICATION EDWARDS AIR FORCE BASE	Figure CC-2

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DD. PROCESS INFORMATION

This section presents the design and operating procedures for the HWSF that minimize the potential for releases of HWs to the environment. This includes a description of the containers, the HWSF building and related structures, secondary containment, Department of Transportation (DOT) packaging requirements, and a brief description of HWSF operating procedures. The information provided in this section is submitted in accordance with 40 CFR 270.15, 264.170-264.176, and 22 CCR 66264.15, 22 CCR 66264.170 – 66264.176, 22 CCR 66264.172, and 22 CCR 66264.175.

Overview of HWSF

The HWSF is a rectangular area approximately 300 feet by 400 feet located within the Edwards AFB Main Base area. A schematic diagram of the HWSF is provided in Figure BB-1.

A 6 foot high chain-link fence topped with 3-strand barbed wire encloses the HWSF. There is additional similar internal fencing within the HWSF. There are 4 exterior gates: a north gate across the primary roadway entrance; a south gate across the secondary roadway entrance; an emergency egress gate immediately adjacent to the north gate; and an emergency egress gate at the southeast corner of the HWSF.

Photographs of the HWSF are presented in Appendix 13. Design drawings for HWSF areas that store HWs are provided in Appendix 14.

Significant features of the HWSF are as follows:

- Building 4916 – Covered and fully enclosed location where HWs are stored, including the East Bay Storage Area, the West Bay Storage Area, the Center Access Way, and the three Processing/Storage Bays connected on the south side of the building (designated as 4916A, 4916B and 4916C).
- Secondary Containment Area – uncovered and open on the northwest side of Building 4916 where non-RCRA HWs are stored temporarily.
- Loading and Waste Bulking/Consolidation Area – open and uncovered asphalt paved area south of Building 4916 used to load HWs for off-site shipment and to consolidate and bulk non-RCRA HW for off-site shipment.
- Building 4922 – an office building used as the primary entry control point.
- HWSF Yard – open area, including Building 4917 used for equipment storage and a drum-crusher for California-empty containers meeting the requirements of 22 CCR 66261.7, a canopy covered dirt-area used for storage of new drums, supplies and equipment to the west of Building 4917, and a concrete slab with berm for empty drum storage north of Building 4917.

All HWs are handled and stored only in the HWSF area to the east of internal fencing. No HWs are handled in the HWSF Yard area west of the internal fencing, or in Building 4922. No HW treatment is performed at the HWSF.

There is a chemical storage area located in an area outside the northeast comer of the HWSF and is isolated by a locked fence and gate. This chemical storage area is not part of the regulated facility and stores chemical supplies used by the HWSF personnel.

Building 4916 is approximately 4,000 square feet in area and serves as the container receiving and storage area. Access is through a central roll-up doorway into a central access way that connects to the storage areas. Separate storage areas are designated within the building for each type of waste, to provide segregation according to 22 CCR 66264.177. Each area is equipped with secondary containment with an impervious coated floor sloped to either collection sumps or low points. An additional containment sump is located in the central access way portion of the HWSF building where drum staging and processing activities occur. Building 4916 includes containment curbs under all interior and exterior walls. All containers are closed during handling, except when processing activities occur, which includes some sampling, waste consolidation, and container filling operations.

Three processing/storage bays have been built on the south side of Building 4916 so that containers to be shipped can be moved out of Building 4916 and await shipment in the storage bays. The area for the three storage bays is approximately 3,100 square feet. The three enclosed bays are accessible through the central access way, and by exterior roll-up doorways in each bay. Similar to Building 4916, these bays are designed for segregated storage and are used to prepare lab-packs, prepare containers for shipment, temporarily store containers awaiting shipment and consolidate non-RCRA solid HW material. Each area is equipped with secondary containment with an impervious coated floor sloped to low points. The bays include containment curbs under all interior and exterior walls. All containers are closed during handling, except when processing activities occur, which includes some sampling, waste consolidation, and container filling operations.

DD.1 CONTAINERS

The HWSF manages all HW, RCRA and non-RCRA in containers. The **permitted** HW storage limit for the entire HWSF is 40,480 gallons, based on 736 55-gallon containers. Larger and smaller containers are used in the HWSF.

This section presents the following: a description of the containers that hold wastes; DOT packaging requirements; operating procedures for accepting, labeling, packaging, and shipping wastes; and assessment of HWSF secondary containment systems.

DD.1.a Containers with Free Liquids

Containers with free liquids are stored at the HWSF. Generator knowledge derived through an understanding of the processes generating waste, the hazardous materials used in the process, product Safety Data Sheets (SDSs) and HW profile sheets are the basis for determination of which wastes contain free liquids. Containers with free liquid are stored in a bung type container. Upon receipt of waste at the HWSF, container type and Waste Turn in Document (WTID) information is used to determine free liquid status. An example of a WTID is shown in the WAP. All HWs are stored at the HWSF in areas that are equipped with secondary containment systems. The loading/unloading ramps are designed to prevent surface run-off from entering the building or secondary containment areas. Design features include sloped

surfaces, piping and/or valves. Inside the buildings, drums are stored on flooring with drainage sumps to prevent contact between the containers and any spilled or leaked waste, should it occur.

DD.1.a.1 Description of Containers

The containers used at the HWSF are specific to the type of waste being stored. The types of containers used include DOT-approved containers, original product containers, metal and cardboard/fiber boxes, lab-packs, or polybags. All containers used for waste shipment meet DOT specifications and military regulations. All containers used for all HW management activities at the HWSF are structurally sound, undamaged, free of leaks, and in good condition. The most common type of container used in the HWSF for HW storage is a 55-gallon drum.

Lab-packs consist of laboratory wastes, reagents, or small volume wastes (up to 5-gallons) that are kept in their original containers. Small containers of off-specification materials are placed in various sized drums, segregated by DOT Hazard Class, with compatible packing materials.

All wastes stored at the HWSF are held in containers that are compatible with the wastes. Flammables are generally held in metal drums. Acids, bases, and other corrosives are held in polymeric coated-metal, or lined-metal drums to protect from corrosion. For lab-packed wastes, an appropriate drum (e.g., metal, poly, etc.) and packing material (e.g., vermiculite, solid absorbent, etc.) is used based on the type of waste being held.

Section CC and the WAP describes the procedures that are used to ensure that containers, liners, over-packing materials, and any other items that come into contact with the wastes are compatible. Before a waste is placed into the HWSF for storage, it is inspected to ensure that is packaged properly and has the accompanying WTID. For lab-pack wastes, the generator must identify each container and keep a detailed log of chemicals and quantities inside the lab-pack.

DD.1.a.1.1 DOT Packaging Requirements

Before transporting HW on-site or off-site for disposal, the waste is packaged in accordance with the applicable DOT regulations under 49 CFR 173, 178, and 179. Specifically, all wastes to be shipped are packaged in DOT-approved containers that are compatible with the wastes. To ensure that incompatible wastes are not consolidated into a single container, an EPA hazardous material compatibility chart is consulted.

Before shipment, all containers are inspected to ensure that wastes are in proper containers and container labels have all the pertinent information including: the composition and physical state of the waste; its hazardous property; the name and address of the generator; accumulation start date; DOT shipping name; manifest number; United Nations/North American number; EPA identification number and waste code(s). All wastes are packaged properly and are accompanied by the appropriate shipping papers such as shipping orders, bills of lading, and manifests. For lab-packs, a detailed log of chemicals and quantities is shipped with the container.

At the point of generation, the required HW labels are placed on the containers to further ensure that the proper wastes are kept in the proper container and that incompatible wastes are not mixed. The labels give

the composition and physical state of the waste, its hazardous properties, the name and address of the generator, as well as the accumulation start date. Examples of the labels used at the HWSF are shown on Figure DD-1.

All containers are checked before shipment to ensure that the containers are properly closed to manufacturer specifications, do not leak and are structurally sound. If any drums show signs of deterioration or have questionable integrity, lined and unlined DOT-specification over-pack drums are used to re-containerize the waste. Once a drum has been re-containerized, the over-pack drum is tightly sealed. The over-pack material is chosen depending on the type of waste being contained.

DD.1.a.2 Container Management Practices

All wastes stored at the HWSF are held in drums, lab-packs, or containers that are structurally sound, free of leaks, and in good condition. These may be new, certified reconditioned, or reusable from on-site that previously held the same or compatible wastes. Any waste delivered to the HWSF from ACCS and IAP sites on Edwards AFB that is in an obsolete or defective container is repacked into a new drum or over-pack container.

DD.1.a.2.1 Waste Identification and Container Selection

All wastes to be stored at the HWSF must have a WTID, which gives essential waste identification data. It is the generator's responsibility to properly identify the waste using the WTID with an accompanying waste profile sheet. Before a HW may be taken from an ACCS or IAP site to the HWSF, a copy of the WTID must be submitted to the HWSF facility manager for review and approval. The HWSF facility manager evaluates the information and uses their own knowledge, existing waste profiles, SDSs, and the appropriate DoD Hazardous Materials data sources to determine whether the information is adequate and consistent with the process generating the waste. If a waste is received with questionable composition, the HWSF facility manager may/shall request that additional analysis be performed on any waste stream. Containers are also inspected to ensure that waste is packaged in non-leaking and structurally sound containers that are safe for handling. Wastes without a profile form or a WTID are not accepted at the HWSF.

After identification, the next step is to ensure that all wastes are placed in the correct type of container, that proper materials of construction are used for the container and over-packing material, and that incompatible wastes are not mixed together. If the container is acceptable, a specific storage location within the HWSF is assigned to that container and entered into a HW tracking database. The EPA hazardous material compatibility chart is used to ensure that incompatible wastes are not mixed together. The HWSF will also perform analytical testing of wastes as required to determine compatibility requirements. For laboratory wastes, a detailed log of chemicals and quantities placed in the container is kept so that waste compatibility can be tracked. Wastes are only placed in new or certified reconditioned containers. This precludes the possibility of placing a waste in an unwashed container that previously held an incompatible waste.

The containers used for the storage of HWs are generally 55-gallon drums. Various sized containers, ranging from 1-gallon containers to 250-gallon tri-wall boxes may be used for products that become

waste while still in their original container, such as off-specification material, paint wastes, and miscellaneous debris. Some 85- and 95-gallon drums may also be used for emergency containment of leaking containers and as over-packs, especially for use as emergency containment for any leaking 55-gallon drums. HWs are never placed in containers that previously held an incompatible material or waste. Non-hazardous and non-RCRA wastes are never placed in unwashed containers that previously held a RCRA HW. Under no circumstances are incompatible types of wastes mixed in the same drum.

DD.1.a.2.2 Container Storage

In general, all container storage occurs on recessed recyclable poly pallets except when conditions require the use of wood pallets. Wood pallets are used to ship off-specification product containers that must be shrink-wrapped to a pallet, or tri-wall boxes that must be fastened to a pallet. Containers may also be stored on pallets with integrated secondary containment when conditions require this. Containers may be temporarily placed on floor surfaces without pallets, but only for the short-term movement within the storage areas. No containers are ever placed in storage directly on floor surfaces.

Typical recyclable poly pallets measure 48 inches by 48 inches and are 5.9 inches high. These pallets also have 3.6 inch openings on all sides to accommodate fork-lift rails.[1]

All containers are kept closed during storage or transfer operations to prevent spills. Containers are opened only when necessary to add or remove waste for consolidating, repacking or sampling. Several provisions are made to ensure that containers do not leak or rupture during storage and handling:

- Containers are not filled to capacity to prevent ruptures due to potential expansion of the waste in hot weather;
- Containers are stored on pallets;
- Containers on pallets are never stacked directly on top and in physical contact with of other containers;
- All containers are normally kept inside to protect against weathering, direct sunlight, and rainfall;
- Cooling of storage areas by natural circulation through building vents; and
- Only proper equipment, such as forklifts, pallets, and rigging, are used to handle containers.

Containers are inspected daily/weekly to check for deterioration that might be caused by corrosion or other factors. If any drums show signs of deterioration or questionable integrity, the HWSF staff will use a lined or unlined DOT-specification over-pack drums to re-containerize the waste. In addition, should a leak occur, the leaked waste is contained with a "Safestep" or "Speedi-dry" type absorbent which is available in the spill kits located throughout the HWSF. The leaking container is not moved until it is over-packed. If the material is corrosive, the over-pack drum is lined.

All containers stored in Building 4916 and the Processing/Storage Bays are segregated by HW categories and stored in separate, designated areas. Each area has its own secondary containment. The location of each HW category storage area is shown on Figure DD-2.

[1] Pallet dimensions from product sheet for Model H-4059 Rackable Plastic Pallet, ULINE, http://www.uline.com/PDF/IH-4059-SPFR.PDF.

The placement of containers in the storage areas follows the applicable requirements in Chapter 57 Section 5704.3 of the 2013 California Fire Code for flammables and combustibles stored in a Liquid Storage Warehouse (as defined by the Code). Specifically, adequate aisle space is provided for access to containers, doors, and ventilation openings. Aisles are provided so that all containers are 12 feet or less from an aisle. Main aisles are at least 8 feet wide. Containers are stacked in accordance with code requirements for placement on floors and racks.

The typical layouts of containers within the HWSF storage areas are as follows:

- The front Secondary Containment Area is not provided with storage racks. Tote style containers on secondary containment pallets are placed on the floor and are not stacked. Other containers on pallets may be placed on the floor and are not stacked.
- The East Bay storage area is provided with 12 metal racks for storage of containers. Each rack is 3 feet wide by 12 feet long and each rack allows three levels of storage for up to 9 pallets. Containers on pallets are placed on the floor below the elevated shelves and also on the two levels of elevated shelves.
- The West Bay storage area is provided with 14 metal racks for storage of containers. Each rack is 3 feet wide by 9 feet long and each rack is positioned in a separate cubicle-type enclosure. Each storage rack allows two levels of storage for up to 4 pallets. Containers on pallets are placed on the floor below the elevated shelf and also on the single elevated shelf.
- The Central Access Way is not provided with storage racks. Containers on pallets are placed on the floor and are not stacked.
- The three Processing/Storage Bays are not provided with storage racks. In Processing/Storage Bays 4916A and 4916B, containers on pallets are placed on the floor and are not stacked. Processing/Storage Bay 4916C is used only for storage of containers for solid wastes on pallets, are placed on the floor and may be stacked two levels high.

Figure DD-3 provides the typical layout of containers based on 55 gallon drums unless otherwised noted. The exact arrangement of pallets in the Central Access Way and the three Processing/Storage Bays is subject to operating conditions as these areas are used for both storage and in/out processing of HWs. Based on the above descriptions provided for each HWSF storage area, the **maximum** aggregate volume of all HWs that can be stored in each area is given in Table DD-1. While the total volume of HW that can be stored in the HWSF exceeds the permit limit of 40,480 gallons, no one area can store HW in excess of the permit limit. Operationally, the HWSF will never store HW in exces of the permitted limit.

After temporary storage of the containerized HW at the HWSF, a registered HW hauler transports drums to an off-site permitted TSDF. The requirements of 22 CCR 66268.50(b) and 22 CCR 66268.50(c) allow for fully permitted storage of HW no longer than one year. In no case does the HWSF store any wastes longer than one year.

DD.1.a.2.3 Empty Containers

Procedures for management of empty containers are provided in Section CC. Usable empty drums that meet the empty container definition of 22 CCR 66261.7 are accumulated for crushing as scrap metal/plastics for recycling, or for reuse as containers for similar and compatible waste streams.

Unusable empty containers contaminated with HW or hazardous materials are managed as a HW. The containers are emptied using the standards contained in 40 CFR 261.7 and 22 CCR 66261.7. Unusable empty drums that meet the empty container definition of 22 CCR 66261.7 are accumulated and crushed for disposal as scrap metal.

DD.1.a.2.4 Container Storage Seismic Protection

The foundation and slab floors of Building 4916 and the Processing/Storage Bays were designed and constructed to meet applicable seismic standards as specified under 22 CCR 66270.14(b)(11) and prescribed engineering practices to the following specifications as minimum requirements:

- Subgrade prepared by excavating at least 2 feet below existing grade, bringing in Class 2 aggregate, spreading the aggregate in layers, water and re-compacting to at least 95% compaction of ASTM 0698 (standard Proctor Method).
- Foundation footings at least 18 inches below grade, 12 inches wide at bottom, tapering at a 1:2 ratio on the interior face, and reinforced with No. 4 rebar spaced at 18 inches on center and continuous vertically spaced every 4 inches.
- Structural concrete slab 6 inches thick and reinforced with No. 4 rebar spaced at 12 inches on center each way.

The storage areas in the interior of Building 4916 were constructed to resist the effects of a seismic event and remain operational in the aftermath of such a seismic event. The following standard engineering practices were utilized during construction and for operation of the interior.

East Bay:

- Three-shelf storage racks with base support legs bolted between two 3/8” by 3” angle iron with 5/8” diameter steel bolts. The angle iron is secured to the concrete floor slab by 1/2’’ diameter concrete sleeve anchors (embedded a minimum of 2”).
- Storage racks are individually supported and interconnected by cross-member 3/8” by 3” angle iron secured with 5/8” diameter steel bolts to increase structural integrity, and control sway and toppling during a seismic event.
- All 2nd and 3rd shelf stored HW containers are secured behind 2” ratchet and strap assemblies with a working load rating of 3,500 lbs. to ensure overhead safety during seismic conditions.

West Bay:

- Two-shelf storage racks with base support legs are bolted between two 3/8” by 3” angle iron with 5/8” diameter steel bolts. The angle iron is secured to the concrete floor slab by 1/2’’ diameter concrete sleeve anchors (embedded a minimum of 2”).
- 2nd shelf stored hazardous waste containers are secured behind 2” ratchet and strap assemblies with a working load rating of 3,500 lbs. to ensure overhead safety during seismic conditions.

The interior of the Central Access Way and the three Processing/Storage Bays have no specific seismic engineering practices as HW containers are stored on pallets at slab-level.

Spillage of HWs stored inside Building 4916 and within the three Processing/Storage Bays during a seismic event is addressed by the existing secondary containment system design and operation, as described in Section DD.1.a.3 of this document.

All procedures, equipment, and personnel for responding to emergencies at the HWSF are detailed in the Contingency Plan, included as Appendix 6 in the Base-Wide Information Application Document. Edwards AFB has an extensive program to respond to military attack and civil emergencies, including hazardous or toxic material spills and natural disasters. These same procedures, equipment, and personnel are applicable to any emergencies that result from a seismic event.

DD.1.a.3 Secondary Containment System Design and Operation

This section describes the secondary containment system in Building 4916, the outdoor Front Secondary Containment Area to the north of Building 4916, and the Processing/Storage Bays 4916A and 4916B. Processing/Storage Bay 4916C is used only for storage of solid HWs and is exempt from secondary containment requirements. According to 22 CCR 66264.175(b)(3), secondary containment provided in each designated HW area must be designed to contain at least 10 percent of the aggregate volume of HW stored in that area, plus any rainfall accumulated from a maximum 24-hour/25-year rainfall event (where applicable).

All HWSF flooring surfaces are sloped so that spills, if they occur, flow towards floor sumps or drain-valves to contain spills or leaks within curbed areas. The floors and sump interiors are coated with a surface that is sufficiently impervious to spills. The secondary containment systems and elevations of selected floors, sumps, and curbs within Building 4916 are shown on Figure DD-4.

DD.1.a.3.1 Secondary Containment Design Certification

Building 4916 was built in 1986, and the Processing/Storage Bays were built in 1999. The secondary containment for Building 4916 and the processing/storage areas were inspected in July 2016 by a California licensed professional engineer. An assessment report with a conditional certification statement is provided in Appendix 15.

For the purposes of determining the volume of secondary containment available in each HWSF storage area, the following guidelines were used:

- The smallest distance between parallel sides of the secondary containment curbs in each assessed area was used for the surface dimensions of the containment area;
- The smallest height of the secondary containment curbs in each assessed area was used for the depth dimension of the containment area;
- The volume of all sumps within the secondary containment in each assessed area were included;
- The volume of any additional secondary containment devices on which containers may be placed were not included;
- The volume from floor slopes inside the secondary containment curbs in each assessed area were not included;

- The volume of pallets used to place containers on the floor and totes (if applicable) in each assessed area were deducted from calculated secondary containment volumes; and
- The volume of ramps inside all assessed areas, dividing walls within the West Bay, and rack stands within the East and West Bays were not deducted from calculated secondary containment volumes.

When taken together, the above guidelines are designed to underestimate the available secondary containment volume. Table DD-1 presents the amounts of secondary containment volumes required for each of the assessed HWSF storage areas. Table DD-2 presents the calculated available volume of secondary containment available in each HWSF storage area, and adequacy the available volume of secondary containment against the requirements for each storage area. Details regarding all volumes are provided in Appendix 15. The following sections discuss specifics for each of the assessed areas.

DD.1.a.3.2 Secondary Containment System for Building 4916

Building 4916, including the Central Access Way, East Bay and West Bay, receives and stores HW in containers. The building has exterior metal walls and roof, an epoxy-coated concrete floor, and interior fire-rated walls. Overall dimensions are 40 feet by 100 feet. Since the storage areas are inside Building 4916, rain will not fall into the secondary containment systems. The building has a pitched roof and rain gutters to divert run-off away from the building. Also, the terrain around the building slopes away from the building to prevent run-on into the facility. Accordingly, the secondary containment systems within Building 4916 do not need to account for rain from a 24-hour/25-year storm event.

Each of the three areas in Building 4916 has secondary containment in case of spills. This containment is provided by 6 inch containment curbs under all exterior walls, and approximately 5 inch containment curbs under all interior walls, and sumps or trenches in each storage area. However, the interior containment curbs are discontinued at the roll-up doorways between the Central Access Way and the East and West Bays. The West Bay is further subdivided into 14 smaller storage/containment compartments with dividing walls, and containment trenches for each compartment.

The containment area for the East Bay is a single common floor area for all the storage racks and has as its smallest surface dimensions 38 feet by 39.5 feet and a curb depth of 5 inches. The area includes two 20 inch long by 20 inch wide by 22 inch deep sumps. The floor areas within the East Bay are sloped towards the sumps. In the event of a small release the HW liquid would flow across the floor and be retained within two floor sumps. Larger HW liquid releases would collect within East Bay and eventually flow into adjoining Central Assess Way. The secondary containment available in the East Bay is 4,310 gallons and is considered satisfactory for the maximum number of 55-gallon drums that can be stored in this area. In addition, the pallets typically used are 5.9 inches high – higher than the smallest curb depth of 5 inches and thus prevent contact of any spills with containers.

The containment area for the West Bay is a single common floor area for all the storage racks and has as its smallest surface dimensions 39.5 feet by 39.8 feet and a curb depth of 4.8 inches. The containment area is further divided into 14 separate compartments divided by 10-foot high concrete block walls on three sides. This allows for incompatible wastes to be stored in separate compartments. As such, each compartment is approximately 10 feet by 8 feet and includes a single 70 inch long by 8 inch wide by 24

inch deep strip sump. The floor areas within each compartment in the West Bay are sloped towards the strip sumps. In the event of a small release the HW liquid would flow across the floor within each compartment and be retained within its floor sump. Larger HW liquid releases would collect within West Bay and eventually flow into adjoining Central Assess Way. The total secondary containment available in the West Bay is 5,109 gallons and is considered satisfactory for the maximum number of 55-gallon drums that can be stored in this area. Within each of the compartments, the sump can hold 58 gallons. Each compartment can store up to 16 55-gallon drums, or 880 gallons. Since the West Bay can be used to store incompatible wastes, HWSF operations limits each compartment to no more than 10 drums, or 550 gallons, and is compliant with the 10% regulatory requirement. In addition, the pallets typically used are 5.9 inches high – higher than the smallest curb depth of 5 inches and thus prevent contact of any spills with containers.

The containment area for the Central Access Way is a single common floor area and has as its smallest surface dimensions 34 feet by 19 feet and a curb depth of 4.5 inches. The area includes three sumps; one sump located in the center of the access area and is 21 inches long by 19 inches wide by 23 inches deep; and two strip sumps located in the south portion of the area and are each 70 inches long by 8 inches wide by 23 inches deep. The floor areas within the Central Access Way are sloped towards the sumps. In the event of a small release the HW liquid would flow across the floor and be retained within two floor sumps. Larger HW liquid releases would collect within Central Assess Way and eventually flow into adjoining East and West Bays. The secondary containment available in the Central Assess Way is 1,895 gallons and is considered satisfactory for the maximum number of 55-gallon drums that can be stored in this area. In addition, the pallets typically used are 5.9 inches high – higher than the smallest curb depth of 4.5 inches and thus prevent contact of any spills with containers.

When taken as a whole, the secondary containment systems within Building 4916 are actually capable of holding up to 30% (11,315 gallons) of the aggregate operating capacity (37,400 gallons) for the building. This far exceeds the 10% regulatory requirement and provides a substantial safety factor for containment of spills and leaks with the facility.

All floor surfaces within Building 4916 are sloped towards the sumps or trenches to prevent standing liquids and to facilitate the cleanup of spills. Also, the concrete floors are sealed with epoxy to create an impervious surface that is chemically resistant and will contain spills. Any container that leaks or spills will be found during daily or weekly inspections and cleaned up within one day to prevent potential overflow of the secondary containment systems. Smaller leaks and spills are handled by on-site personnel using equipment described in Section 5.d of the Contingency Plan provided in Appendix 6 of this Application document. Portable hand-pumps can be used to pump out sumps and spills. Larger leaks and spills are handled by on-site personnel with assistance from the Edwards AFB Fire Department and its HAZMAT response assets, and as required, emergency procedures as described in Section 4 of the Contingency Plan provided in Appendix 6 of this Application document.

All collected spilled waste, clean-up absorbents and related materials will be handled as HWs with proper waste analysis, over-packing, labeling, and disposed of in accordance with the procedures outlined in this

Application document. Additionally, Edwards AFB can quickly contract with authorized vendors to provide pump-put services for larger spills.

DD.1.a.3.3 Secondary Containment System for the Processing/Storage Bays

The Processing/Storage Bays are designed for receiving, staging, storage, consolidation and shipment preparation of HW in containers. The bay area consist of a 32 foot by 100 foot structural concrete slab with a complete metal roof and is enclosed on all exterior sides. It is divided into three separate bays (4916A, 4916B, and 4916C) to provide separate containment for flammables, acids, bases and solids. Metal fire-rated wall panels have been installed between each bay to separate incompatibles and meet 22 CCR 66264.177(c). Since the Processing/Storage Bays are fully enclosed, rain will not fall into the secondary containment systems. The structure has a pitched roof and rain gutters to divert run-off away from the building. Also, the terrain around the structure slopes away from the building to prevent run-on into the facility. Accordingly, the secondary containment systems within Processing/Storage Bays do not need to account for rain from a 24-hour/25-year storm event.

Each of the three bays have secondary containment in case of spills. This containment is provided by 6 inch containment curbs under all exterior walls, and approximately 5 inch containment curbs under all interior walls. Each bay has sloped floors used for spill containment.Sumps are not provided for any of the bays. Drain valves are provided at the south side of each area.

The containment area for Bay 4916A is a single common floor area and has as its smallest surface dimensions 31 feet by 29 feet and a curb depth of 5.5 inches. The secondary containment available in Bay 4916A is 2,843 gallons and is considered satisfactory for the maximum number of 55-gallon drums that can be stored in this area. In addition, the pallets typically used are 5.9 inches high – higher than the smallest curb depth of 5.5 inches and thus prevent contact of any spills with containers.

The containment area for Bay 4916B is is a single common floor area and has as its smallest surface dimensions 38.8 feet by 22 feet and a curb depth of 5.5 inches. The secondary containment available in Bay 4916A is 2,677 gallons and is considered satisfactory for the maximum number of 55-gallon drums that can be stored in this area. In addition, the pallets typically used are 5.9 inches high – higher than the smallest curb depth of 4.5 inches and thus prevent contact of any spills with containers.

Bay 4916C is used only for storage of solid HWs and is exempt from secondary containment requirements.

When taken as a whole, the secondary containment systems within Bays 4916A abd 4916B are actually capable of holding up to 64% (5,520 gallons) of the aggregate operating capacity (8,580 gallons) for the bays. This far exceeds the 10% regulatory requirement and provides a substantial safety factor for containment of spills and leaks with the facility.

All floor surfaces within the Processing/Storage Bays are sloped towards a low point to prevent standing liquids and to facilitate the cleanup of spills. Also, the concrete floors are sealed with epoxy to create an impervious surface that is chemically resistant and will contain spills. Any container that leaks or spills will be found during daily or weekly inspections and cleaned up within one day to prevent potential

overflow of the secondary containment systems. Smaller leaks and spills are handled by on-site personnel using equipment described in Section 5.d of the Contingency Plan provided in Appendix 6 of this Application document. Portable hand-pumps can be used to pump out spills. Larger leaks and spills are handled by on-site personnel with assistance from the Edwards AFB Fire Department and its HAZMAT response assets, and as required, emergency procedures as described in Section 4 of the Contingency Plan provided in Appendix 6 of this Application document.

All collected spilled waste, clean-up absorbents and related materials will be handled as HWs with proper waste analysis, over-packing, labeling, and disposed of in accordance with the procedures outlined in this Application document. Additionally, Edwards AFB can quickly contract with authorized vendors to provide pump-put services for larger spills.

DD.1.a.3.4 Front Secondary Containment Area

The Front Secondary Containment area is an open area located in front (north side) of Building 4916 and is designed for receiving, processing, and storing HW in tote-style containers. The area in has no walls or roofing, resulting in rain accumulation into the secondary containment systems. The terrain around the area is sloped away to prevent run-on. Accordingly, the secondary containment systems within Front Secondary Containment area does need to account for rain from a 24-hour/25-year storm event.

The containment area is a single common area and has as its smallest surface dimensions 40.5 feet by 12 feet and a curb depth of 5.5 inches. No sumps are provided. A drain valve is provided at the northeast corner of the area. The secondary containment available in the area is 1,260 gallons and is considered satisfactory for the maximum number of 350-gallon totes that can be stored in this area. In addition, the totes are placed on pallets with integrated secondary containment that elevates the totes well above the containment area, thus preventing contact of any spills with containers.

The floor surface within the Front Secondary Containment area is sloped towards a low point to prevent standing liquids and to facilitate the cleanup of spills. The concrete floor is not sealed. Any container that leaks or spills will be found during daily or weekly inspections and cleaned up within one day to prevent potential overflow of the secondary containment systems. Smaller leaks and spills are handled by on-site personnel using equipment described in Section 5.d of the Contingency Plan provided in Appendix 6 of this Application document. Portable hand-pumps can be used to pump out spills. Larger leaks and spills are handled by on-site personnel with assistance from the Edwards AFB Fire Department and its HAZMAT response assets, and as required, emergency procedures as described in Section 4 of the Contingency Plan provided in Appendix 6 of this Application document.

All collected spilled waste, clean-up absorbents and related materials will be handled as HWs with proper waste analysis, over-packing, labeling, and disposed of in accordance with the procedures outlined in this Application document. Additionally, Edwards AFB can quickly contract with authorized vendors to provide pump-put services for larger spills.

DD.1.a.3.5 Description of Secondary Containment for Loading and Unloading Areas

Normal access to the HWSF is through the north/central gate and by asphalt paved areas that extend to the north side of Building 4916 and to the south side of the processing/storage area. Loading and unloading

activities take place in both areas. These areas slope towards containment trenches provided in this area. Portable booms and other emergency equipment are available to the HWSF in case of spills.

DD.1.b Containers Without Free Liquids

Wastes that do not contain free liquids typically include solid waste debris, soils, rags, absorbent material contaminated with spill residue, and abrasive blasting media contaminated with paint chips, etc. The HWSF HWs that are solids are managed using the same applicable container procedures as discussed in Section DD.1.a.

In addition to managing containers of solid HW, the HWSF is authorized to consolidate and bulk non-RCRA solid HW. This is accomplished on the open asphalt paved area immediately south of the Building 4916 processing/storage bays. The area is approximately 125-feet wide and 45-feet deep, and is shown in Figure BB-1, and Figures DD-2 and DD-3. Consolidation and bulking operations can take place anywhere within the confines of the paved asphalt area. Additional procedures for the consolidation and bulking of non-RCRA solid HWs are detailed in the following sections.

DD.1.b.1 Test for Free Liquids

Drummed non-RCRA solid HWs received at the HWSF may be off-loaded into tip-hoppers. Prior to consolidation into the tip hoppers, the drummed non-RCRA HW will be inspected to ensure proper identification/classification and to assess the presence of any free liquids. If residual free liquids are identified, the following operational procedures are followed:

- If visible free liquids on top of the container are identified by HWSF personnel, the container will be closed, re-profiled as a liquid HW, and handled in accordance with the procedures given in Section DD.1.a.
- If residual free liquids are not visible during the initial inspection (residual liquids on the bottom the original HW container), but identified by HWSF personnel during bulking into the tip hoppers, the residual liquid will be held back in the hopper and pumped out and handled in accordance with the procedures given in Section DD.1.a.
- If residual liquids are identified by HWSF personnel in the tip hopper after the waste has been bulked, the residual liquid will be pumped out of the hopper and handled in accordance with the procedures given in Section DD.1.a.

DD.1.b.2 Description of Containers

Drummed non-RCRA solid HWs received at the HWSF may initially be off-loaded into two- to five-cubic yard tip hoppers utilizing a forklift hydraulic drum tipper, or directly into roll-off bins. The tip hoppers are then lifted by forklift and tipped into the roll-off bins. The roll-off bins range from 10- to 40-cubic yards in size, are plastic lined and have removable covers.

DD.1.b.3 Container Management Practices

The roll-off bins are staged on the asphalt paved loading and waste consolidation/bulking area located south of the Building 4916 processing/storage bays. The tip hoppers will be emptied the same day waste is added to them – no storage in the tip hoppers greater than 8 hours will be allowed.

DD.1.b.4 Container Storage Area Drainage

The roll-off bins are plastic lined and have removable covers. When not in use, the bin covers are kept closed. There is minimal likelihood of any rain intrusion into the bins or leakage. Containment of any leakage from the bins is as described in Section DD.1.a.3.4.

DD.1.b.5 California Health & Safety Code §25200.19 Compliance

Pursuant to §25200.19(b), the specific requirements of §25200.19(c) are applicable to the HWSF non-RCRA solid HW consolidation and bulking operations.

All non-RCRA solid HW consolidation and bulking operations are accomplished only within the permitted confines of the HWSF. Since no non-RCRA solid HW consolidation and bulking operations take place outside of the HWSF, the requirements of §25200.19(c)(1) do not apply, and compliance with §25200.19(c)(2) is demonstrated accordingly.

To ensure compliance with the permitted capacity given in Section DD.1, the HWSF maintains an inventory of all containers in storage within the HWSF. In accordance with §25200.19(c)(3), this inventory includes all consolidated and bulked non-RCRA solid HW. At no time can the total HW of all types exceed the permitted capacity given in Section DD.1.

The procedures described in Sections DD.1.b.1 – DD.1.b.4 minimize the possibility of leaks and spills from the tip-hoppers and roll-off bins, and ensure compliance with the requirements of §25200.19(c)(4)(A).

DD.2 TANK SYSTEMS

No tank systems are used at the HWSF to store or treat HW. This subsection is not applicable.

DD.3 WASTE PILES

No waste piles are used at the HWSF to store or treat HW. This subsection is not applicable.

DD.4 SURFACE IMPOUNDMENTS

No surface impoundments are used at the HWSF to store, treat, or dispose of hazardous waste. This subsection is not applicable.

DD.5 INCINERATORS

No incinerators are used at the HWSF to burn HW. This subsection is not applicable.

DD.6 LANDFILLS

No landfills are used at the HWSF to dispose of HW. This subsection is not applicable.

DD.7 LAND TREATMENT

The HWSF is not land treatment units per the definition provided in 22 CCR 66260.10. This subsection is not applicable.

DD.8 MISCELLANEOUS UNITS

The HWSF is not a miscellaneous unit as defined in 22 CCR 66264.600. This subsection is not applicable.

DD.9 BOILERS AND INDUSTRIAL FURNACES

Boilers and industrial furnaces are not used at the HWSF to burn HW. This subsection is not applicable.

DD.10 CONTAINMENT BUILDINGS

Containment buildings are not used at the HWSF to store HW. This subsection is not applicable.

DD.11 DRIP PADS

Drip pads are not used at the HWSF to treat or store HW. This subsection is not applicable.

Table DD-1. Maximum Number of Containers in HWSF Storage Areas and Required Secondary Containment Volumes

HWSF Storage Area	Maximum Number of Containers Stored[a]	Aggregate Volume of All Containers[a] (gallons)	Rainfall Volume[b] (gallons)	Requirement for Secondary Containment Volume[c] (gallons)
Front Secondary Containment[d]	4	1,400	575	198
East Bay[e]	432	23,760	0	2,376
West Bay	224	12,320	0	1,232
Central Access Way	24	1,320	0	132
4916A	76	4,180	0	418
4916B	80	4,400	0	440
4916C[f]	152	8,360	0	0

[a] Based on 55-gallon drums unless as otherwise noted.

[b] Applies only to the Front Secondary Containment Area. 24-hour/25-year storm event for Edwards AFB resulted in 2.51 inches of rain. Affected area has 369 sq ft of available space to collect rainwater = 575 gallons of water (369 sq ft X 0.21 ft rain x 7.42 gal per cubic foot). 369 sq ft of available space = 486 sq ft for containment area – 117.4 sq ft for 4 totes on pallets (29.34 sq ft per pallet).

[c] This volume must be at least 10% of aggregate volume of all containers + rainfall.

[d] Aggregate volume of all containers based on four (4) 350-gallon totes.

[e] The number of containers is actually less than what is shown due to space restrictions within the racks. The greater number of containers shown in Table DD-1 overestimates the amount of secondary containment required and as such is a conservative approach.

[f] Processing/Storage Bay 4916C is used only for management of solid HWs and is therefore exempt from secondary containment requirements.

Table DD-2. Assessment of Secondary Containment Volumes in HWSF Storage Areas

HWSF Storage Area	Curbed Floor Secondary Containment Volume[a] (gallons)	Volume of Sumps[b] (gallons)	Volumes Deducted (gallons)	Net Available Secondary Containment Volume[c] (gallons)	Secondary Containment Adequate?
Front Secondary Containment	1,659	0	399[d]	1,260	Yes
East Bay	4,641	76	407[e]	4,310	Yes
West Bay	4,612	814	316[f]	5,109	Yes
Central Access Way	1,812	152	68[g]	1,896	Yes
4916A	3,057	0	215[h]	2,843	Yes
4916B	2,903	0	226[i]	2,677	Yes
4916C[j]	--	--	--	--	--

[a] Curbed floor volume = smallest length X smallest width X smallest curb depth. 1 Cubic Foot = 7.42 gallons. Floor slopes ignored and results in an under estimation of actual containment volume and as such is a conservative approach.

[b] Volume of each sump = sump length X sump width X sump depth. 1 Cubic foot = 7.42 gallons.

[c] Net available secondary containment volume = curbed floor volume + sump volume - deductions

[d] 4 65-inch x 65-inch tote pallets (with integrated secondary containment) x 5.5-inch containment curb = 399 gallons deducted. 1 Cubic foot = 7.42 gallons.

[e] 36 48-inch x 48-inch pallets on floor, 11.3 gallons displaced volume per pallet = 407 gallons deducted. Pallet volume = 48 inces X 48 Inches X (5.9 inches high – 3.6 inch open space) X 50% solid space. Volume of rack stands at floor level ignored as insignificant when compared to net available containment versus requirement.

[f] 28 48-inch x 48-inch pallets on floor, 11.3 gallons displaced volume per pallet = 316 gallons deducted. Pallet volume = 48 inces X 48 Inches X (5.9 inches high – 3.6 inch open space) X 50% solid space. Volume of rack stands and interior block walls at floor level ignored as insignificant when compared to net available containment versus requirement.

[g] 6 48-inch x 48-inch pallets on floor, 11.3 gallons displaced volume per pallet = 68 gallons deducted. Pallet volume = 48 inces X 48 Inches X (5.9 inches high – 3.6 inch open space) X 50% solid space.

[h] 19 48-inch x 48-inch pallets on floor, 11.3 gallons displaced volume per pallet = 215 gallons deducted. Pallet volume = 48 inces X 48 Inches X (5.9 inches high – 3.6 inch open space) X 50% solid space. Volume of ramp ignored as insignificant when compared to net available containment versus requirement.

[i] 20 48-inch x 48-inch pallets on floor, 11.3 gallons displaced volume per pallet = 226 gallons deducted. Pallet volume = 48 inces X 48 Inches X (5.9 inches high – 3.6 inch open space) X 50% solid space. Ramp entry into 4916B ignored as it has been accounted for in the floor dimension measurements for 4916B.

[j] Processing/Storage Bay 4916C is used only for management of solid HWs and is therefore exempt from secondary containment requirements.

Figure DD-1. Example of a Hazardous Waste Label

EXAMPLE OF A HAZARDOUS WASTE LABEL

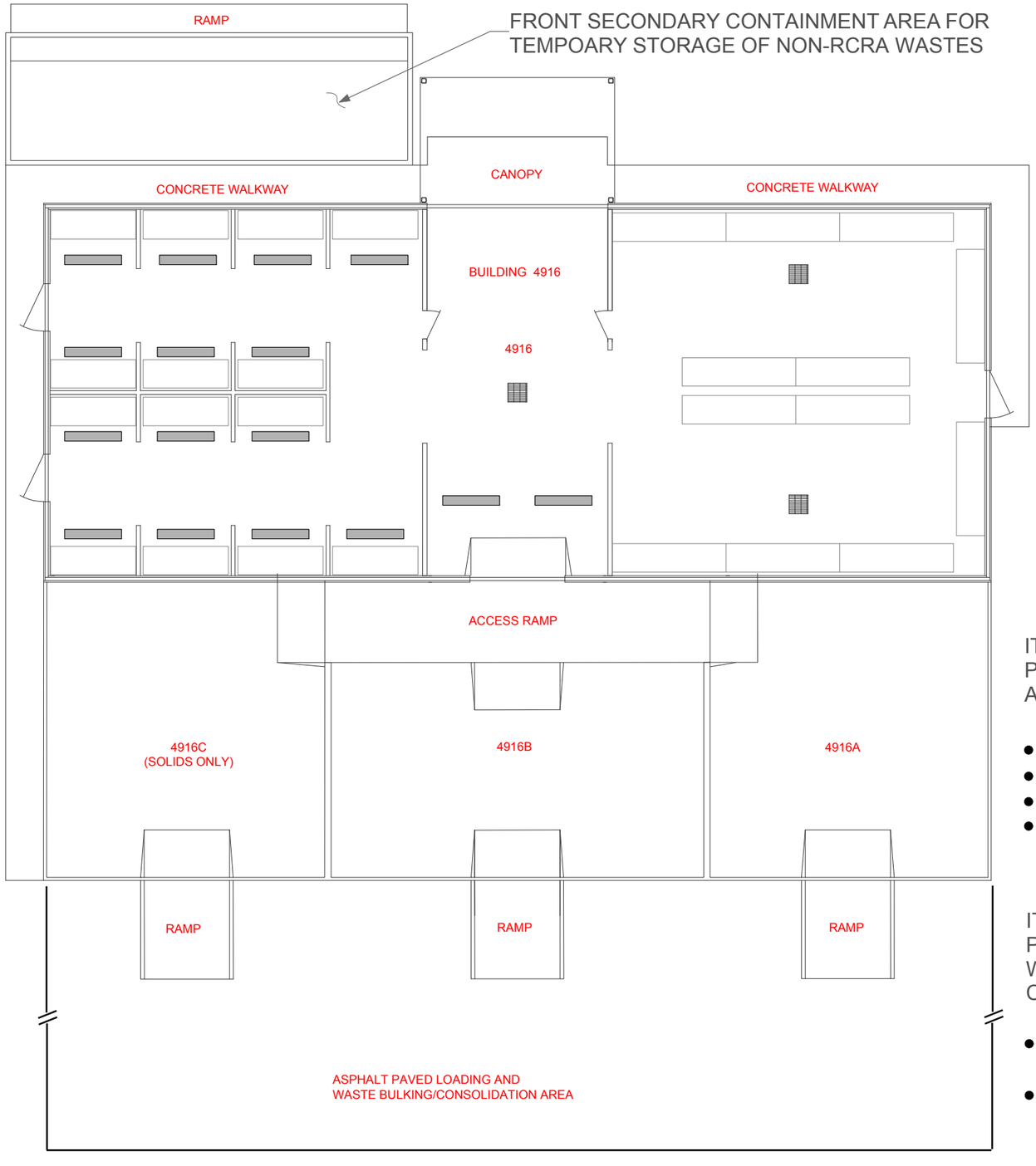
Project No.: 29875499	Date: May 2015	Project: RCRA PART B PERMIT RENEWAL APPLICATION EDWARDS AIR FORCE BASE	Figure DD-1

L:\ECAS\29875499 - Edwards AFB RCRA Permit Renewal\Technical\
Task 3 - Permit Renewal\2014 Figures\example of haz waste label.fh10

Figure DD-2. Location of Hazardous Waste Categories in HWSF Storage Areas

ITEMS STORED IN WEST BAY SIDE OF BLDG. 4916

- ACIDS
- BASES
- OXIDIZERS
- PEROXIDES
- TOXICS
- REACTIVES
- CLASS 9



ITEMS STORED IN EAST BAY SIDE OF BLDG. 4916

- FLAMMABLES
  - NON-FLAMMABLE GAS
- COMBUSTIBLES
  - SOLID
  - LIQUID
  - GAS
- NON-RCRA WASTES
- CLASS 9

ITEMS STORED IN PROCESSING/STORAGE AREAS 4916A, B AND C:

- FLAMMABLES
- ACIDS
- BASES
- SOLIDS

ITEMS STORED IN ASPHALT PAVED LOADING AND WASTE BULKING/ CONSOLIDATION AREA

- ITEMS STAGED FOR SHIPMENT TO DISPOSAL SITES
- BULKED / CONSOLIDATED NON-RCRA SOLID WASTES

Legend

- Sump
- Storage Racks

N

0 13

Feet

Approximate Scale: 1' = 13 feet

LOCATION OF HAZARDOUS WASTE CATEGORIES IN HWSF STORAGE AREAS

RCRA PART B PERMIT RENEWAL APPLICATION EDWARDS AIR FORCE BASE

Proj. No.	29875499
Date	Feb 2017

FIGURE DD-2

Figure DD-3. Container Layout Plan for HWSF Storage Areas

Legend

- 40" x 48" Pallets In Storage
- 48" x 48" Pallets In Processing or Stoarge
- 48" x 48" Pallets In Storage
- Plastic Totes
- Drain Valve
- Sump

N

0 13

Feet

Approximate Scale: 1' = 13 feet

CONTAINER LAYOUT PLAN FOR HWSF STORAGE AREAS

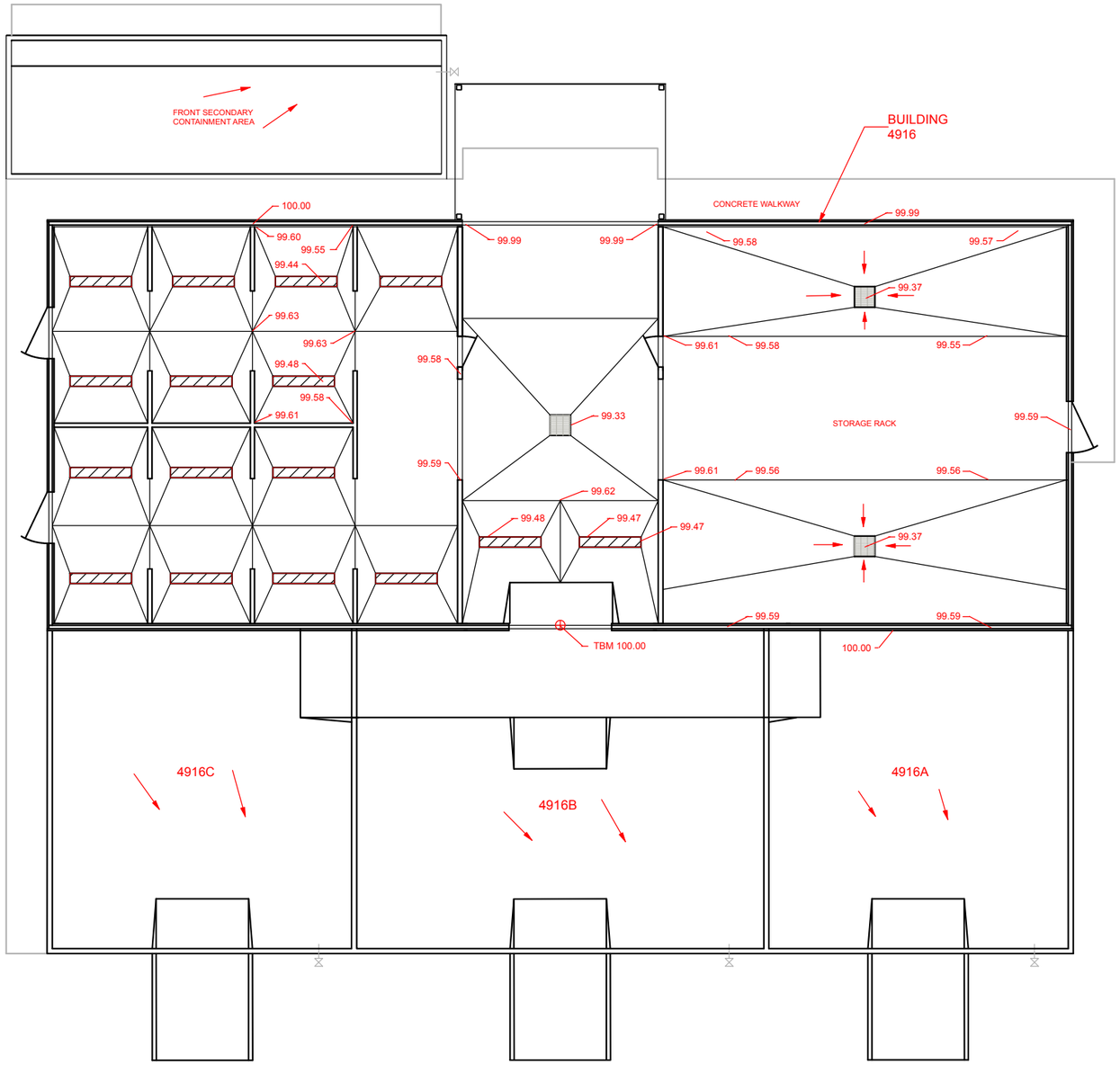
RCRA PART B PERMIT RENEWAL APPLICATION EDWARDS AIR FORCE BASE

Proj. No.	29875499
Date	Feb 2016

FIGURE DD-3

\\Edwards_AFB_HWSF_Amv_Tona_mxd\Amv_Tona_DD-2_DD-3_27Jan2015\HWSF_Figure_DD-3_Container_Layout_27Jan2015.mxd

Figure DD-4. Floor Elevations at Various Locations in HWSF Storage Areas



Legend

Temporary Bench Mark
TBM 100.00

Elevation at Point
99.59

Containment Sumps

Buildings

N

0 13
Feet

Approximate Scale: 1' = 13 feet

FLOOR ELEVATIONS AT VARIOUS LOCATIONS IN HWSF STORAGE AREAS

RCRA PART B PERMIT RENEWAL APPLICATION EDWARDS AIR FORCE BASE

Proj. No. 29875499	**FIGURE DD-4**
Date May 2015	

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EE. GROUNDWATER MONITORING

EE.1 EXEMPTION FROM GROUNDWATER PROTECTION REQUIREMENTS

22 CCR 66270.14(c)(5) requires that specific information be provided by owners or operators of HW facilities containing a "regulated unit". A regulated unit is defined in 22 CCR 66264.90(a) as a surface impoundment, waste pile, or land treatment unit or landfill that receives HW. This section is not applicable to Edwards AFB as the HWSF does not place HWs in surface impoundments, waste piles, land treatment units or landfills.

The HWSF is located in an area of Edwards AFB that is subject to ongoing CERCLA activities. For the purposes of CERCLA management, the HWSF is located in OU 8, Site 61. Site 61 includes numerous groundwater monitoring wells used to support CERCLA activities. Information on site 61 monitoring wells is provided in the following sections and subsections. Since the HWSF is not subject to groundwater monitoring for compliance with a RCRA HW Facility Permit, the information provided is general and specific to current conditions only. The most current groundwater monitoring data for Site 61 is from the 2013 Groundwater Monitoring Report, and includes additional references therein that provides historical background.[2]

EE.2 INTERIM STATUS GROUNDWATER MONITORING DATA

EE.2.a Description of Wells

Groundwater monitoring at Site 61 was initiated in 1993. Over time, the monitoring program has expanded to the current network of 46 monitoring wells, of which 14 are located within the HWSF fenceline, or are immediately adjacent to the HWSF fenceline. There are additional wells in the areas surrounding the HWSF. Figure EE-1 shows the well locations associated with Site 61.

There are two distinct hydrologic zones within the groundwater at Site 61. The upper hydrologic zone is present at depths up to 120 feet and includes 39 monitoring wells screened for this zone. The lower hydrologic zone is present from depths of 130 feet to at least 250 feet (the deepest point monitored at the site) and includes 7 monitoring wells screened for this zone.

The wells at Site 61 were installed between 1993 and 2012. Annual sampling of the Site 61 wells has been ongoing since 2003. Details on well construction are provided in the 2013 Groundwater Monitoring Report and references therein.

EE.2.b Description of Sampling and Analysis Procedures

Wells in Site 61 are sampled using non-dedicated and ancillary equipment for certain wells, and dedicated bladder pumps and associated well piping for the remainder. During purging, the pH, electrical conductivity, oxidation-reduction potential, dissolved oxygen, temperature, and turbidity of the extracted water are measured and tracked until these parameters stabilize. Following purging, groundwater samples

[2] Tetra Tech, Inc., Installation Restoration Program, 2013 Groundwater Monitoring Report, Sites 61, 299, and 301, Operable Unit 8, Edwards AFB, California, September 2014.

were collected directly from discharge piping/tubing, and are collected from each well using laboratory-supplied, clean, method-appropriate containers.

All monitoring well samples are analyzed for: Volatile Organic Compounds (VOC); dissolved gases (ethene, ethane, and methane) and carbon dioxide; total alkalinity; Manganese; Sulfides; and chloride, nitrate, and sulfate anions. All analyses are accomplished using the most current EPA methods.

EE.2.c Monitoring Data

Results of the most recent well samplings are provided in the 2013 Groundwater Monitoring Report. The contaminants of concern (CoC) that appear routinely above method detection limits and maximum contaminant levels are Trichloroethylene (TCE) and Benzene.

The 2013 sampling event showed TCE in groundwater at concentrations up to 3,400 micrograms/liter (µg/L) southeast of the HWSF at well 61-MW03, and Benzene in groundwater at concentrations up to 10 µg/L southeast of the HWSF at well 61-MW12A.

EE.2.d Statistical Procedures

Quality Assurance/Quality Control (QA/QC) samples consisted of field duplicates, equipment blanks, matrix spike/matrix spike duplicates, and trip blank samples. Field duplicates were collected at a frequency of at least ten percent (one for every ten non-replicate samples) to assess sampling and analytical precision.

EE.2.e Groundwater Assessment Plan

Groundwater monitoring activities at Site 61 continues on an annual basis as part of the CERCLA program. There are no plans at this time to change or augment the monitoring program. Assessment of groundwater data from sampling events continues under CERCLA to evaluate the effectiveness of remediation actions.

EE.3 GENERAL HYDROGEOLOGIC INFORMATION

Hydrogeological information on Edwards AFB is presented in section B of the Base-Wide Information Application document.

EE.3.a Nearest Water Supply Well

The water supply wells nearest to the HWSF and Site 61 are Wells C-3 and C-4 approximately 6 miles to the southwest in an open area on base. There are no public supply wells, springs, other surface water bodies, or drinking water wells are located within 1/4 mile of the HWSF.

EE.3.b Groundwater Depth Beneath Facility

Shallow groundwater occurs in a fractured bedrock aquifer below Site 61. The HWSF is at an average elevation of 2,343 feet above msl.

The 2013 sampling event shows that within the upper hydrologic zone, groundwater elevations ranged from a high of 2,230 feet above msl through the center of the HWSF to a low of 2,280 feet above msl to the southeast of the HWSF. The 2013 sampling event shows that within the lower hydrologic zone, groundwater elevations ranged from a high of 2,287 feet above msl through outside of the HWSF to a low of 2,283 feet above msl to the southeast of the HWSF.

The general flow of groundwater within both hydrologic units is to the east and southeast from the HWSF, and generally follows the topography of the surface. The 2013 sampling shows that the hydraulic gradient within the upper hydrologic zone was oriented predominantly to the east and shifted slightly to the southeast. The magnitude of the gradient varied between an average of 0.14 foot per foot on-site and 0.02 foot per foot off-site. The 2013 sampling event shows that the hydraulic gradient within the lower hydrologic zone was oriented to the southeast at an average magnitude of 0.005 foot per foot.

Figure EE-2 provides the groundwater potentiometric surface maps for OU 8/Site 61, and shows the groundwater elevations within both the upper and lower hydrologic units.

EE.4 TOPOGRAPHIC MAP REQUIREMENTS

The boundaries of the HWSF are delineated on the topographic map provided in Appendix 10b. Information on the uppermost aquifer and aquifers hydraulically interconnected beneath the facility property are not included on the topographic map. However, they are described in Section B of the Base-Wide Information Application document.

EE.5 CONTAMINANT PLUME DESCRIPTION

The most significant contaminant plume is associated with TCE. The plume runs from a central north-south axis within the boundaries of Site 61 and extends out to 1,200 feet east and southeast of the HWSF. Compared to previous baseline studies, the TCE plume has expanded and/or migrated predominantly to the east and southeast within both the upper and lower hydrologic zones. Compared to previous baseline studies, concentrations of TCE in the groundwater have been decreasing in the wells closest to the HWSF and increasing in wells east and southeast of the HWSF.

The lesser contaminant plume is associated with Benzene. The plume runs from the eastern edge of the HWSF fencline and extends out to 450 feet east and southeast of the HWSF. Compared to previous baseline studies, the Benzene plume has contracted approximately 90 percent in areal extent within the upper hydrologic zone and migrated to the southeast approximately 300 feet. Within the lower hydrologic zone, the plume has migrated to the southeast and has not changed in areal extent. Compared to previous baseline studies, concentrations of Benzene in the groundwater have been decreasing at all wells where Benzene is detected.

EE.6 GENERAL MONITORING PROGRAM REQUIREMENTS

Groundwater monitoring activities at Site 61 continues on an annual basis as part of the CERCLA program. There are no plans at this time to change or augment the monitoring program.

EE.7 DETECTION MONITORING PROGRAM

Groundwater monitoring activities at Site 61 continues on an annual basis as part of the CERCLA program. There are no plans at this time to change or augment the monitoring program.

EE.8 CORRECTIVE ACTION PROGRAM

All corrective actions within Site 61 are accomplished by the Edwards AFB CERCLA program. Specific locations within Site 61 have been subject to efforts to volatize VOCs bound to the soil and drive contaminants to the peripheral wells. Steam injection into the subsurface was combined with vapor extraction using a liquid ring vacuum pump system and liquid extraction using groundwater extraction pumps. Recovered vapor and liquids were treated on-site using granular activated carbon. The effectiveness of these remediation actions continues to be evaluated and managed under CERCLA.

Figure EE-1. Location of Monitoring Wells Associated with OU 8/Site 61

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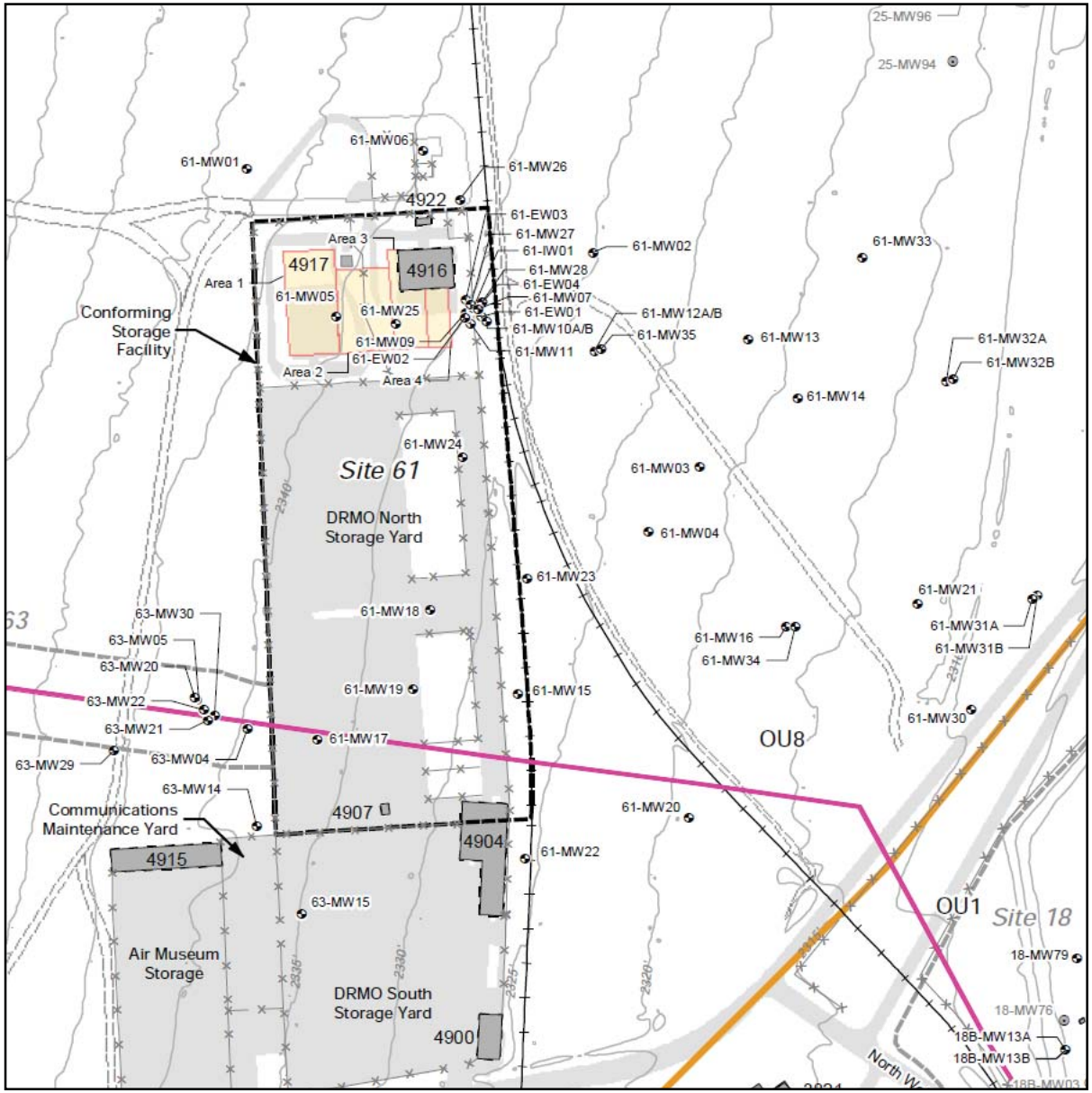
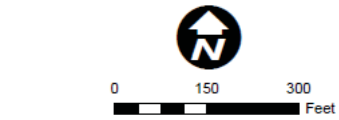
Task 3 - Permit Renewal\2014 Figures\ Figure EE-1.AI





LOCATION OF MONITORING WELLS ASSOCIATED WITH OU 8/SITE 61

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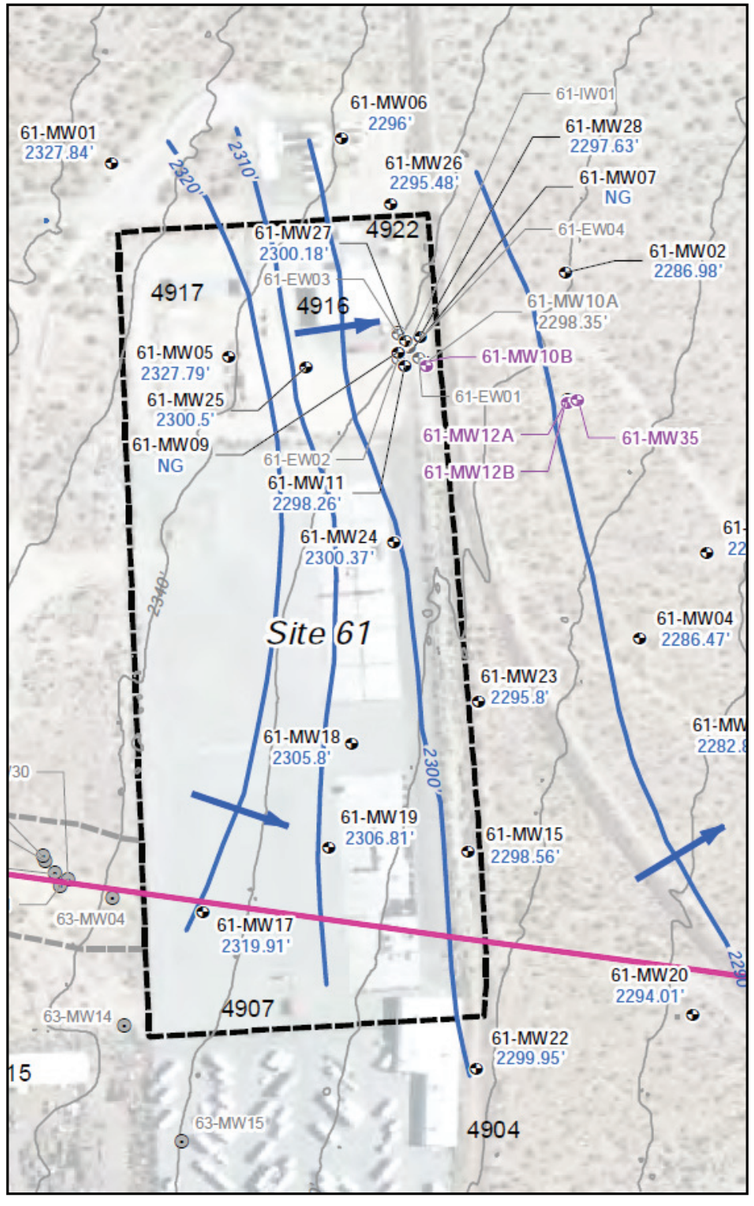
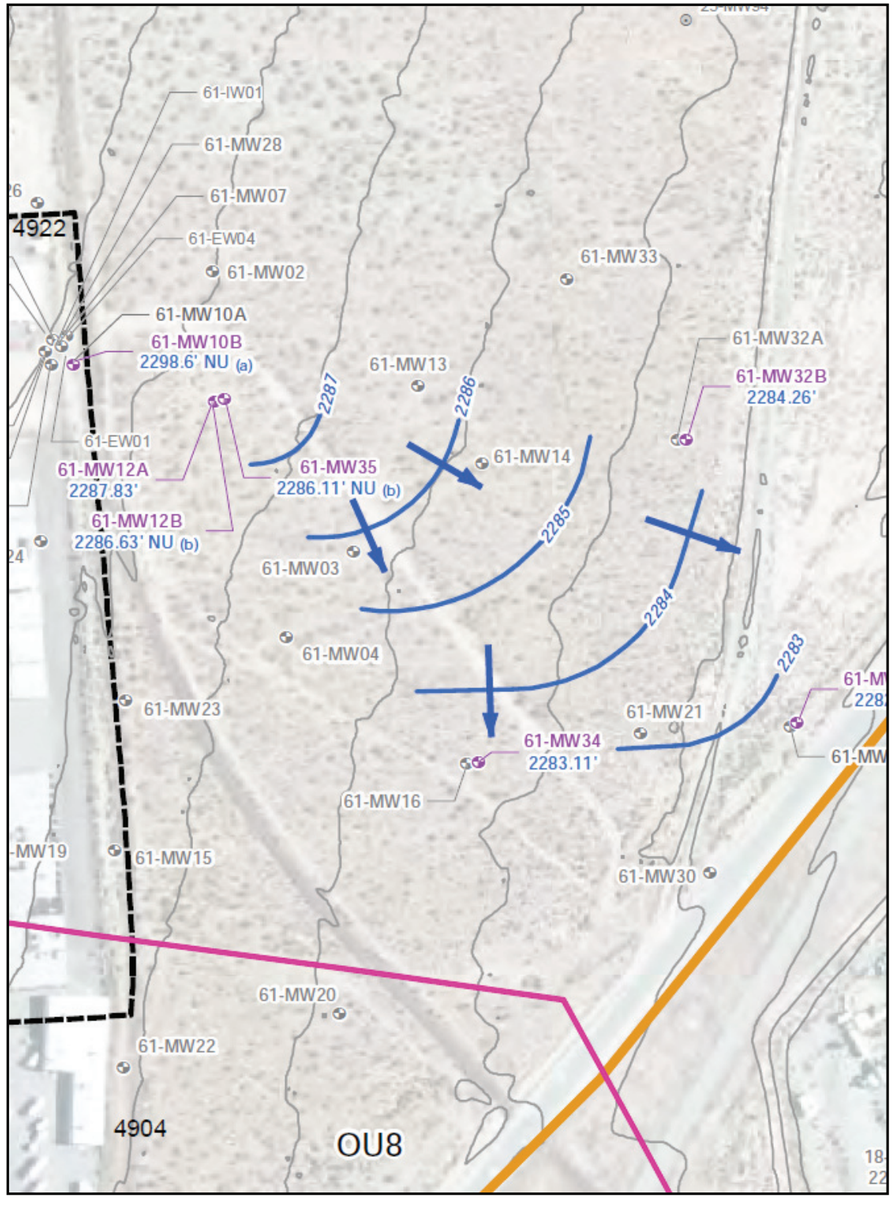
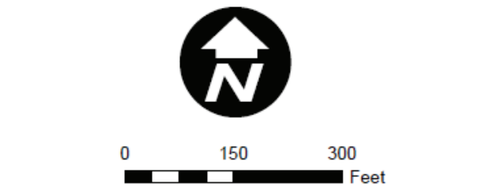
Figure EE-2. Groundwater Potentiometric Map for OU 8/Site 61



UPPER HYDROLOGIC ZONE



LOWER HYDROLOGIC ZONE



- Lower Hydrologic Zone Monitoring Well Showing Groundwater Elevation in Feet AMSL
- Upper Hydrologic Zone Monitoring Well Showing Groundwater Elevation in Feet AMSL
- Well Associated with Another Site
- Former JP-4 Pipeline
- Ground Surface Elevation Contour
- Groundwater Elevation Contour (feet AMSL)
- Inferred Groundwater Flow Direction
- Environmental Restoration Program Site Boundary
- Operable Unit Boundary

GROUNDWATER POTENTIOMETRIC SURFACE MAP FOR OU 8/SITE 61

Project No.: 29875499	Date: May 2015	Project: RCRA PART B PERMIT RENEWAL APPLICATION EDWARDS AIR FORCE BASE	Figure EE-2

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FF. PROCEDURES TO PREVENT HAZARDS

This section addresses the following requirements as they apply specifically to the HWSF: security, inspection schedule, preparedness and prevention requirements, preventive procedures, structures and equipment, and prevention of reaction to ignitable, reactive, and incompatible wastes. Also included in this section are recordkeeping procedures.

FF.1 SECURITY ELEMENTS

FF.1.a Waiver and Injury to Intruder

The HWSF does not request a waiver of the security requirements of 22 CCR 66270.14(b)(4) regarding injury to intruder and violation by intruder. A description of the security elements and equipment required by 22 CCR 66264.14 is provided in subsection FF.1.b, and describes the security measures used to prevent the unauthorized entry of persons, livestock, or wildlife into the HWSF.

FF.1.b Security Procedures and Equipment

The HWSF is entirely within Edwards AFB boundaries with access-controlled entry that does not allow unauthorized access by the public. The HWSF has restricted access with a limited number of employees and visitors authorized to enter the facility. Access to and from the HWSF occurs through a single gate located on the north end of the facility. This gate remains chained and locked unless authorized personnel are present. There is a second gate along the south fence of the HWSF. However, this second gate is rarely used and normally remains locked. There is an emergency egress gate immediately adjacent to the north gate and an emergency egress gate at the southeast corner of the HWSF. These emergency egress gates can only be opened from within the facility. Section BB provides additional details on roads and access control points for the HWSF.

The HWSF is operated during daylight hours only (time of day: typically 0800–1600 hours). During operating hours, HWSF employees are responsible for questioning all visitors entering the HWSF. In addition, visitors are required to sign in, prior to entering the facility, and sign out when leaving the facility. Unauthorized visitors are escorted out of the HWSF. The HWSF is surrounded by a 6-foot high chain-link fence, which is topped with three strands of barbed wire. Combined together, the barbed wire and chain-link fence have an effective height of approximately 8 feet. All fence gates are chained and locked to prevent unauthorized entry into the HWSF when HWSF personnel are not present. During extended periods of inactivity, such as overnight hours, weekends, and holidays, periodic security checks are made by Edwards AFB security personnel.

Ten exterior lights are positioned around the HWSF to provide security and safe access to the facility. Three additional security lights are located on a pole, outside the HWSF fence, and are designed to illuminate the facility's access gate.

FF.1.c Warning Signs

Warning signs are posted on the fence that surrounds the HWSF at each corner, and on or adjacent to the north and south gates. Even though the HWSF is not open to the public, warning signs are posted in sufficient numbers to be seen from any approach to the facility. Wording is as follows:

CAUTION
HAZARDOUS WASTE AREA
Unauthorized Persons
KEEP OUT

CUIDADO
ZONA DE RESIDUOS PELIGROSO
PROHIDA A ENTRADA
A Personas No Autorizadas

DANGER

TOXIC
MATERIALS

DANGER
HAZARDOUS
WASTE STORAGE

NO SMOKING
OR IGNITION SOURCE WITHIN
50 FEET

The signs are legible from a distance of 25 feet, free from obstructions that could hinder their view, and posted at a height that can be read easily by persons visiting the facility. As required under 22 CCR 66264.14(c), the primary warning sign is written in English and Spanish. Photographs of the signs are provided in Appendix 13.

FF.2 INSPECTION SCHEDULE

The following section outlines the HWSF procedures for monitoring and inspecting safety emergency equipment, communications and alarm systems, decontamination equipment, security devices, monitoring equipment, and operating and structural equipment, in accordance with 22 CCR 66264.15 requirements.

FF.2.a General Inspection Requirements

HWSF personnel inspect the facility for malfunctions and deterioration, operator errors, and discharges that may be causing, or may lead to, release of HW constituents to the environment or a threat to human health. These inspections also include review of operating records and items such as containers malfunction, structural deterioration, fire hazards, and safety and security problems. HWSF personnel conduct these inspections often enough to identify problems in time to correct them before they harm human health or the environment.

HWSF personnel conduct all inspections in accordance with daily, weekly, quarterly and annual checklists developed specially for the HWSF and its operations. These checklists are further detailed in Section FF.2.b.

FF.2.a.1 Types of Problems

The inspection checklists identify the types of problems to be looked for during all inspections.

FF.2.a.1.1 Monitoring Well Inspections

There are monitoring wells within the HWSF and adjacent to fenceline. The HWSF is located within OU 8/Site 61 of the Edwards AFB CERCLA program. All monitoring wells in the vicinity of the HWSF are managed and inspected under the CERCLA program. Section EE provides information on these CERCLA monitoring wells.

FF.2.a.2 Frequency of Inspections

The inspection checklists specify the frequency of inspections for the HWSF as daily, weekly, quarterly and annual.

FF.2.a.3 Schedule of Remedial Action

Remedial actions are taken as soon as possible to correct deficiencies noted in inspection reports. If an inspection of a HW container in the HWSF reveals a leaking container, it will be either over-packed or its contents will be transferred to another container. In the event an inspection detects a leak or a situation that may threaten the environment or human health and cannot be immediately controlled, the applicable requirements as described in the Edwards AFB Contingency Plan will be implemented. The Contingency Plan is included as Appendix 6 of the Base-Wide Information Application document.

FF.2.a.4 Inspection Log

The inspection checklists also function as the inspection logs.

FF.2.b Specific Process Inspection Requirements

FF.2.b.1 Container Inspection

The HWSF uses containers for the management of HW. Examples of routine inspection checklists for containers and all associated HWSF equipment, buildings and structures are provided in: Table FF-1 for daily inspections; Table FF-2 for weekly inspections; Table FF-3 for quarterly inspections; and Table FF-4 for annual inspections (note: tables have been formatted for presentation – actual checklists used in the HWSF may have minor formatting differences).

Routine inspections will be conducted in compliance with the following guidelines:

- The HWSF will be inspected to:
  - Ensure adequate aisle space;
  - Check for leaks, dents, expansion, or corrosion of containers;
  - Check lids of containers to ensure bungs are tight and ensure that container is not overfilled;
  - Observe waste handling to ensure compliance with proper procedures and document and correct noncompliance promptly;
  - Check proper segregation of incompatible wastes;
  - Check and secure warning signs;

  - Check and secure EPA hazardous material compatibility chart; and
  - Check and secure emergency procedures wall-chart.
- Security equipment (e.g., fences, signs, lighting, doors, and locks) and emergency and spill equipment will be inspected to:
  - Check for operability; and
  - Check for rusting and wear and tear.
- Mobile equipment will be inspected daily when in use.
- Fire detection system will be tested periodically, but not less than once per year.
- Safety equipment will be checked weekly to:
  - Check for operability;
  - Check for general wear and tear of personal protective equipment (PPE);
  - Secure and maintain first aid supplies;
  - Inspect and maintain emergency eye washes and showers, ensure free access and operability;
  - Check phones, two-way radios and their batteries; and
  - Inspect fire extinguishers to check for adequate charge and current service records.
- Periodic HWSF inventory checks will be conducted and compared against the electronic tracking database.

FF.2.b.2 Tank Systems Inspection

The HWSF does not store HW in tanks. This subsection is not applicable.

FF.2.b.3 Waste Pile Inspection

The HWSF does not store HW in waste piles. This subsection is not applicable.

FF.2.b.4 Surface Impoundment Inspection

The HWSF does not store HW in surface impoundments. This subsection is not applicable.

FF.2.b.5 Incinerator Inspection

The HWSF does not incinerate HWs. This subsection is not applicable.

FF.2.b.6 Landfill Inspection

The HWSF does not place any HW into landfills. This subsection is not applicable.

FF.2.b.7 Land Treatment Inspection

The HWSF does not place any of its HWs into land treatment units. This subsection is not applicable.

FF.2.b.8 Miscellaneous Unit Inspection

The HWSF is not a miscellaneous unit as defined in 22 CCR 66264.600. This subsection is not applicable.

FF.2.b.9 Boilers and Industrial Furnaces Inspection

The HWSF does not treat or store any of its HWs in boilers or industrial furnaces. This subsection is not applicable.

FF.2.b.10 Containment Building Inspections

The HWSF does not treat or store any of its HWs in containment buildings. This subsection is not applicable.

FF.2.b.11 Drip Pad Inspections

The HWSF does not treat or store any of its HWs on drip pads. This subsection is not applicable.

FF.3 WAIVER OR DOCUMENTATION OF PREPAREDNESS AND PREVENTION REQUIREMENTS

The HWSF does not request a waiver for the preparedness and prevention requirements of 22 CCR 66264.32 (a) through (d).

FF.3.a Equipment Requirements

As described in Section CC, wastes are generated at locations throughout Edwards AFB prior to shipment to the HWSF. Waste handling equipment allows workers at the HWSF to safely move HWs within the storage area and during loading operations for transport off site. The following guidelines ensure safe operation of waste handling equipment:

- The number of workers will be limited within the vicinity of operation to minimize potential collision and material handling hazards.
- Forklifts will be used during loading and unloading of waste containers.
- Only propane- or electrically-powered safe forklifts will be used in all enclosed areas to minimize fire hazards.
- Electrically-powered and/or gasoline-powered forklifts equipped with spark arresters will be used in the open space outside the building.
- A hazardous material response truck will be on stand-by at the Edwards AFB Fire Department and is available for HWSF personnel on short notice. Emergency response equipment will be maintained in this truck as well as at the HWSF.

Communication equipment, alarm system, and fire control equipment are used in the operation of the HWSF to control any unplanned releases of HW constituents to the environment. This equipment is described in the Contingency Plan described in the Base-Wide Information Application document.

FF.3.b Aisle Space Requirement

The aisle space at the HWSF is sufficient to allow unobstructed movement of forklift trucks and emergency equipment and personnel. There are no obstructions to impede the movement of forklifts, equipment, or personnel during emergencies.

FF.4 PREVENTION PROCEDURES, STRUCTURES, AND EQUIPMENT

This section outlines prevention procedures, structures, and equipment used at the HWSF to prevent hazards, runoff or flooding, contamination, equipment or power failure, releases into the atmosphere, and prevention of undue exposure of personnel to HW.

FF.4.a Unloading and Loading Procedures

Waste unloading operations occur when wastes are transported from ACCS and IAP sites to the HWSF for storage. These unloading operations will comply with the following procedures:

- Verify identity of generator and waste; secure a WTID and other paperwork for each container.
- Log in quantity of waste, type of waste, etc. into tracking file.
- Identify potential hazards of waste.
- Inspect containers to ensure integrity and suitability for unloading and storage.
  - If containers are damaged or suspected to be inadequate, repackage waste in appropriately-sized over-pack drums; and
  - If leaks or spills seem possible due to inadequate containers, alert HWSF foreman and put spill control equipment and personnel on standby BEFORE repackaging.
- Choose storage location based on waste category (e.g., acid, base, corrosive, or flammable).
- Consult EPA hazardous material compatibility chart to confirm compatibility with other wastes in storage.
- Verify that there is clear passage to the storage location and visually inspect storage space for readiness.
- Move containers using the proper forklifts.
  - Use electrically-power and/or gasoline-powered forklifts equipped with spark arresters in the open space outside the building.
  - Use only electrically- or propane-powered forklifts inside any enclosed areas.
- Secure flammable waste containers with straps if stored at the second level of the rack or higher.
- Log in location of waste storage, including date and time of arrival.

Waste loading operations occur when wastes are transferred out of store at the HWSF for off-site transport and disposal. These loading operations will comply with the following procedures:

- Re-inspect waste containers to ensure integrity and suitability for loading and transport.
  - If containers are suspected to be inadequate for loading or transport, then repackage the container in proper over-pack drums.
  - If a leak or spill seems possible due to inadequate containers, alert HWSF foreman and put spillage equipment and personnel on standby BEFORE repackaging.
- Verify identity and qualifications of the transporter (i.e., check for hauler registration) and destination of waste. Confirm hauler's ability to operate waste trucks and respond to emergency during transport.

- Prepare proper manifests: indicate quantity of waste; name of waste and waste code; container type; hazard category; names, addresses, and EPA identification numbers of generator, transporter, and receiving facility; date of transport, etc.
- Consult DOT regulations to confirm compatibility for storing wastes together in the transporter's truck.
- Secure clear passage to transporter's truck for forklift travel.
- Move containers using the proper forklifts.
  - Use electrically, propane, or gasoline powered forklifts equipped with sparks arresters in the open-space outside the building.
  - Use only electrically or propane powered forklifts inside any enclosed areas.
- Obtain copy of manifest BEFORE transporter leaves Edwards AFB.
- Log in waste shipment, including description of waste, manifest number, and date and time of shipment.
- Inspect storage area and remove any spillage.

FF.4.b Runoff

There are specific guidelines set to prevent runoff at the HWSF. To minimize the likelihood of spillage, the HWSF does not accept improperly packaged wastes from generator IAPs or ACCSs. All containers deemed inadequate will be replaced or over-packed prior to transfer to the HWSF.

Spills are prevented from leaving the HWSF at all loading, unloading, and storage areas by the secondary containment sumps, concrete curbs, and sloped concrete floors. The HWSF's foundation slopes down draining towards containment sumps, thus reducing possible runoff. These containment sumps are routinely inspected and maintained to ensure integrity (i.e., absence of cracks in pavement and proper drainage). Upon the discovery of any leaks or spills, immediate cleanup and containment procedures are followed.

Within Building 4916, stored HW is covered by a roof to prevent collection and formation of contaminated storm-water runoff. Building 4916 was built several inches above the ground surface and is located in an arid desert region; thus, flooding is not a concern.

FF.4.c Water Supplies

Water for firefighting is supplied by a fire hydrant located 30 feet from the HWSF yard. In addition, a 4-inch service valve is located near the north entrance. Water is piped from two water supply reservoirs located approximately 3,600 feet away. The pressure, volume, and location of backflow protection for water in the fire hydrant are not known. However, Edwards AFB's Fire Department has multiple fire-trucks equipped with water tanks in its fleet to handle emergencies where piped water is unavailable. These trucks have a capacity ranging from 300 to 15,000 gallons and an operating pressure ranging from 100 to 350 pounds per square inch.

Water supply lines into the HWSF for human consumption are protected by a system of back flow prevention devices. There are no physical connections between any sanitary sewer lines and the sumps

and secondary containment areas of the HWSF. The water supply wells nearest to the HWSF are Wells C-3 and C-4 approximately 6 miles to the southwest in an open area on base. There is no direct connection from these wells to the HWSF. As detailed in Section EE, groundwater monitoring wells are in place to monitor the condition of groundwater in the vicinity of the HWSF, and are part of the Edwards AFB CERCLA program. There are no injection wells within the vicinity of the HWSF.

FF.4.d Equipment and Power Failure

In the event of a power outage, adequate natural light is available for personnel inside the facility to secure and evacuate the area. If an emergency occurs at night, portable emergency lighting can be brought to the HWSF. In addition, Building 4916 is naturally ventilated and will not be affected by a power outage. There are no backup generators for electrical power at the HWSF.

Spill control equipment, such as the use of absorbent material, broom and bucket, and re-containerization, are not affected by power outages. Forklifts used at the facility are powered by battery, propane, or gasoline and are not affected by loss of electrical power. Battery-operated two-way radios will be used by the emergency response and firefighting personnel for communicating within the HWSF. Hydrant water supply and firefighting equipment are not affected by power outage. Hydraulic pressure is maintained by gravity due to elevation differences between the HWSF and local reservoirs.

FF.4.e Personnel Protection Procedures

Personnel working at the HWSF are required to wear PPE to prevent injuries and minimize exposure to chemicals. Contractors are responsible for providing their own PPE while working in the HWSF. Table FF-5 lists anticipated activities performed at the HWSF and the corresponding PPE for each activity.

All personnel who handle wastes at the HWSF are required to have initial and annual Hazardous Waste Operations and Emergency Response (HAZWOPER) refresher training, as further described in Section HH. A major component of this training is how to select and use PPE during normal handling of HWs and during emergencies and spills. The training teaches the identification and assessment of chemical hazards, selection and use of respirators and self-contained breathing apparatus, and emergency response procedures and cleanup of spills.

FF.4.f Procedures to Minimize Releases to the Atmosphere

Routine inspections of the HWSF and waste containers are conducted as described in Section FF.2. All spills or leaking drums are promptly addressed with absorbent and/or repackaging to minimize releases to the atmosphere. All spills to the floor, berms, or sumps are removed promptly to minimize releases of HW to the atmosphere. Poorly packaged wastes received at the HWSF are immediately re-containerized using over-pack containers, with the appropriate volume, to minimize the possibility of spills or leaks.

FF.5 PREVENTION OF REACTION OF IGNITABLE, REACTIVE, AND INCOMPATIBLE WASTE

This section describes precautions taken to prevent accidental ignition or reaction of ignitable, reactive, or incompatible wastes.

All HWSF personnel who handle HW are provided training in the handling and storage of ignitable, reactive, and incompatible wastes to prevent possible sources of ignition or reaction. All HW containers are labeled and sealed and segregated by compatibility as described in Section FF.5.b. In addition, HWSF personnel are prohibited from smoking and lighting open flames while loading and unloading and while in the HWSF as described in Section FF.5.a.

FF.5.a Precautions to Prevent Ignition or Reaction of Ignitable or Reactive Wastes

Smoking is strictly prohibited throughout the HWSF. "No Smoking" signs are conspicuously displayed at the entrances to the HWSF and along the perimeter fencing.

All ignitable and reactive wastes are kept separated and protected from heat sources that might cause ignition or reaction such as open flames, smoking, cutting, welding, hot surfaces, frictional heat, sparks, spontaneous ignition, and radiant heat. Ignitable, reactive, and incompatible wastes are handled and stored as follows to minimize the risk of explosions or releases:

- The HWSF is ventilated;
- Smoking is strictly prohibited within the facility;
- "DANGER NO SMOKING" signs are displayed throughout the facility;
- Smoking, welding, or other activities involving an open flame are not allowed within 50 feet of ignitable and reactive waste operations;
- The HWSF is compartmentalized into distinct areas to separate incompatible wastes as depicted on Figure DD-2;
- The floor in the storage area is sloped and curbed to safeguard against mixing of spills of incompatible wastes;
- The EPA hazardous material compatibility chart is used to identify incompatible and reactive wastes and store them separately;
- Incompatible wastes are isolated via proper segregation and/or buffer space, and transferred separately to the various storage compartments;
- All waste drums are kept sealed during transfer and storage;
- Additional protection is provided by proper stacking, aisle space, labeling, and warning signs;
- To further minimize fire hazards, propane or electrically powered safe forklifts are used in all enclosed areas, while electrically powered and/or gasoline powered forklifts equipped with spark arresters are used in outside areas of the HWSF; and
- The HWSF is located approximately 5 miles from Edwards AFB's closest property line, thus the risk of hazards to off-site personnel is limited.

FF.5.b General Precautions for Handling Ignitable or Reactive Waste and Mixing of Incompatible Waste

All wastes at the HWSF are stored in containers that are compatible with the waste characteristics. Ignitable wastes are stored in metal drums, while reactive wastes such as acids, bases and corrosives, are generally stored in polymeric, coated, or lined-metal drums. Lab-packed wastes are stored in compatible

containers depending on the type of waste being held. Either vermiculite or solid absorbents are used as over-pack material depending on compatibility with the HW.

Only wastes properly packaged and accompanied by a WTID are stored in the HWSF. The generator of the waste has the responsibility of identifying each waste. For lab-pack wastes, the generator must identify each container and keep a detailed log of chemicals and quantities within the lab-pack.

The EPA hazardous material compatibility chart is permanently mounted within the HWSF to assist HWSF personnel in properly identifying and segregating wastes. Upon arrival at the HWSF, compatible wastes are placed together on pallets. Incompatible wastes are transferred separately to the various compartments within the HWSF. All waste drums are kept closed during transfer and storage operations to prevent spills. Additional protection is provided by proper stacking of drums, maintaining aisle space, and labeling.

FF.5.c Management of Ignitable or Reactive Wastes in Containers

All metal drums are used to store ignitable or reactive waste. All containers holding ignitable or reactive waste are located more than 50 feet from the Edwards AFB property line.

FF.5.d Management of Incompatible Wastes in Containers

Containers used to store HW are separated into like composition groups, and separated into like hazard characteristics, with special attention to incompatibility. This separation of incompatible wastes (i.e., fuels vs. oxidizers) is maintained from point of origin to storage to final treatment or disposal.

FF.5.e Management of Ignitable or Reactive Wastes in Tank Systems

The HWSF does not store HW in tanks. This subsection is not applicable.

FF.5.f Management of Incompatible Wastes in Tank Systems

The HWSF does not store HW in tanks. This subsection is not applicable.

FF.5.g Management of Ignitable or Reactive Wastes Placed in Waste Piles

The HWSF does not store HW in waste piles. This subsection is not applicable.

FF.5.h Management of Incompatible Wastes Placed in Waste Piles

The HWSF does not store HW in waste piles. This subsection is not applicable.

FF.5.i Management of Ignitable or Reactive Wastes in Surface Impoundments

The HWSF does not store HW in surface impoundments. This subsection is not applicable.

FF.5.j Management of Incompatible Wastes in Surface Impoundments

The HWSF does not store HW in surface impoundments. This subsection is not applicable.

FF.5.k Management of Ignitable or Reactive Wastes Placed in Landfills

The HWSF does not dispose of ignitable or reactive hazardous waste in landfills. This subsection is not applicable.

FF.5.l Management of Incompatible Wastes Placed in Landfills

The HWSF does not dispose of incompatible hazardous waste in landfills. This subsection is not applicable.

FF.5.m Management of Ignitable or Reactive Wastes Placed in Land Treatment Units

The HWSF does not place any of its HWs into land treatment units. This subsection is not applicable.

FF.5.n Management of Incompatible Wastes Placed in Land Treatment Units

The HWSF does not place any of its HWs into land treatment units. This subsection is not applicable.

FF.5.o Management of Incompatible Wastes Placed in Containment Buildings

The HWSF does not store HW in containment buildings. This subsection is not applicable.

FF.6 DOCUMENTATION OF ADEQUACY OF PROCEDURES

This section provides additional information on documentation and recordkeeping procedures used for the HWSF operations. This information is in addition to the required items for Section FF specified in the Permit Completeness Checklist provided in Appendix 1 of the Base-Wide Information Application document.

FF.6.a Operating Record

A written operating record (in electronic format) is maintained at the HWSF until closure of the facility. The operating record contains:

- A description and quantity of each HW received at the HWSF, and the method(s) and date(s) of its transfer or storage;
- Copies of the HW profiles;
- The location of each HW within the facility and the quantity at each location, with cross references to specific waste manifest document number, if applicable;
- All records and results of waste analyses performed in accordance with the WAP;
- All summary reports of incidents when contingency plan measures were implemented;
- All records and results of inspections conducted at the HWSF;
- All records of the quantities and date of disposal for each shipment of HW placed in any land disposal unit, LDR notifications and certifications to TSDFs, and supporting analytical data; and
- Daily/weekly inspections, contingency/evacuation plans.

FF.6.b Unmanifested Waste Report

Since the HWSF only receives wastes from its on-site IAPs or ACCSs, there is no need to prepare or submit an unmanifested waste report to DTSC.

FF.6.c Annual Report

By 1 March of each year, CEV prepares and submits an Annual Report per 22 CCR 66264.75. This report is submitted to DTSC and the Lahontan Regional Water Quality Control Board (RWQCB). From the HWSF operating records and by other data requests from CEV to the HWSF, data for the Annual Record will include the following:

- EPA identification number;
- Name of facility;
- Address;
- Calendar year covered by the report;
- Description of the type and quantity of each HW received at the HWSF during the previous calendar year;
- The method of transfer, treatment, storage, or disposal of each HW;
- Signed certification by owner or operator of the Annual Report;
- Certification for wastes shipped off-site after 1 January 1990 stating:
    - Whether the HW shipped off site has a heating value of 3,000 British thermal units per pound of waste or less, and a VOC content of one percent or less by weight, and
    - If the waste had a heating value or VOC content greater than that specified above, that:
        - The waste was incinerated or treated by any method that has been authorized by the DTSC as part of a HW Facility Permit issued pursuant to Health and Safety Code section 25200, or
        - The waste is exempted from the requirements of chapter 18, article 12, or
        - The waste was recycled, or
        - The waste was shipped out of California for incineration, treatment, disposal, or recycling;
- A description of efforts undertaken to reduce volume and toxicity of wastes generated; and
- A description of changes in volume and toxicity of waste achieved in current year versus prior years.

FF.6.d Records Available for Agency Inspection

All records and plans are furnished upon request, and made available at all reasonable times for inspection by any officer, employee, or representative of EPA, DTSC, State Water Resources Control Board, the Lahontan RWQCB (22 CCR 66264.74), and Eastern Kern Air Pollution Control District (EKAPCD). The operating record described in Section FF.6.a is maintained until closure of the HWSF. Other records are maintained for a minimum of three years. This retention period is extended

automatically during the course of any unresolved enforcement actions or as requested by DTSC or other agencies.

All records regarding the HWSF are maintained at the HWSF. Copies of the annual reports are kept at both the HWSF and CEV Building 3735.

FF.6.e Other Reports and Records

CEV submits other reports and records to DTSC as described in 22 CCR 66264.77 to meet requirements for reporting releases, fires, explosions, closure, etc.

Accident reports involving the release of explosive wastes, which could result in a hazard to public health and safety, domestic livestock, or wildlife, or result in a discharge of hazardous waste outside the area designated in this permit application, will be reported immediately by Edwards AFB in accordance with the notification procedures outlined in the Contingency Plan for the HWSF, included as Appendix 6 of the HWSF Base-Wide Information Application document.

Table FF-1. Hazardous Waste Support Facility Daily Inspection Checklist

INSPECTION SHEET FOR HAZARDOUS WASTE SUPPORT FACILITY (HWSF-BLDG. NO. 4916)				
Date/Time:	**Inspection Type: Daily**	**Signature of Inspector: (Print & Sign)**		
Equipment Description	**Nature of Potential Problem**	**Accept or Unaccept**	**Location and Nature of Problem**	**Date and Nature of Corrective Action**
Security				
Fences & gates	Signs of tampering, integrity problems; secured with locks/chains			
Doors and Locks	Inoperable, missing, or broken			
Safety and Emergency Equipment				
Telephone	Inoperable or damaged			
Container Storage Area				
Loading/unloading areas	Presence of slipping or tripping hazards (e.g., spilled material)			
Earthquake straps secured on upper racks	Missing, damaged, or unsecured			
Segregation of Wastes	Acids, bases, and ignitables stored in proper locations			
Sealing of drums	Lids unsecured			
Secondary containment structures	Presence of spills or residues, obstruction in flow path.			
Forklifts	Inoperable or in poor condition			
Odors and Fumes	Present			
Blank, primary labels, packing slips, placards	Lack of sufficient supplies			

Comments:

Table FF-2. Hazardous Waste Support Facility Weekly Inspection Checklist

INSPECTION SHEET FOR HAZARDOUS WASTE SUPPORT FACILITY (HWSF-BLDG. NO. 4916)				
Date/Time:	**Inspection Type: Weekly**	**Signature of Inspector: (Print & Sign)**		
Equipment Description	**Nature of Potential Problem**	**Accept or Unaccept**	**Location and Nature of Problem**	**Date and Nature of Corrective Action**
Security				
Fences & gates	Signs of tampering, integrity problems; secured with locks/chains			
Hazardous Waste Signs	Missing, not visible, illegible wording			
Lighting	Inoperable (burned out bulb) or obscured			
Emergency Lighting	Inoperable (burned out bulb) or obscured			
Doors and Locks	Inoperable, missing, or broken			
Ventilation	Blocked			
Safety and Emergency Equipment				
Emergency Eyewash/ Shower:				
#1 (Corrosion side)				
#2 (4916 A area)				
#3 (4916 C area)				
#4 (outside area)	Inoperable, leaking, or obstructed			
Telephone	Inoperable or damaged			
Fire Extinguishers	Missing, inoperable, obstructed, or without charge			
Absorbent Pads / Pig Pads	Missing, dirty or wet, or insufficient quantity.			
Alarms	Inoperable			
First Aid Kit	Missing or unsterile items, or insufficient quantity.			
PPE - hard hats, protective: eye wear, clothing, gloves, respirators	Missing, lacking integrity, or inoperable			
Empty drums for containment	Missing, lacking integrity, or containing refuse.			
Spill Kit, non-spark tools, rags, brooms	Missing or inoperable			

INSPECTION SHEET FOR HAZARDOUS WASTE SUPPORT FACILITY (HWSF-BLDG. NO. 4916)				
Date/Time:	**Inspection Type: Weekly**	**Signature of Inspector: (Print & Sign)**		
Equipment Description	**Nature of Potential Problem**	**Accept or Unaccept**	**Location and Nature of Problem**	**Date and Nature of Corrective Action**
Container Storage Area				
Earthquake straps secured on upper racks	Missing, damaged, or unsecured			
Non-hazardous debris or refuse	Accumulation, aesthetic, or obstruction problems			
Segregation of Wastes	Acids, bases, and ignitables stored in proper locations			
Drum placement and stacking	Drums not stored on pallets			
Drum condition	Presence of cracks, leaks, corrosion, spills or residues on drum surface or base			
Sealing of drums	Lids unsecured			
Pallet Condition	Damaged			
Ladder	Broken, poor condition			
Secondary containment structures	Presence of spills or residues, obstruction in flow path.			
EPA Wallchart Posted- specifying incompatible and reactive wastes	Missing or illegible			
Forklifts	Inoperable or in poor condition			
Building condition	Erosion, cracks or spalling in foundation; leaks in roof, broken windows, etc			
Odors and Fumes	Present			
Blank, primary labels, packing slips, placards	Lack of sufficient supplies			
Earthquake straps secured on upper racks	Missing, damaged, or unsecured			
Non-hazardous debris or refuse	Accumulation, aesthetic, or obstruction problems			
Segregation of Wastes	Acids, bases, and ignitables stored in proper locations			

Comments:

Table FF-3. Hazardous Waste Support Facility Quarterly Inspection Checklist

INSPECTION SHEET FOR HAZARDOUS WASTE SUPPORT FACILITY (HWSF-BLDG. NO. 4916)				
Date/Time:	**Inspection Type: Quarterly**	**Signature of Inspector: (Print & Sign)**		
Equipment Description	**Nature of Potential Problem**	**Accept or Unaccept**	**Location and Nature of Problem**	**Date and Nature of Corrective Action**
Records and Reports				
Manifest's	Missing, not logged or misfiled			
Operation Plan	Not on file or outdated			
Contingency Plan	Not on file or outdated			
Permit	Not on file or outdated			
Incident reports	Not on file			

Comments:

Table FF-4. Hazardous Waste Support Facility Annual Inspection Checklist

INSPECTION SHEET FOR HAZARDOUS WASTE SUPPORT FACILITY (HWSF-BLDG. NO. 4916)				
Date/Time:	**Inspection Type: Annual**	**Signature of Inspector: (Print & Sign)**		
Equipment Description	**Nature of Potential Problem**	**Accept or Unaccept**	**Location and Nature of Problem**	**Date and Nature of Corrective Action**
Safety and Emergency Equipment				
Radioactivity Scan	Contamination			
Fire Dept Drill/Alarm Test	Inoperable			

Comments:

Table FF-5. Minimum PPE Required for Anticipated Activities Within the HWSF

Type of PPE	Anticipated Activities					
	Labeling Drums	Moving Drums Within HWSF	Waste Sampling	Consolidating Waste, Over-packing, or Labpacking	Truck Loading and Unloading	HWSF Inspection
Standard work clothes/coveralls	X	X	O	O	X	X
Disposable Tyvek with booties			O	O		
Safety glasses with side shields	O	O	X	X	O	O
Chemical splash goggles			O[a]	O[a]		
Class A hard hat[b]	O	X	O	O	O	O
Inner and outer nitrile gloves			X	X		
Butyl rubber outer gloves			O	O		
Steel-toe and shank work boots	X	X	X	X	X	X
Respiratory Protection[c]			O	O		
Leather work gloves		X		O	X	

X = Required

O = Optional

[a] Required when liquid splash potential is present.

[b] Hard hats are required whenever overhead hazards exist.

[c] Air purifying respirators are required when anticipated exposures exceed the Permissible Exposure Limit.

GG. CONTINGENCY PLAN

The Contingency Plan for the HWSF is included as Appendix 6 of the Base-Wide Information Application document.

The contingency plan addresses the actions Edwards AFB personnel take in response to fires, explosions, or any unplanned sudden or non-sudden release of HW or HW constituents to air, soil, or surface water at Edwards AFB.

HH. PERSONNEL TRAINING

HH.1 OUTLINE OF INTRODUCTORY AND CONTINUING TRAINING PROGRAMS

This section contains the personnel training program that was designed to ensure the safe management and handling of HWs at the HWSF and to meet the requirements of 22 CCR 66264.16. The training program has been developed for HWSF personnel with the following objectives:

- To comply with the regulatory requirements;
- To promote health and safety for HWSF personnel and visitors; and
- To promote and maintain environmental protection.

Contract employees may be used at the HWSF for various job responsibilities and duties. It is the responsibility of the contractor to ensure that their employees receive and maintain the appropriate level of hazardous material training required by 29 CFR 1910.120.

HH.1.a Job Title /Job Description

Initial training for HWSF personnel consists of an introductory training phase covering basic HW management and safety. This initial training is followed by ongoing, on-the-job training and periodic classroom instruction designed to train the HWSF employee using current procedural and regulatory instruction. Government contractors operating at the HWSF are responsible for providing adequate and up-to-date HW training for their employees. Course descriptions can be acquired upon request from the Edwards AFB Human Resources Development and CEV offices. A summary of the various levels of training provided for HWSF employees is shown in Table HH-1.

HH.1.b Description of How Training Will Be Designed to Meet Actual Job Tasks

Training program contents are designed to cover HWSF operations and applicable regulations. The purpose of training is to ensure compliance with regulatory requirements regarding HW management and to operate the HWSF in a safe manner. Experienced instructors conduct the various training programs. The instructors are knowledgeable on all aspects of HW management policy, regulations, and operational requirements. Specifically, classroom instruction is supplemented by on-the-job training so that HWSF personnel can relate HW policy and procedure with practical daily operations of the HWSF. Annually, each HWSF employee reviews and provides appropriate suggestions on the content and applicability of the training material to incorporate into future training programs.

HH.1.b.1 Introductory Program

All persons involved with handling, management, and transport of HWs within the HWSF must complete basic 24-hour First Responder Operations or 40-Hour HAZWOPER training. These introductory programs are comprised of classroom instructions, as required under 29 CFR 1910.120, and supplemented by on-the-job training.

The content of the introductory program for HWSF personnel covers, but is not limited to, the following:

- OSHA 24-hour HAZWOPER training, as required by 29 CFR 1910.120 – for individuals having a role within Hazardous Waste Operations and Emergency Response, and is appropriate for occasional site workers and personnel involved with short-term operations;
- OSHA 40-hour HAZWOPER training, as required by 29 CFR 1910.120 – including hazardous material identification and characteristics, PPE and respiratory protection, and decontamination procedures;
- Training in HW management procedures – including contingency plan implementation and HWSF operating procedures relevant to each employee's position; and
- Training in emergency procedures, equipment, and systems – including procedures for using, inspecting, repairing, and replacing emergency and monitoring equipment; emergency shutdown of operations; activating communication and alarm systems; proper response to chemical spills, fires or explosions; the prevention of accidents; administering first aid and cardiopulmonary resuscitation; on-site sampling and field tests; and confined space entry.

Note that training in the use of automatic waste feed cutoff systems and proper response to groundwater contamination operations is not applicable.

All training programs are instructed and administered either by qualified base personnel or contractors. Each instructor has completed basic, supervisory, and instructional training programs certified through the State of California Office of Emergency Services.

All HWSF personnel are required to complete the introductory training program within six months of their date of employment or assignment to the HWSF. Persons who have not completed this training are restricted from working in unsupervised positions until they have completed the introductory program.

HH.1.b.2 Continuing Program

Following the introductory training program, the HWSF employee receives continual on-the-job training for the remainder of his/her employment at the HWSF. This consists of formal classroom instruction and practical hands-on experience for HWSF operations. Generally, the classroom instruction builds upon the introductory training and basic HAZWOPER foundations, and includes Edwards AFB specific HW-related topics. Classroom instruction is provided at least annually to all HWSF personnel to review and highlight changes to information presented in the introductory course. Hands-on training is provided to HWSF personnel on a continuous basis as part of their career development program. All HWSF employees must attend an 8-hour annual refresher course to keep their HAZWOPER certification.

HH.1.b.3 Supervisory and Advanced Training

Edwards AFB personnel in supervisory positions, who have completed the introductory and continuing training programs, may be selected to receive supervisory and/or Hazardous Material Incident Commander Training. This specialized training is generally restricted to senior members of the Edwards AFB Command and General Staff and the base Fire Department, and is designed to provide guidance and training in management of HW emergencies at Edwards AFB.

HH.1.b.4 Introductory and Continuing Training Program and Implementation and Schedule

All HWSF personnel must complete the introductory training program within six months after the date of their employment or change of duties. New employees at the HWSF are normally given introductory

training within two weeks of the start of their employment. Employees who have not successfully completed the introductory training program work only under the supervision of an experienced, trained supervisor. A continuing program of on-the-job training occurs throughout the career of the employee. Refresher HAZWOPER training is provided to each employee on an annual basis.

HH.1.c Training Director

The CEV HW Program Manager is responsible for managing the HW training program. He/she oversees all training that is conducted in house and training received from outside organizations and/or agencies. The HW Program Manager ensures that all records are being kept and that all personnel are up to date and meets all requirements set forth by the HWSF training program. All training for individuals assigned to duties at the HWSF is conducted by personnel who are knowledgeable in the specific area of instruction. On-the-job instruction is provided by either the HWSF Facility Manager or by other staff in charge of HWSF operations.

HH.1.d Relevance of Training to Job Position

Training program contents are designed to cover HWSF operations and applicable regulations. The purpose of training is to ensure compliance with regulatory requirements regarding HW management and to operate the HWSF in a safe manner. Experienced instructors conduct the various training. The instructors are knowledgeable on all aspects of HW management policy, regulations, and operational requirements. Specifically, classroom instruction is supplemented by on-the-job training so that HWSF personnel can relate HW policy and procedures with practical daily operations of the HWSF. Annually, each HWSF employee reviews and provides appropriate suggestions on the content and applicability of the training material to incorporate into future training programs. Descriptions of the job title with guidelines for type and amount of initial and continuing training for each job at the HWSF are presented in Table HH-1.

HH.1.e Training for Emergency Response

All training elements taught to HWSF employees are designed to ensure that facility personnel are able to respond effectively to emergencies by familiarizing them with emergency procedures, emergency equipment, and emergency systems. In addition, base Fire Department personnel have extensive training in HW emergency response procedures and are fully equipped to manage most, if not all, HW and HWSF emergency incidents.

HH.2 MAINTENANCE OF TRAINING RECORDS/COPY OF PERSONNEL TRAINING DOCUMENTS

Personnel training records for active HWSF employees are kept in employee personnel files located within the HWSF field office. Each employee's file contains:

- Job title for each position at the HWSF related to HW management;
- Name of employee filling each position;
- A written job description for each of the job titles listed above, detailing the duties assigned, including required skills, education, and other qualifications of the employee;

- A description of the type and amount of introductory and continuing training for the job held by the employee; and
- Records of the training and experience completed by the employee.

Training records, including all the information listed above are tracked for HWSF personnel using training-specific file folders (called On-The-Job Training Record). The training records for current HWSF personnel are retained until closure of the facility. The training records for former employees are retained for at least 3 years from the date the employee last worked at the facility. Copies of the training records for contractors working at the HWSF are retained for 3 years after changing contractors.

Table HH-1. Type and Amount of Training for Personnel at the HWSF

Job Title	Job Description	Type and Minimum Amount of Initial Training[a]	Type and Amount of Subsequent Training
HWSF HW Contractor	Characterize, label, and manage HW within HWSF; prepare containers and lab-packs for shipment; load trucks for off-site disposal; conduct inspections; and clean up small spills	• 24/40-hour HAZWOPER[b] • HW management per 40 CFR and 22 CCR • Emergency response[c]	• 8 hour annual refresher • Introductory Training Review
HWSF Manager	Oversee HW operations at HWSF and manage HWSF contractor staff	• 40-hour HAZWOPER[b] • HW management per 40 CFR and 22 CCR • Emergency response[c] • 24-hour supervisor training	• 8 hour annual refresher • 8 hour annual supervisor • Introductory Training Review
CEV HW Contractors	Move HW from accumulation sites to HWSF and clean up small spills	• 24/40-hour HAZWOPER[b] • HW management per 40 CFR and 22 CCR. • Emergency response[c]	• 8 hour annual refresher • Introductory Training Review
Incident Commander (base Fire Department)	Respond to spills and other HW emergencies at Edwards AFB	• 40-hour HAZWOPER[b] • HW management per 40 CFR, 22 CCR, and 49 CFR. • Emergency response[d]	• 8 hour annual refresher

[a] Initial training must occur within first six months of employment. Worker cannot work alone until training is completed, either in-house or at an off-site class.

[b] HAZWOPER training requirements are described under 29 CFR 1910.120. All contractor employees must have an appropriate level of HAZWOPER training as specified in their contract.

[c] Emergency response training is determined by nature of work assignments. Not all possible emergency response training is required.

[d] Fire Department staff have extensive emergency response training beyond what is specified in the Section HH. Such training is administrated and tracked by the base Fire Department.

II. CLOSURE POST-CLOSURE FINANCIAL REQUIREMENTS

NOTE: This Closure Plan is being submitted in accordance with the requirements of 22 CCR 66264.110-120, 66264.140-151, and 66264.178. However, the HWSF site itself has been designated as Site 61 under the Edwards AFB CERCLA program. Per the Federal Facility Agreement (FFA) signed in September 1990 between the DoD, USAF, EPA, DTSC, and the Lahontan RWQCB, closure of the HWSF site will be affected under the Edwards AFB CERCLA program, and will be executed in accordance with the CERCLA process while addressing the substantive requirements of a RCRA closure action. The following Closure Plan addresses the substantive requirements of a RCRA closure action, and will serve as a baseline for use in equivalent CERCLA plans that will supersede this Closure Plan.

II.1 CLOSURE PLAN

This Closure Plan provides a plan of action for future closure of the HWSF, and is submitted in accordance with the requirements of 22 CCR 66264.110-120, 66264.140-151, and 66264.178. The objective of site closure is to minimize or eliminate potential threats to both human health and the environment, and to preclude the potential release of any HW or hazardous constituent into the surrounding soil, groundwater, or the atmosphere following site closure.

This Closure Plan identifies the steps necessary to complete the closure of the HWSF at the end of its operating life. For the purposes of the Closure Plan, the HWSF is as the shown in Figure BB-1 and as described in Section BB-1, and includes the fence-line and everything within.

II.1.a Closure Performance Standard

The goal of the Plan is to achieve clean closure of the HWSF and to preclude any further maintenance and control requirements for the site. Currently, the most prevalent approach for defining clean closure standards has been based on site-specific, risked-based cleanup criteria. EPA guidance confirms that, under current regulations, RCRA-regulated units may be clean closed to protective, risk-based cleanup levels. All HWs must be removed from the site, but hazardous constituents may potentially remain as long as they do not impact both human health and the environment.

For this Plan, separate closure performance standards have been established for (1) soils; and (2) buildings, concrete structures and equipment. For the cleanup of soils, a two-tiered closure performance standard will be used:

- Tier 1: CoCs that are quantified at or below established background levels will be considered to be addressed (i.e., no further action); and
- Tier 2: CoCs that are quantified above established background levels will be cleaned up to levels established through a Streamlined Risk Assessment (SRA).

For the clean-up of buildings, concrete structures and equipment, the closure performance standard will be non-detectable CoC levels.

II.1.a.1 Streamlined Risk Assessment

If site-related CoCs are identified following screening to be above background levels, then an SRA will be performed. The SRA will establish Site Specific Screening Levels (SSSLs) and the assumptions for calculating the potential risk to applicable receptors for all applicable environmental media (e.g., surface soil, subsurface soil, and groundwater). The SRA and resulting SSSL will be submitted to DTSC for review and approval before being implemented. Human health and ecological effects will be considered separately within the risk assessment.

The SRA initially involves comparing the maximum detected concentrations (MDCs) of the site-related CoCs to the SSSLs established for estimating risk under the appropriate site use scenarios. If the MDCs for the site-related CoCs are below the respective SSSLs, no further action will be required to achieve clean closure of the HWSF.

The exposure variables used to estimate the SSSLs will be based on the CERCLA concept for the reasonable maximum exposure (RME) assumption. The intent of the RME assumption will be to estimate the highest exposure level that could reasonably be expected to occur, but not necessarily be the worst possible case. In keeping with EPA guidance, the variables chosen for the RME scenario for contact or intake rate, exposure frequency, and exposure duration will generally be upper bounds. Other variables, such as body weight and exposed skin surface, will generally be averaged values. In the case of contact rates consisting of multiple components (e.g., dermal contact with soil and groundwater), values will be based on an upper bound. Receptors chosen in the SRA will represent all potential human receptors that could be exposed to the site-related CoCs identified at the HWSF.

Site-related CoCs with MDCs exceeding their respective SSSLs will be retained as contaminants of potential concern (COPCs) and are further evaluated in the SRA. If COPCs are selected, the cumulative risk from exposure to multiple contaminants across all potential pathways will be estimated to determine whether the COPCs contribute to an unacceptable risk at the site. If the cancer risks (total receptor) incremental lifetime cancer risk of the COPCs is estimated to be greater than 10^{-6} or estimated to have a non-cancer hazard index greater than 1.0, then soils contaminated with these COPCs will be removed.

II.1.a.2 Background Concentrations

The background concentration levels represent the original natural soil conditions of the site before the HWSF was constructed. In addition, background concentration levels have not been affected by HWSF operations or other previous industrial uses of the site.

At least four background soil borings will be taken in an area located northwest of the HWSF site and at least 100 feet from any existing rail line. Referencing the topographic map in Appendix 10b, northwest locations from the HWSF are upwind from the HWSF and are currently open unused areas. This location is considered to represent natural local soil conditions. Since the closure of the HWSF is in the future, the exact locations of the background samples will be determined just prior to closure activities. This approach is being used as future land use northwest of the HWSF cannot be predicted at this time. The sampling and analysis procedures are described below in Section II.1.a.2.1.

II.1.a.2.1 Soil Sampling and Analysis Procedures

The soil sampling and analysis procedures described below will be used for all soil samples required for the HWSF closure activities, including background and confirmation samples.

Direct-Push Technology (DPT) will be used for collection of all soil samples. All drilling and sampling activities will be supervised by a registered geologist, engineering geologist, or professional engineer certified by the state of California. The soil samples will be collected in the same stratigraphic horizon across the HWSF site. Four soil samples will be collected from each DPT boring: surface grade, 5 feet below ground surface (bgs), 10 feet bgs, and 15 feet bgs. During all subsurface activities, the soils will be logged if possible according to the Unified Soil Classification System. Field information recorded will include drilling conditions and evidence of contamination including vapors, odors, and staining.

All downhole DPT drilling equipment will be decontaminated before it is moved to a new drilling location. Each borehole location will be permanently marked, with the location surveyed and recorded on a project map for each specific area. All boreholes will be grouted after the borehole is logged and the samples are collected.

Preservation of the soil samples is required to retain their integrity. The most common preservation techniques include pH adjustment and temperature control. Field personnel will use EPA-recommended containers and adhere to EPA-recommended preservation techniques for the parameters of concern. Minimum sample volumes are required for each analysis and must be observed. The samples will be maintained under proper Chain-of-Custody procedures for delivery to the analytical laboratory.

Soil samples will be analyzed for the chemical parameters described in Table II-1, using the most current EPA test methods at the time of closure. Soil samples analyzed for VOCs will be collected and preserved per most current EPA test methods at the time of closure. The VOC concentrations in soil samples are expected to be less than 200 grams per kilogram (g/kg) and will be preserved using one of the following two procedures:

- Sodium bisulfate preservative will be added in the field and a Closed-System Purge-and-Trap system at the laboratory will be used for analysis.
- The sample will be collected using an EnCore™ Sampler and sodium bisulfate added within a 48-hour period after sampling. The sample will be analyzed using a Closed-System Purge-and-Trap system.

The analytical results of the soil samples at each depth will be averaged to calculate the central tendency and the upper tolerance limits of each CoC identified using appropriate statistical methods as specified in the most current EPA test methods at the time of closure.

II.1.a.3 Specific Site Closure Performance Standards

II.1.a.3.1 Closure Standards for Buildings, Concrete Structures and Equipment

The performance standards for the HWSF buildings, concrete structures, and associated equipment will be non-detectable concentrations, with the exception of specific metals used in the construction of the

buildings and the associated metallic equipment. As such, detectable levels of copper, iron, manganese, and nickel are likely to originate from sampling the building materials.

"Non-detect" concentrations will be set to the practical quantitation limits (PQLs) established by SW-846. The PQL has been defined by the EPA as the lowest level that can be reliably achieved within specified limits of precision and accuracy during routine operating conditions. According to 40 CFR 136 Appendix B (Definition and Procedure for Determination of the Method Detection Limit), the method detection limit is the minimum concentration of a substance that can be measured and may vary as a function of the sample matrix. Although unlikely, these concentrations will be corrected as necessary to reflect any contaminants that may be present in the water supply that may be used for decontamination of the HWSF buildings, concrete structures, and equipment at the site.

II.1.a.3.2 Closure Standards for Soil

If detectable levels of organic CoCs are identified in the site soil above background (exceeding the Tier 1 standard), then each CoC will be quantitatively evaluated per the Tier 2 standard using the SRA process previously described.

If detectable levels of inorganic CoCs are identified in the soil samples, a screening against background levels per the Tier 1 standard will be performed. The analytical data for each inorganic CoC detected will be validated and sorted by the respective medium. The MDCs of each contaminant will be compared to the central tendency and the upper tolerance limits of the respective background data using a statistical method appropriate to the number of samples collected. Inorganic contaminants with MDCs less than the background levels will be eliminated from further consideration. For inorganic analytes with concentrations exceeding background levels, the exceedance will be further evaluated based on the following information:

- The relative amount of exceedance over background levels;
- Number of samples that exceed background levels;
- The spatial distribution of samples that exceed background levels; and
- Any geologic variables (i.e., soil lithology or mineral composition of the sample) that might explain the exceedance.

CoCs not eliminated will be considered to be site-related and will be quantitatively evaluated in the SRA per the Tier 2 standard. In addition, the risk evaluation will consider the potential future impact of the site-related CoCs in the subsurface soil to the groundwater.

II.1.a.3.3 Closure Standards for Groundwater

A closure performance standard is not proposed for the groundwater beneath the HWSF site. OU 8/Site 61, where the HWSF is located, is part of an active CERCLA program. The health risk effects of this contaminant and the potential remediation of the site groundwater will be addressed under the Edwards AFB CERCLA program.

II.1.b Time and Activities Required for Partial Closure and Final Closure Activities

Figure II-1 presents the time and general activities required to complete each step anticipated for final closure of the HWSF. Section II.1.e describes the activities and procedures used to affect closure of the HWSF.

There are no plans for partial closure of the HWSF. The entire HWSF, as defined by the Edwards AFB RCRA HW Facility Permit, is the maximum extent of operations that will be active during the lifetime of the facility.

II.1.b.1 Closure Certification Report

In accordance with 22 CCR 66264(a)(2)(b), closure activities will be completed within 180 days once closure of the site is initiated. On completion of closure, a Closure Certification Report, signed by an approved Edwards AFB representative, will be submitted to DTSC. This certification will include:

- Site certified closed by an independent, qualified, California-registered professional engineer;
- Description of the closure activities which were completed to ensure that no further post-closure maintenance or controls will be necessary;
- Description of the final disposal locations for the final inventory and any HWs generated during facility decontamination activities, including waste types, waste quantities, and the names and locations of the final disposal facilities;
- Sampling and analysis data;
- Discussion of analytical results and comparison to site-specific closure performance standards;
- Modifications and amendments to the Plan (if applicable); and
- Site notes, photographs and field logbooks.

II.1.c Maximum Waste Inventory

The maximum inventory of all HWs permitted to be stored in the HWSF at any one time is 40,480 gallons, or 736 55-gallon containers (the most common container used in the HWSF). Containers can be distributed throughout the permitted storage areas within the HWSF, up to their individual secondary containment limits: interior of Building 4916; the three Processing/Storage Bays on the south side of Building 4916; and the Front Secondary Containment Area on the north side of Building 4916. This inventory represents the maximum possible stored HW that may be removed from the HWSF upon closure.

Additional HWs generated from closure activities include waste decontamination materials, waste soil borings, and removed contaminated soils. The estimated quantity of HW generated during decontamination of site structures and equipment is 5,000 gallons or 90 drums. The estimated quantity of HW generated during soil sampling is based on completing 40 borings at two drums per boring. The potential amount of impacted soil beneath the site that may be characterized as HW cannot be estimated at this time and will be determined during closure activities.

Table II-2 provides an estimation of the maximum HW inventory that may be removed from the HWSF prior to closure, and HWs generated from closure activities.

II.1.d Schedule for Closure

There are no plans to close the HWSF at this time. The HWSF will be used for HW storage until either the USAF decides to cease such operations at Edwards AFB, or Edwards AFB itself is closed. Upon completion of closure activities and as subject to any applicable post-closure requirements, the HWSF area may continue to be used to support other Edwards AFB operations that are not regulated under a RCRA HW Facility Permit.

II.1.d.1 Time Allowed for Closure

Figure II-1 presents the time required to complete each step anticipated for closure of the HWSF. In accordance with 22 CCR 66264(a)(2)(b), closure activities will be completed within 180 days once closure of the site is initiated. DTSC will be notified no less than 45 days prior to start of closure activities. In the event that significant soil and/or groundwater contamination is identified at the HWSF, the schedule will be modified in consultation with DTSC, as necessary.

II.1.d.1.1 Extension for Closure Time

If an extension to the proposed closure time frame is warranted, a request for an extension of the closure time will be submitted to DTSC in accordance with the requirements of 22 CCR 66264.113(a) and 22 CCR 66264.113(b). The request will identify the need for the extension, the status of the facility, and the actions required to prevent threats to the environment or human health during the extension.

II.1.e Closure Procedures

In accordance with 22 CCR 66264.112 and 66264.114, this section describes the steps needed to remove all HWs stored at the HWSF; decontaminate the buildings, structures, and support equipment; remove any contaminated soils; and dispose of all HWs generated from closure activities.

II.1.e.1 Inventory Removal

Wastes generated from the HWSF closure may include stored HW drums from Building 4916, the Processing/Storage Bays and the Front Secondary Containment Area.

Final volumes of HWs from Edwards AFB ACCS and IAP sites will be accepted into the HWSF up to one-day prior to start of closure activities. After start of closure, no new additional HWs will be accepted at the HWSF. All HW in the HWSF inventory will be stored, characterized, removed, and disposed of according to procedures described in Sections CC, DD and FF. So as to not interfer with planned closure activites, Edwards AFB plans to remove all HWSF inventory within 50 days after the start of closure activities.Manifests from the HWs shipped out at closure will be maintained by Edwards AFB for at least three years. Additional information on HW disposal procedures used during the closure of the HWSF is provided in Section II.1.e.2 and subsections therein.

II.1.e.2 Disposal or Decontamination of Equipment, Structure, and Soils

Once all HWs in storage within the HWSF have been removed, decontamination of HWSF equipment, buildings, structures and soils can begin. Wastes generated from the HWSF closure may include demolition debris generated from the removal of the buildings, structures, access ramps, asphalt pavement, and fencing; soil from borings and potential excavations; and drums containing wash water and waste generated from the decontamination process.

The HWSF buildings, concrete structures, and associated equipment will be decontaminated and transported off site for proper disposal. The asphalt and concrete pavement adjacent to the buildings will be decontaminated, removed, and transported off site for proper disposal. Fencing adjacent to the site will also be decontaminated, removed, and transported off site for proper disposal. The transported materials will be sampled, analyzed, and confirmed as a non-hazardous waste after decontamination.

II.1.e.2.1 Aboveground Decontamination

Edwards AFB will enter into a contractual agreement with an authorized HW disposal company to decontaminate the site. As an option, Edwards AFB may decide not to decontaminate specific structures or equipment (such as asphalt pavement), but to remove and dispose of the materials as a HW off site.

The following aboveground structures associated with the HWSF may require decontamination:

- Building 4916 interior, floor grating, sub-floor, walls and ceiling;
- Building 4916 exterior and building components;
- Building 4917 interior (including drum-crusher) and exterior;
- Building 4922 interior and exterior;
- Processing/Storage Bays, concrete pads and access ramps;
- Front Secondary Containment Area;
- Loading and Waste Bulking/Consolidation area;
- Canopy covering dirt-area for storage of new drums, supplies and equipment;
- Concrete pad for storage of used drums;
- Road pavement within the site;
- Concrete walkways; and
- Metal chain-link fencing and access gates enclosing the site and within the site.

Trained personnel wearing appropriate PPE will remove all visible signs of surface contamination using steam cleaning, hydro-blasting, or other appropriate water washing methods. The equipment anticipated to be used during decontamination includes forklifts, drum dollies, steam cleaning or hydro-blasting equipment, wet/dry vacuum equipment, 55-gallon drums, and various hand tools. All wash water generated during decontamination will be collected and pumped to a portable tank. Standing wash water may be removed with absorbent material, which will be drummed. Any residues present in the HWSF will be collected, drummed, analyzed, and disposed of properly.

All equipment used during the decontamination (except disposal bins and dump trucks) will be cleaned in a designated area using steam cleaning, hydro-blasting, or simple potable water washing, as appropriate. The cleaning residue will be carefully collected into drums and combined with the general wash waster for proper disposal.

Upon confirmation that the closure performance standards have been met following decontamination, the HWSF buildings, structures and associated equipment will be dismantled and their framework razed. Concrete structures, foundations and pavement will be broken up, excavated, and transported off site for proper reuse or disposal. Asphalt pavement will be saw-cut, excavated, placed in open-top bins and transported off site for proper reuse or disposal. All site fencing and gates, including support poles, will also be removed for proper disposal.

II.1.e.2.2 Decontamination Confirmation Sampling

Following decontamination of the HWSF buildings, structures, and equipment, the collected wash water will be analyzed for the chemical parameters described in Table II-1. The results from the wash water total metals analysis will be evaluated according to the WAP to determine hazard classification. If the metal concentrations are less than the respective Soluble Threshold Limit Concentration and TCLP concentrations, then the wash water and associated drummed absorbent material will be disposed as non-hazardous as long as other constituents are below regulatory thresholds. If the analytical results are below Edwards AFB's sewer discharge limits, then the wash water may be discharged to the sewer. If the results are higher, the wash water will be transported to an appropriate TSDF for off-site disposal.

To confirm that the decontamination has been successful, confirmation samples will be collected. Wipe samples will be collected for analysis from HWSF buildings and structures. All interior surfaces will be inspected and wipe samples will be collected at any areas exhibiting staining or discoloration. Wipe samples will be collected from the floor area and from the interior walls of each building approximately one foot above the floor surface.

Surface wipe sample areas will be delineated using a square-foot plastic template for where applicable. The wipe samples will be collected using gauze saturated with an appropriate solvent for each specific analytical method. The solvent-saturated gauze will be prepared by the analytical laboratory prior to field sampling to prevent cross-contamination and to ensure analytical method compliance.

Concrete chip samples will also be collected. The concrete slabs and floor surfaces of the HWSF buildings and structures will be visually inspected for signs of contamination. Chip samples will be collected at areas with staining or discoloration. Additional samples will be collected from each of the containment sumps within Building 4916, the empty drum storage area in the HWSF yard, and the concrete flooring in Building 4917, including from under the drum-crusher.

Chip samples will be collected from concrete foundations by using a clean hammer and chisel. The collected samples will be concrete chips generated by striking the chisel with the hammer to a depth of approximately ½-inch. The concrete chips will be placed into clean containers supplied by the laboratory. The concrete will be crushed into powder by the laboratory prior to chemical analysis. The chisel will be decontaminated after every sample is collected.

The number and location of wipe and concrete chip samples are described in Table II-3. The wipe and concrete chip samples will be analyzed for the chemical parameters described in Table II-1, and using the most current EPA test methods at the time of closure.

Preservation of samples is required to retain their integrity. The most common preservation techniques include pH adjustment and temperature control. Field personnel will use EPA-recommended containers and adhere to EPA-recommended preservation techniques for the parameters of concern. Minimum sample volumes are required for each analysis and must be observed. Samples will be maintained under proper Chain-of-Custody procedures for delivery to the analytical laboratory.

II.1.e.2.3 Contaminated Soil Identification and Removal

After decontamination and removal of the building and structures at the HWSF site, contaminated soil will be identified and removed to achieve clean closure. Field investigation methods were chosen to provide a comprehensive characterization of the entire site.

The goal of soil sampling during closure is to show that potential releases of HWs or constituents from the HWSF have not impacted the surrounding soil or to find the extent of existing soil contamination that must be removed. To confirm that releases have not occurred, soil borings will be drilled for the collection of confirmation samples.

The number of soil borings and samples collected in each area is provided in Table II-4. The location of the soil borings and samples is shown on Figure II-2 for locations previously covered by buildings and structures, and on Figure II-3 for a general topographic surface survey of the entire HWSF site. Generally, borings on locations previously covered by building and structures will be in a dispersed pattern with emphasis on loading areas, ramps and containment sumps. The topographic surface survey is based on a 100-foot by 100-foot grid pattern across the site. Soil across the site will be visually inspected for signs of staining or discoloration and additional borings and samples will be collected. The boring, sampling and analysis procedures are described in Section II.1.a.2.1.

Should the evaluation of the analytical results indicate that a release from the HWSF to the soil has occurred, the contaminated soil will be further investigated, excavated, removed, and disposed of at a facility appropriate for the type of contaminant. The vertical and horizontal extent of all contaminated soils at the site will be clearly delineated. After excavation and off-site disposal of impacted soils are completed, sampling of the bottom and sidewalls of the excavation will occur to confirm that the clean closure standard has been met. After confirmation, the excavations will be backfilled with clean native fill and then entire site will be re-graded.

II.1.e.2.4 Management and Disposal Procedures for Wastes Generated During Closure

Wastes generated during closure of the HWSF may include wastes from containers in the HWSF storage inventory at time of closure, wastes generated from site decontamination, site demolition, and site soil removal. Any wastes will be properly sampled, characterized and transported off-site to TSDFs for off-site disposal.

II.1.e.2.4.1 Management of Wastes On-Site

All HW containers in storage in the HWSF at the start of closure will be managed using the procedures already established for HWSF operations and in accordance with section II.1.e.1.

HWs generated from closure activities after removal of the HWSF inventory will be managed within the HWSF site perimeter and outside of the permitted container storage buildings using the established HWSF procedures for HW characterization, site processes and container management. All containers used to store closure wastes will be placed in portable secondary containment pallets or other equivalent secondary containment devices. All containers will be covered with traps to prevent any rainfall intrusion.

II.1.e.2.4.2 Off-site Treatment/Disposal Method

HWs generated during closure activities will be taken to an appropriate TSDF. Any HWs will be managed appropriately, depending on their characteristics and available treatment technologies. Prior to waste shipment, a copy of the facility's operating permit will be obtained from the selected TSDF.

Acceptance procedures for HWs will be verified with the selected TSDF facility prior to waste shipment. Any HWs to be treated or disposed of off-site will be transported to and managed appropriately at permitted TSDFs.

II.1.e.2.4.3 Distance to Off-site Waste Management Facility

Distances to off-site TSDFs to be used for disposal of closure wastes are unknown at this time since appropriate TSDFs have not been selected. Several potential TSDFs that accept the types of waste generated by closure of the HWSF have been identified. These facilities are located at distances from approximately 50 to 500 miles from Edwards AFB. Since the availability of TSDF facilities may change, appropriate TSDFs will be identified at time of closure.

II.1.e.2.4.4 Generator and Transporter Requirement

A Bill of Lading will be used to document the transportation of non-hazardous wastes from the HWSF to an appropriate Class III landfill. Generator and transporter requirements specified in 22 CCR, Chapter 12 (Articles 1-3) and Chapter 13, respectively, will be followed for the transport of HWs off-site. Manifests will be properly completed and accompany all HW shipments. HW containers will be clearly marked and labeled. All HW shipment documents will be maintained at Edwards AFB.

II.1.e.2.4.5 Land Disposal Restrictions

LDRs will apply to any HWs generated during site closure activities. The HWSF closure will comply with all LDRs, as appropriate, when transporting HWs to off-site TSDFs.

II.1.e.3 Closure of Disposal Units/Contingent Closures

The HWSF is not a disposal unit. This subsection is not applicable.

II.1.e.4 Closure of Containers

The HWSF stores all HW in containers, with 55-gallon drums being the most common type of container used. As previously described, all containers in storage in the HWSF at the start of closure will be disposed in accordance with specified closure procedures. Any empty and unused containers on site at the

time of closure will be removed from the site and returned to their manufacturers, used elsewhere for other Edwards AFB operations (e.g., ACCS and IAP sites, etc.), other DoD facilities, or sold off. Any empty and used containers on site at the time of closure will be managed in accordance with the procedures provided in Section CC of this Application.

II.1.e.5 Closure of Tanks

No tank systems are used at the HWSF to store or treat HW. This subsection is not applicable.

II.1.e.6 Closure of Waste Piles

No waste piles are used at the HWSF to store or treat HW. This subsection is not applicable.

II.1.e.7 Closure of Surface Impoundments

No surface impoundments are used at the HWSF to store, treat, or dispose of hazardous waste. This subsection is not applicable.

II.1.e.8 Closure of Incinerators

No incinerators are used at the HWSF to burn HW. This subsection is not applicable.

II.1.e.9 Closure of Landfills

No landfills are used at the HWSF to dispose of HW. This subsection is not applicable.

II.1.e.10 Closure of Land Treatment Facilities

The HWSF is not a land treatment unit per the definition provided in 22 CCR 66260.10. This subsection is not applicable.

II.1.e.11 Closure of Miscellaneous Units

The HWSF is not a miscellaneous unit as defined in 22 CCR 66264.600. This subsection is not applicable.

II.1.e.12 Closure of Boilers and Industrial Furnaces

Boilers and industrial furnaces are not used at the HWSF to burn HW. This subsection is not applicable.

II.1.e.13 Closure of Containment Buildings

Containment buildings are not used at the HWSF to store HW. This subsection is not applicable.

II.2 POST-CLOSURE PLAN

In accordance with 22 CCR 66264.117, Post Closure Care and Use of Property, Edwards AFB must prepare a contingent Post-Closure Plan and comply with post-closure maintenance and monitoring requirements if all HW, waste residues, contaminated materials, or contaminated soils are not removed at final closure. However, it is anticipated that all contaminated materials and soils at the HWSF site will be removed at time of closure. As a result, a Post-Closure Plan is not expected to be required. In the event that contaminated materials or soils cannot be practically removed from the site at closure, a Post-Closure Plan will be developed and submitted to the DTSC.

Assessment and potential remediation of any impacted groundwater beneath the HWSF site will be handled under the Edwards AFB CERCLA Program.

II.3 NOTICES REQUIRED FOR DISPOSAL FACILITIES

All HWs generated during closure of the HWSF will be removed to an appropriate off-site TSDF in accordance with approved procedures. All wastes will be adequately characterized and profiled prior to shipment. Appropriate notifications will be provided to each approved off-site TSDF based on their internal waste acceptance requirements. DTSC will be notified of the start of closure activities at the HWSF at least 45 days prior to the anticipated closure start date.

II.4 CLOSURE COST ESTIMATE

Edwards AFB is owned by the federal government. 40 CFR 264.140(c) and 22 CCR 66265.140(c) specifically exempt federally owned facilities from having to provide a cost estimate for closure of the HWSF.

II.5 FINANCIAL ASSURANCE FOR CLOSURE

Edwards AFB is owned by the federal government. 40 CFR 264.140(c) and 22 CCR 66265.140(c) specifically exempt federally owned facilities from having to provide financial assurance for closure of the HWSF.

II.6 POST-CLOSURE COST ESTIMATE

Edwards AFB is owned by the federal government. 40 CFR 264.140(c) and 22 CCR 66265.140(c) specifically exempt federally owned facilities from having to provide a post-closure cost estimate for the HWSF.

II.7 FINANCIAL ASSURANCE MECHANISM FOR POST-CLOSURE CARE

Edwards AFB is owned by the federal government. 40 CFR 264.140(c) and 22 CCR 66265.140(c) specifically exempt federally owned facilities from having to provide a financial assurance mechanism for post-closure care of the HWSF.

II.8 LIABILITY REQUIREMENTS

Edwards AFB is owned by the federal government. 40 CFR 264.140(c) and 22 CCR 66265.140(c) specifically exempt federally owned facilities from having to provide liability insurance coverage for closure of the HWSF.

II.9 USE OF STATE REQUIRED MECHANISMS

Edwards AFB is owned by the federal government. 40 CFR 264.140(c) and 22 CCR 66265.140(c) specifically exempt federally owned facilities from the need to use state financial mechanisms for closure of the HWSF.

Table II-1. Parameters and Analytical Methods for Closure of the HWSF Building and Associated Structures

Parameter	Analytical Method[a]
Total Metals	6010C
Mercury	7470A or 7471B
Benzene/Toluene/Ethylbenzene/Xylene (BTEX)	8021B or 8260B
Total Petroleum Hydrocarbons (TPH) - Diesel Extractable	8015C
TPH – Gasoline	8015C, 8021B
Oil & Grease	413.2 IR[b]
VOCs	8260B, 5035 (soil)
Semivolatile Organic Compounds	8270D
Cyanides	9010C
Sulfides	9030B
Polychlorinated Biphenyls (PCB)	8082A
Asbestos	600-R93-116[b]
pH	9045D

[a] Unless otherwise specified, all analytical methods are from SW-846 – Test Methods for Evaluating Solid Waste, Physical/Chemical Methods.

[b] These EPA analytical methods are separate from SW-846.

Table II-2. Hazardous Waste Inventory Removed From the at HWSF at Closure

Location	Area Description	Use/Activity	Number of Containers
Inventory Removal			
HWSF	Building 4916	Container Storage	736[a]
HWSF	Processing/Storage Bays	Container Processing and Storage	
HWSF	Front Secondary Containment Area	Container Processing	
Decontamination and Soil Confirmation/Removal			
HWSF	Site	Decontamination Waste	90
HWSF	Site	Soil Borings	80[b]
HWSF	Site	Contaminated Soil Removal	TBD[c]
		Total Estimated Number of Containers	996

[a] HWSF inventory quantities are based on the maximum permitted number of 55-gallon drums that can be accommodated in the permitted storage areas.

[b] Amount of waste generated from soil borings is based on completing 40 sample borings at 2 drums per boring.

[c] Quantity of subsurface soil that may be hazardous is not known at this time – to be determined (TBD).

Table II-3. Decontamination Confirmation Sampling for Closure of the HWSF Structures

Sample Location	Sample Type	Minimum Number of Samples Collected[a]
Building 4916 Interior, Floor Grating, Sub-Floor, Walls, and Ceiling	Wipe	8
	Concrete Chip	20
Building 4916 Exterior And Building Components	Wipe	4
Building 4917 Interior (Including Drum-Crusher) and Exterior	Wipe	4
	Concrete Chip	2
Building 4922 Interior And Exterior	Wipe	4
	Concrete Chip	2
Processing/Storage Bays, Concrete Pads and Access Ramps	Concrete Chip	6
Front Secondary Containment Area	Concrete Chip	2
Loading and Waste Bulking/Consolidation Area	Wipe	6
Canopy Covering Dirt-Area for Storage of New Drums, Supplies and Equipment	Wipe	4
Concrete Pad for Storage of Used Drums	Concrete Chip	2
Road Pavement	Wipe	4
Concrete Walkways	Concrete Chip	2
Metal Chain-Link Fencing, Access Gates	Wipe	2
Total Minimum Samples Collected		72

[a] Number of building exterior wipe samples may be higher depending on extent of staining/discoloration on exterior surfaces after decontamination.

Table II-4. Confirmation Soil Borings for Closure of the HWSF Area

Sample Location	Minimum Number of Soil Borings	Total Number of Samples Collected[a]
Background Areas (Northwest of Site)	4	16
Stained or Discolored Areas[b]	TBD	TBD
Previous Location of Building 4916	6	24
Previous Location of Building 4917[c]	2	8
Previous Location of Buildings 4922	1	4
Previous Location of Processing/Storage Bays, Concrete Pads And Access Ramps	6	24
Previous Location of Front Secondary Containment Area	2	8
Previous location of the Loading and Waste Bulking/Consolidation Area	3	12
Previous Location of Canopy Covered Dirt-Area For Storage	2	8
Previous Location of Concrete Pad For Storage Of Drums	2	8
Previous Location of Concrete Walkways	2	8
Previous Location of Road Pavement	2	8
General Surface Topography[d]	20	80
Total of Minimum Borings and Samples Collected	52	208

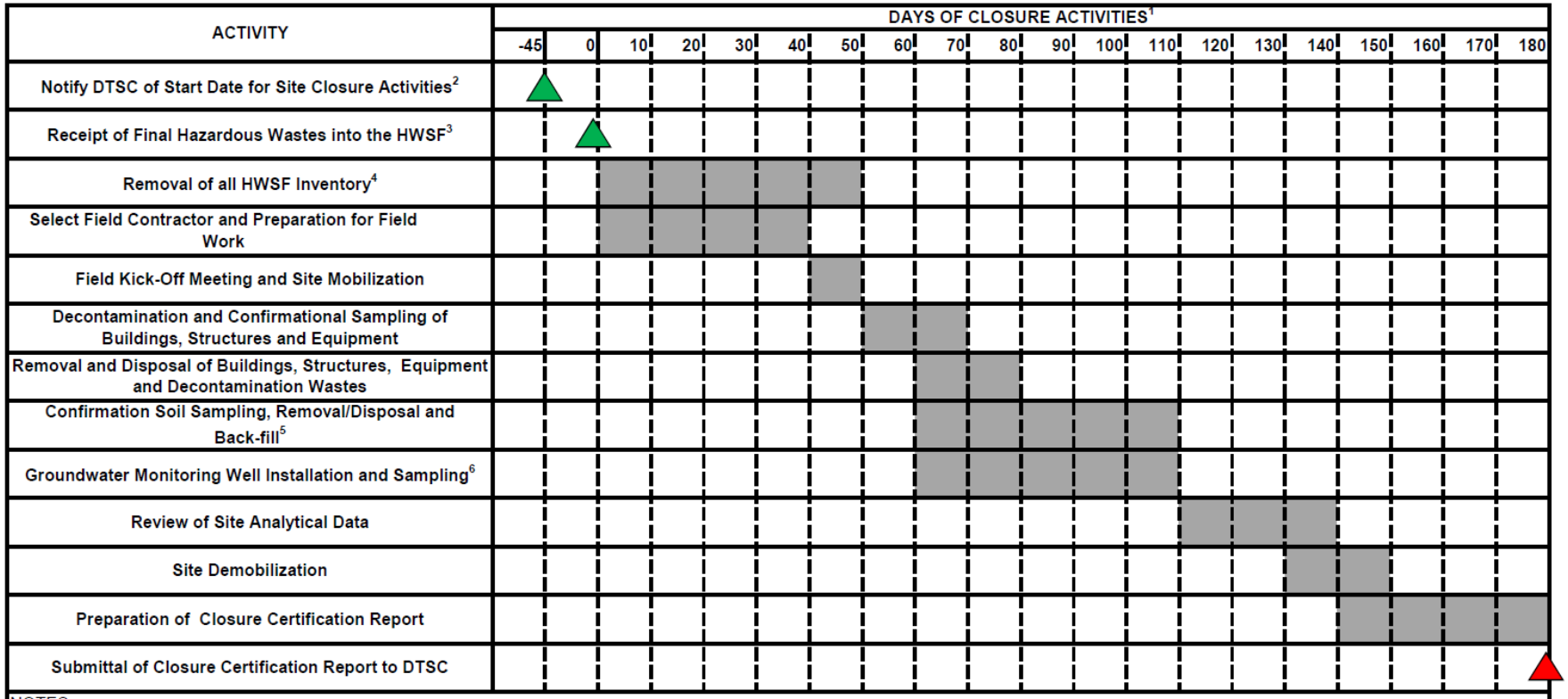
[a] Four samples will be collected per boring at surface grade (interface of concrete and soil surface), 5 feet bgs, 10 feet bgs, and 15 feet bgs using a DPT rig.

[b] Number of borings and samples to be determined (TBD) based on amount and extent of staining/discoloration.

[c] Incudes area within where a drum-crusher was operated.

[d] General surface topographic soil boring survey will be based on a 100-foot sample spacing grid across the entire HWSF site.

Figure II-1. Estimated Closure Schedule



NOTES:
1. Negative "Days" indicate activities to be completed prior to start of closure.
2. DTSC will be notified of the start date for closure no later than 45 days prior.
3. Final hazardous wastes asssumed to be received into the HWSF no later than 1 day prior to start of closure.
4. Per 22 CCR 66264.113(a), all HWSF hazardous waste inventory must be removed within 90 days after receipt of final hazardous wastes. So as to not interfer with closure activities, Edwards AFB plans to remove all HWSF inventory within 50 days of the start of closure.
5. Schedule will be modified if significant soil contamination is identified. Site investigation to be done in coordination with the Edwards AFB CERCLA program.
6. Schedule for Groundwater Monitoring Well installation is approximate only. Groundwater investigation to be done in coordination with the Edwards AFB CERCLA program.

ESTIMATED CLOSURE SCHEDULE FOR THE HWSF

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Figure II-2. Confirmation Soil Borings In HWSF Areas With Previous Structures and Equipment

CHEMICAL STORAGE (NOT PART OF REGULATED HWSF)

2345 ft

2340 ft

2335 ft

GATE

Legend

- Soil Sample Locations
- HWSF Boundary Fencing
- Other Fencing
- HWSF Internal Fencing
- Buildings

Note: Building and structure labels removed. See Figure BB-1 for all labels within the HWSF.

N

0 20 40 80

Feet

Scale: 1' = 40 feet

CONFIRMATION SOIL BORINGS IN HWSF AREAS WITH PREVIOUS STRUCTURES AND EQUIPMENT

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FIGURE II-2

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Figure II-3. Confirmation General Surface Topography Soil Borings

CHEMICAL STORAGE (NOT PART OF REGULATED HWSF)

2345 ft

2340 ft

2335 ft

GATE

GATE

Legend

- Soil Sample Locations
- HWSF Boundary Fencing
- Other Fencing
- HWSF Internal Fencing
- Grid Lines
- Buildings

Note: Building and structure labels removed. See Figure BB-1 for all labels within the HWSF.

N

0 20 40 80

Feet

Scale: 1" = 40 feet

CONFIRMATION GENERAL SURFACE TOPOGRAPHY SOIL BORINGS

RCRA PART B PERMIT RENEWAL APPLICATION EDWARDS AIR FORCE BASE

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FIGURE II-3

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JJ. SOLID WASTE MANAGEMENT UNITS

JJ.1 CHARACTERIZE THE SOLID WASTE MANAGEMENT UNIT

Edwards AFB has approximately 2,000 SWMUs and AOCs, which are being evaluated and addressed under the Edwards AFB CERCLA program. Approximately 1,500 SWMUs were designated as "No Further Action", while approximately 500 SWMUs have received or will receive investigation to determine if remedial action is required.

The FFA was signed in September 1990 between the DoD, USAF, EPA, DTSC, and the Lahontan RWQCB to expedite the evaluation and cleanup of Edwards AFB. The FFA authorizes the USAF to act on behalf of the DoD, the lead federal agency for this site.

The locations and characteristics of the SWMUs and AOCs, and a description of suspected contaminants in these areas, are provided in an eight-volume Expanded Source Investigation/RCRA Facility Assessment (ESI/RFA) report published in 1993.[3] Data on SWMUs and AOCs within 2,000 feet of the HWSF perimeter are contained in ESI/RFA Volume 6, Appendix F, *Base Wide Miscellaneous (OU7), Northwest Main Base (OU8), and North Base (OU9).*

JJ.2 RELEASES

Because of the large size of the ESI/RFA, it has been not been included in this permit application. Instead, information that is relevant to the HWSF has been extracted from the report and is presented as follows.

The HWSF itself has been designated as SWMU No. M4916/2 in OU 8. Management of this SWMU is under the Edwards AFB CERCLA program. In November 1993, initial groundwater sampling indicated that TCE was present in the groundwater at a maximum concentration of 20,000 µg/L. The health risk effects of contaminants at the HWSF and any corrective actions are being addressed under Edwards AFB CERCLA program in accordance with the FFA. DoD will continue to lead this program with the concurrence of other agencies, including DTSC.

There are 4 SWMUs and 2 AOCs within 2,000 feet of the HWSF perimeter:

- SWMU BW-CH/1 – southwest of the HWSF;
- SWMU BW-CH/2 – southwest of the HSWF;
- SWMU BW-CH/3 – southwest of the HWSF;
- SWMU BW-FA/1 – northeast of the HWSF;
- AOC BW-CH/1 – west of the HWSF; and
- AOC BW-CH/2 – southwest of the HWSF.

[3] Earth Technology Corporation, Installation Restoration Program, Expanded Source Investigation/RCRA Facility Assessment (ESI/RFA), Technical Report, Edwards AFB, California, September 1993.

Theses SWMUs and AOCs are shown on the topographic provided in Appendix 10b. Management of these SWMUs and AOCs are under the Edwards AFB CERCLA program. The health risk effects of any identified contaminants and any corrective actions are being addressed under Edwards AFB CERCLA program in accordance with the FFA. DoD will continue to lead this program with the concurrence of other agencies, including DTSC.

KK. OTHER FEDERAL LAWS

Other Federal laws that are applicable to the HWSF are discussed in Section K of the Base-Wide Information Application document.

LL. PART B CERTIFICATION

The signed Part B certification is provided in Section L of the Base-Wide Application document.

MM. ARTICLE 27 (SUBPART AA) – AIR EMISSION STANDARDS FOR PROCESS VENTS

MM.1 DEFINITION OF PROCESS VENT

22 CCR 66260.10 defines Process Vent to mean "any open-ended pipe or stack that is vented to the atmosphere either directly, through a vacuum-producing system, or through a tank (e.g., distillate receiver, condenser, bottoms receiver, surge control tank, separator tank, or hot well) associated with hazardous waste distillation, fractionation, thin-film evaporation, solvent extraction, or air or steam stripping operations".

MM.2 APPLICABILITY

Per 22 CCR 66264.1030, Process Vents associated with operations that manage RCRA HWs using distillation, fractionation, thin-film evaporation, solvent extraction, or air or steam stripping be subject to Article 27 requirements of for control of air emissions.

Edwards AFB does not use any of the above processes to manage any HW within the HWSF, and therefore has no process vents subject to Article 27 requirements.

NN. ARTICLE 28 (SUBPART BB) – AIR EMISSION STANDARDS FOR EQUIPMENT LEAKS

NN.1 APPLICABILITY

22 CCR 264.1050 requires that equipment that contains or contacts HWs with organic concentrations of at least 10 percent by weight be subject to Article 28 requirements, and as such be controlled for air emissions due to leaks. Equipment specially regulated under Article 28 includes: liquid pumps; compressors; gas, vapor and liquid pressure relief devices; sampling connection systems; open-ended values or lines; flanges and other connections; and closed-vent systems and control devices.

Edwards AFB does not use any of the above equipment to contain any HW within the HWSF, and therefore has no equipment subject to Article 28 requirements.

OO. ARTICLE 28.5 (SUBPART CC) – AIR EMISSION STANDARDS FOR CONTAINERS, TANKS, AND SURFACE IMPOUNDMENTS

OO.1 STANDARDS

22 CCR 264.1080 requires that facilities that treat, store, or dispose of RCRA HWs in tanks, surface impoundments, or containers be subject to Article 28.5 requirements for control of air emissions.

The HWSF stores HW in containers and is therefore subject to Subpart CC standards. The HWSF does not store HW in tanks or surface impoundments, nor does it treat HW in tanks, containers, or surface impoundments.

OO.2 UNITS THAT ARE EXEMPT

OO.2.a Volatile Organic Concentration

There are exemptions for HWs stored in containers that have an average volatile organic concentration at the point of waste generation of less than 500 ppm by weight. However, the HWSF is not claiming such an exemption for any of its HWs. The HW Profile Sheet, described in the WAP, allows for documentation of the volatile organic content of HW streams generated at Edwards AFB and destined for storage and/or processing at the HWSF. In addition, all wastes that are managed in containers with design capacities greater than 0.1 cubic meters (m^3) and less than 0.46 m^3 (26 gallons to 121.5 gallons) are managed in accordance with Level 1 standards, as discussed in subsections OO.8.a and OO.10.a.

OO.2.b Organic Destruction or Removal

This subsection is not applicable to the HWSF as it does not use any containers for which the organic content of all the HW entering the container has been reduced by an organic destruction or removal process.

OO.2.c Biological Treatment of Hazardous Waste

This subsection is not applicable to the HWSF as it does use biological treatment of HWs in accordance with the requirements of 22 CCR 66264.1082(c)(2)(D).

OO.2.d Organic Concentration Limits

The exemption described in 22 CCR 66264.1082(c)(4) is not applicable to the containers stored at the HWSF because not all of the containers stored there meet the numerical concentration limits for organic hazardous constituents, applicable to the HW, as specified in Chapter 18—Land Disposal Restrictions under Table "Treatment Standards for Hazardous Waste", as provided in 22 CCR 66268.40.

OO.2.e Enclosed Tanks

This subsection is not applicable to the HWSF as it does not manage any HWs in tanks.

OO.3 WASTE DETERMINATION PROCEDURES

This subsection is not applicable to the HWSF since it is not pursuing an exemption from Subpart CC regulations, in accordance with the requirements of 22 CCR 66264.1083.

OO.4 TANK LEVEL 1 AND LEVEL 2 CONTROLS

This subsection is not applicable to the HWSF as it does not manage any HWs in tanks.

OO.5 HAZARDOUS WASTE CHARACTERISTICS IN TANK SYSTEM REQUIREMENTS

This subsection is not applicable to the HWSF as it does not manage any HWs in tanks.

OO.6 CONTROL ELEMENTS AND PROCEDURES

This subsection is not applicable to the HWSF as it does not manage any HWs in surface impoundments.

OO.7 CONTINUOUS HARD PIPING OR ANOTHER CLOSED SYSTEM

This subsection is not applicable to the HWSF as it does not manage any HWs in surface impoundments.

OO.8 CONTAINER LEVEL STANDARDS

OO.8.a Container Level

Level 1 standards specified in applicable parts of 22 CCR 66264.1086(b) and (c) apply to containers with design capacity of 0.1 to 0.46 m^3 (26 gallons to 121.5 gallons). All drums and/or other containers at the HWSF that are used to store HW destined for shipment for off-site treatment or disposal meet DOT regulations on packaging. The following guidelines ensure that HW containers are managed in accordance with applicable air emission standards:

- All containers shall meet requirements in accordance with 22 CCR 66264.1086 (f) and the DOT regulations on packaging hazardous materials for transportation in 49 CFR Part 178 – Specifications for Packaging.
- All containers shall be stored and protected from direct sunlight, wind, and rain.
- All containers shall also be inspected periodically for deterioration, such as rust, bulges, dents, and any deformities. Any deficiencies shall be corrected in accordance with procedures described in Section FF.
- All containers used to store HW shall be kept securely closed at all times, except when waste is actually being added to or removed from the container.
- Once opened, a container must be closed within a 15-minute period of time. In general, a container is closed if its original closures, such as bung caps or drumheads, are secured to the container. Containers shall be closed according to the following guidelines:
    - A closed-head 55-gallon drum shall have its original (or equivalent replacement) bung caps screwed tightly into the bung openings.
    - An open-head 55-gallon drum shall have its drumhead in place, with the retaining ring properly secured with an appropriate nut and bolt.

- Any other types of containers used to store HW shall be kept closed in a manner appropriate for the container type.

- Any container closure device that forms a continuous barrier over any container opening shall be inspected for deficiencies such as visible holes, cracks, gaps, or other open spaces. Any deficiencies shall be corrected upon discovery.

The HWSF does not store HW in containers with design capacity greater than 0.46 m^3 (121.5 gallons) that are in light material service or containers with design capacity greater than 0.1 m^3 (26 gallons) that are used for treatment by stabilization.

OO.8.b Container Level 2

Containers used at the HWSF are not subject to Level 2 or Level 3 standards as described in 40 CFR 264.1086(d) and (e).

OO.8.c Container Level 3

Containers used at the HWSF are not subject to Level 2 or Level 3 standards as described in 40 CFR 264.1086(d) and (e).

OO.9 CONTAINER AREAS

OO.9.a Container Level 1

The container area subject to 40 CFR 264.1086 and 22 CCR 66264.1086 requirements is the HWSF.

OO.9.b Container Level 2

There are no container areas subject to the container Level 2 standards of 40 CFR 264.1086 or 22 CCR 66264.1086 at the HWSF.

OO.9.c Container Level 3

There are no container areas subject to the container Level 3 standards of 40 CFR 264.1086 or 22 CCR 66264.1086 at the HWSF.

OO.10 COVERS AND CLOSURE DEVICES

OO.10.a Container Level 1

As defined in 40 CFR 264.1086(c)(1)(ii) and 22 CCR 66264.1086(c)(1)(B), Level 1 controls are a container equipped with a cover and closure devices that form a continuous barrier over the container openings such that when the cover and closure devices are secured in the closed position there are no visible holes, gaps, or other open spaces into the interior of the container. The cover may be a separate cover installed on the container (e.g., a lid on a drum or a suitably secured tarp on a roll-off box) or may be an integral part of the container structural design (e.g., a "portable tank" or bulk cargo container equipped with a screw-type cap). All containers storing HW destined for off-site treatment or disposal meet the Level 1 control device definitions. Two types of drum configurations are in use at the HWSF. The drum top configurations are either “tight head” (closed top with a screw on bung opening) for liquids

or an "open head" (completely removable lid with a ring and gasket closure) configuration for solids or mixed solids/liquids. There are two screw type fittings on the top of the tight head drums: one ¾-inch size and the other a 2-inch size. The cover and closure devices for the open head drums are lid, bolt ring, bolt, bolt nut, and rubber gasket. All drum containers storing HW are metal drums or, for corrosive materials, polyethylene drums. No liners are used in any of the drums.

OO.10.b Container Level 2

There are no containers subject to the container Level 2 standards of 40 CFR 264.1086 or 22 CCR 66264.1086 at the HWSF.

OO.10.c Container Level 3

There are no containers subject to the container Level 3 standards of 40 CFR 264.1086 or 22 CCR 66264.1086 at the HWSF.

OO.11 CLOSED-VENT SYSTEMS

Containers used at the HWSF are not subject to the closed-vent standards as described in 40 CFR 264.1087 and 22 CCR 66264.1087. The HWSF does not use any process vents.

OO.12 CONTROL DEVICES

Containers used at the HWSF are not subject to the closed-vent control device standards as described in 40 CFR 264.1087 and 22 CCR 66264.1087. The HWSF does not use any process vent control devices.

OO.13 INSPECTION, MONITORING AND REPAIR

Each container is inspected prior to acceptance for further processing and storage at the HWSF. This inspection consists of checking the cover and closure devices for visible cracks, holes, gaps, or other open spaces into the interior of the container when the cover and closure devices are secured in the closed position. In addition, all containers managed in the HSWF are inspected on a weekly basis. If the inspection reveals a problem with a container, the condition is either fixed or replaced and the corrective action is documented on the inspection checklist. The first effort at repair of any defect occurs no later than 24 hours after detection. Final repairs are completed as soon as possible, but no later than five calendar days after detection. In the event that the container defect cannot be completed within five calendar days, the HW will be removed from the container, and the container shall not be used to manage HW until the defect is repaired, an alternative container is used, or an over-pack container is used.

OO.14 RECORDKEEPING REQUIREMENTS

Each owner or operator of a facility subject to requirements of 40 CFR 264.1089 and 22 CCR 66264.1089 shall record and maintain the information specified in paragraphs 40 CFR 264.1089(b) through (j), as applicable to the facility. Except for air emission control equipment design documentation and information required by paragraphs (i) and (j) of this section, records shall be maintained in the operating record for a minimum of three years.

The requirements detailed in 40 CFR 264.1089 paragraphs (b) through (f) are not applicable to the HWSF, since it does not use tanks, surface impoundments, Level 3 containers, closed-vent and closed-vent control devices, nor is it exempt from the requirements of 40 CFR 264.1082(c). The requirements detailed in 40 CFR 264.1089 paragraphs (h) through (j) are not applicable to the HWSF, since it is not subject to the control device standards in 40 CFR part 60, subpart VV, or 40 CFR part 61, subpart V, organic peroxide compounds are not generated as a result of operations, and it is not exempt from 40 CFR 264.1086 requirements.

In the course of managing its 55-gallon containers and other containers subject to Level 1 standards, should the HWSF personnel ever designate a drum cover as "unsafe to inspect and monitor" pursuant to 40 CFR 264.1084(l) or 40 CFR 264.1085(g), it shall record in a log that is kept in the facility operating record and include the following information:

- The identification numbers for waste management units with covers that are designated as "unsafe to inspect and monitor;"
- The explanation for each cover stating why the cover is unsafe to inspect and monitor; and
- The plan and schedule for inspecting and monitoring each cover.

OO.14.a Reporting Requirements

Should the HWSF ever identify a period of noncompliance identified under 22 CCR 66264.1082(c) or 22 CCR 66264.1090(b) through (d), it will submit the appropriate reporting elements to DTSC.

OO.14.b Emission Monitoring Plan

Should the HWSF ever identify a period of noncompliance identified under 22 CCR 66270.27(a)(6), an Emission Monitoring Plan for both Method 21 in 40 CFR part 60, appendix A and control device monitoring methods shall be developed. The plan would include the following information:

- Monitoring point(s);
- Monitoring methods for control devices;
- Monitoring frequency;
- Procedures for documenting exceedances; and
- Procedures for mitigating noncompliances.

OO.14.c Implementation Plan

As required by 22 CCR 66270.27(a)(2), the following certification statement applies to the HWSF:

“Per 22 CCR 66270.27(a)(7), the container area subject to the requirements of Chapter 14, Article 28.5 is the Hazardous Waste Support Facility at Edwards AFB. I certify under penalty of law that qualified personnel have properly evaluated the regulatory requirements within this Article. Based on my inquiry of the person or persons who manage the container area, I certify that the requirements of Division 4.5, Chapter 14, Article 28.5 of the California Code of Regulations are being met, as they apply to the Hazardous Waste Support Facility, to the best of my knowledge and belief."

Signature

CARL E. SCHAEFER
Brigadier General, USAF
Commander, 412th Test Wing

Should the HWSF ever identify that it cannot comply with 22 CFR 66264.1080 requirements by the date of renewed permit issuance, it shall develop a schedule of implementation required under 40 CFR 265.1082 and 22 CCR 66265.1082.

PP. EXPOSURE INFORMATION

PP.1 POTENTIAL FOR THE PUBLIC TO BE EXPOSED TO RELEASES

The HWSF does not store HW in surface impoundments or land disposal units. This section is not applicable.

APPENDIX 10

TOPOGRAPHIC MAPS OF THE HWSF

APPENDIX 11

WASTE IDENTIFICATION AND CHARACTERIZATION DATA

APPENDIX 11A

EPA WASTES CODES PROCESSED AT THE HWSF

APPENDIX 11B

CALIFORNIA WASTE CODES PROCESSED AT THE HWSF

APPENDIX 11C

PROFILE CODES/HAZARDOUS WASTE DESCRIPTIONS FOR WASTES PROCESSED AT THE HWSF

APPENDIX 11D

LAND DISPOSAL RESTRICTION NOTIFICATION FORM

APPENDIX 12

WASTE ANALYSIS PLAN

APPENDIX 13

PHOTOGRAPHS OF THE HWSF

APPENDIX 14

DESIGN DRAWINGS FOR BUILDING 4916, PROCESSING/STORAGE BAYS (4916A, 4916B AND 4916C), AND BUILDING 4922.

APPENDIX 15

ASSESSMENT OF SECONDARY CONTAINMENT