


Attachment
25-ECD-0160

Dangerous Waste Permit Application
Part A Form

(15 pages including cover sheet)

		WASHINGTON STATE DEPARTMENT OF ECOLOG Y	Dangerous Waste Permit Application Part A Form	
Date Received		Reviewed by:	Date:	0 2 0 6 2 0 2 6
Month	Day	Year	Approved by:	Date:
1	1	1 9 2 0 2 5		0 2 0 6 2 0 2 6
I. This form is submitted to: (place an "X" in the appropriate box)				
<input checked="" type="checkbox"/>	Request modification to a final status permit (commonly called a "Part B" permit)			
<input type="checkbox"/>	Request a change under interim status			
<input type="checkbox"/>	Apply for a final status permit. This includes the application for the initial final status permit for a site or for a permit renewal (i.e., a new permit to replace an expiring permit).			
<input type="checkbox"/>	Establish interim status because of the wastes newly regulated on:	(Date)		
List waste codes:				
II. EPA/State ID Number				
W	A	7 8 9 0 0 0 8 9 6 7		
III. Name of Facility				
US Department of Energy - Hanford Facility				
IV. Facility Location (Physical address not P.O. Box or Route Number)				
A. Street				
Refer to Permit Attachment 2 - Hanford Facility Permit Legal Description				
City or Town			State	ZIP Code
Near Richland			WA	
County Code (if known)	County Name			
0 0 5	Benton			
B. Land Type	C. Geographic Location	Longitude (degrees, mins, secs)	D. Facility Existence Date	
	Latitude (degrees, mins, secs)		Month	Day
F	Refer to TOPO Map (Section XV.)		1 1	1 9
V. Facility Mailing Address				
Street or P.O. Box				
P.O. Box 550				
City or Town			State	ZIP Code
Richland			WA	99352

VI. Facility contact (Person to be contacted regarding waste activities at facility)											
Name (last)						(first)					
Geimer						Raymond					
Job Title						Phone Number (area code and number)					
Manager						(509) 372-2315					
Contact Address											
Street or P.O. Box											
P.O. Box 550											
City or Town						State		ZIP Code			
Richland						WA		99352			
VII. Facility Operator Information											
A. Name						Phone Number (area code and number)					
Department of Energy Owner/Operator Bechtel National, Inc. Co-Operator for WTP*						(509) 372-2315 (509) 371-2220*					
Street or P.O. Box											
P.O. Box 550 450 Hills Street*											
City or Town						State		ZIP Code			
Richland						WA		99352 99354*			
B. Operator Type		F									
C. Does the name in VII.A reflect a proposed change in operator?						<input type="checkbox"/> Yes <input checked="" type="checkbox"/> No					
If yes, provide the scheduled date for the change:						Month		Day		Year	
D. Is the name listed in VII.A. also the owner? If yes, skip to Section VIII.C.						<input type="checkbox"/> Yes <input checked="" type="checkbox"/> No					
Footnote From Section VII											
* Asterisk indicates information for Bechtel National, Inc., the Co-Operator for WTP											
VIII. Facility Owner Information											
A. Name						Phone Number (area code and number)					
U.S. Department of Energy Owner/Operator						(509) 372-2315					
Street or P.O. Box											
P.O. Box 550											
City or Town						State		ZIP Code			
Richland						WA		99352			
B. Owner Type		F									
C. Does the name in VIII.A reflect a proposed change in owner?						<input type="checkbox"/> Yes <input checked="" type="checkbox"/> No					
If yes, provide the scheduled date for the change:						Month		Day		Year	
IX. NAICS Codes (5/6 digit codes)											
A. First						B. Second					

5	6	2	2	1	1	Hazardous Waste Treatment & Disposal						5	6	2	9	1	0	Remediation Services	
C. Third										D. Fourth									
9	2	4	1	1	0	Administration of Air & Water Resource & Solid Waste Management Programs						5	4	1	7	1	5	Research and Development in the Physical, Engineering, and Life Sciences (except Nanotechnology and Biotechnology)	
X. Other Environmental Permits (see instructions)																			
A. Permit Type		B. Permit Number										C. Description							
	E		N	O	C		I	D		1	5	5	0		WAC 246-247, NOC Approval Rad Air (Unit 1550)				
	E		N	O	C		I	D		1	6	4	0		WAC 246-247, NOC Approval Rad Air (Unit 557)				
	E		N	O	C		I	D		1	6	4	1		WAC 246-247, NOC Approval Rad Air (Unit 558)				
	E		N	O	C		I	D		1	6	4	2		WAC 246-247, NOC Approval Rad Air (Unit 559)				
	E		N	O	C		I	D		1	0	4	7		WAC 246-247, NOC Approval Rad Air (Unit 754)				
	E		N	O	C		I	D		1	0	4	8		WAC 246-247, NOC Approval Rad Air (Unit 553)				
	E		N	O	C		I	D		1	0	4	9		WAC 246-247, NOC Approval Rad Air (Unit 554)				
	E		N	O	C		I	D		1	0	5	0		WAC 246-247, NOC Approval Rad Air (Unit 555)				
	E		N	O	C		I	D		1	0	5	1		WAC 246-247, NOC Approval Rad Air (Unit 753)				
	E		N	O	C		I	D		1	0	5	2		WAC 246-247, NOC Approval Rad Air (Unit 551)				
	E		N	O	C		I	D		1	0	5	3		WAC 246-247, NOC Approval Rad Air (Unit 552)				
	E		N	O	C		I	D		1	5	6	0		WAC 246-247, NOC Approval Rad Air (Unit 548)				
	E		N	O	C		I	D		1	5	6	1		WAC 246-247, NOC Approval Rad Air (Unit 549)				
	E		N	O	C		I	D		1	5	6	2		WAC 246-247, NOC Approval Rad Air (Unit 550)				
	E		N	O	C		I	D		1	0	5	7		WAC 246-247, NOC Approval Rad Air (Unit 547)				
	E		N	O	C		I	D		1	0	5	8		WAC 246-247, NOC Approval Rad Air (Unit 544)				
	E		N	O	C		I	D		1	0	5	9		WAC 246-247, NOC Approval Rad Air (Unit 545)				
	E		N	O	C		I	D		1	0	6	0		WAC 246-247, NOC Approval Rad Air (Unit 546)				
	E		N	O	C		I	D		1	0	6	1		WAC 246-247, NOC Approval Rad Air (Unit 534)				
	E		N	O	C		I	D		1	0	6	2		WAC 246-247, NOC Approval Rad Air (Unit 543)				
	E		N	O	C		I	D		9	4	7			WAC 246-247, NOC Approval Rad Air (Unplanned)				
	E		N	O	C		I	D		1	0	6	7		WAC 246-247, NOC Approval Rad Air (Diffuse - Fugitive)				
	E		D	E	1	6	N	W	P	-	0	0	3		WAC 173-400/-460, Non-Radiative Air Approval				
	E		D	E	0	2	N	W	P	-	0	0	2		WAC 173-400/-460, Non-Radioactive Air Approval				
	E		D	E	0	7	N	W	P	-	0	0	4		WAC 173-400-/460, Non-Radioactive Air Approval				
	P		P	S	D	-	0	2	-	0	1				WAC 173-400 Prevention of Significant Deterioration				
	E		A	O	P	0	0	-	0	5	-	0	0	6	WAC 173-401, Hanford Site Air Operating Permit				
	E		S	T	0	0	0	4	5	1	1				WAC 173-216, State Waste Discharge Permit				
	E		H	A	N	0	0	9							WAC 246-272A, Large On-Site Sewage Systems				
	E		H	A	N	0	1	3							WAC 246-272B, Large On-Site Sewage Systems				
	E		T	S	C	A	2	0	0	0	0	8	3	1	40 CFR 761.61(c) TSCA approval Dated August 31, 2000.				

XI. Nature of Business (provide a brief description that includes both dangerous waste and non-dangerous waste areas and activities)

Bechtel National Inc. (BNI) is in the process of completing construction of the Waste Treatment Immobilization Plant (WTP) and preparing for operations; the WTP is permitted as Operating Group 10 under the Dangerous Waste Permit (DWP) Number WA7890008967. Currently, six (6) major facilities are being designed and constructed; the Low-Activity Waste (LAW) Facility, the High-Level Waste (HLW) Facility, the Pretreatment (PT) Facility, the Laboratory (Lab) Facility, the Balance of Facilities (BOF), and the Effluent Management Facility (EMF). During dangerous waste management operations, the WTP will chemically separate, treat, and immobilize radioactive and dangerous (mixed) waste through vitrification.

During mixed waste treatment operations, WTP will utilize three separate configurations. The first configuration, known as the Direct Feed LAW configuration, will allow pretreated waste from the Tank Farms to be transferred directly to the LAW Facility, bypassing the PT Facility. The low-activity waste will then be treated in the LAW Facility using the vitrification process. Effluents generated during the process will be treated in the EMF. The second configuration, known as the Direct Feed HLW (DFHLW) configuration, will allow pretreated waste from the Tank Farms to be transferred directly to the HLW Facility, bypassing the PT Facility. The high level waste will then be treated in the HLW Facility using the vitrification process. Effluents generated during the DFHLW process will be sent back to the Tank Farms for management. In the baseline configuration, tank waste will be sent directly from the Tank Farms to the PT Facility. The mixed waste will then be pretreated and sent to either the HLW Facility or the LAW Facility, depending on the waste characterization. In all three configurations, waste will be characterized prior to receipt at the WTP. The waste will only be transferred to WTP if it meets WTP's waste acceptance criteria. While operating in the Direct Feed LAW configuration and the Direct Feed HLW configuration, WTP will not accept and/or treat mixed waste that carries the D001 (ignitable) waste code and/or the D003 (reactive) waste code. While operating in the baseline configuration, WTP may accept mixed waste that carries the D001 (ignitable) waste code and/or the D003 (reactive) waste code. Once waste has been received, process knowledge will be used to remove the D001 and D003 waste codes. Waste initially characterized as reactive and/or ignitable will only be stored in dangerous waste management units designed for these waste codes.

Process Codes S01, S02, S06, T01, T04, and X99 utilized in Sections XII and XIII are described below.

(S01)

At the WTP, a total of eight (8) container storage areas are permitted to store the dangerous/mixed waste in containers. Three (3) of the areas will be located in the HLW Facility, one (1) area will be located in the Lab, one (1) area will be located in the LAW Facility, and three (3) areas are considered part of the BOF. The dangerous or mixed waste generated at the EMF and the LAW Facility will be managed in 90-day accumulation areas and satellite accumulation areas pursuant to the generator requirements (WAC-173-303-200) or may be transferred to the WTP waste storage area. ILAW containers from the LAW Facility may be transferred to the permitted LAW Export Bay and/or the Transportation Staging Area, ready to ship to the Integrated Disposal Facility (IDF) for disposal.

The 1,363,259 gallon Process Design Capacity for S01 listed in Section XII was calculated by multiplying the maximum surface area of all permitted container storage areas by the maximum waste container heights.

(S02)

A total of ninety-seven (97) tanks will be permitted to store dangerous/mixed waste. The PT Facility will have fifty-nine (59) tanks permitted to store dangerous/mixed waste; the LAW Facility will have twelve (12) tanks permitted to store dangerous/mixed waste; the HLW Facility will have fifteen (15) tanks permitted to store dangerous/mixed waste, the EMF will have nine (9) tanks permitted to store dangerous/mixed waste, and the Lab will have two (2) tanks permitted to store and/or treat dangerous/mixed waste. See Attachment 1 for a complete tank list.

The 5,717,000 gallon, which includes the EMF tank volume, Process Design Capacity for S02 in Section XII was calculated by summing up the total tank volumes. The total tank volumes are nominal and do not account for manufacturing tolerances, nozzles, and displacement of internals.

(S06)

A total of fourteen (14) containment building areas are permitted to store dangerous/mixed waste at the WTP. The PT Facility will have five (5) areas permitted to store dangerous/mixed waste and the HLW Facility will have nine (9) areas permitted to store dangerous/mixed waste. LAW and EMF will not have any containment building areas.

The 182 cubic meters of containment building storage capacity for Process Design Code S06 in Section XII represents the maximum volume of dangerous/mixed waste that can be stored in all containment buildings which includes:

- areas where filled IHLW canisters (65.33 m^3) are cooled and stored,
- areas where secondary wastes such as containers, uncontainerized process equipment, and various other items awaiting decontamination, treatment or repackaging are stored (115.8 m^3).

(T01)

A total of ninety-seven (97) tank treatment units will be permitted to treat dangerous/mixed waste at the WTP.

The 9,000 gal/day Process Design Capacity for the T01 process code in Section XII was calculated using the baseline configuration using the volumetric flow from Tank Farms. The waste is received and separated at the Pretreatment Facility before it is sent to either the HLW Facility ($0.17 \text{ ft}^3/\text{min}$) or LAW Facility ($0.64 \text{ ft}^3/\text{min}$) for vitrification. The volumetric flow is calculated by adding the feed rate for HLW feed and LAW feed and converting the rate to gallons per day.

Although the nine EMF tanks were added as treatment units to the Process Total Number of Units in Section XII, the tanks are not considered in the Process Design Capacity, as the baseline configuration is considered to be a bounding scenario for tank treatment in WTP operations.

(T04)

A total of four (4) treatment units will be used to treat mixed waste through vitrification. The LAW Facility will have two (2) tanks (melters) and the HLW Facility will have (2) tanks (melters) permitted to treat the mixed waste via vitrification.

The 21,000 gal/day Process Design Capacity for T04 in Sections XII and XIII is based on the maximum rate that waste can be treated in all melters. The Process Design Capacity is additive and equal to the maximum volumetric flow into the LAW melters ($1.52 \text{ ft}^3/\text{min}$) and HLW melters ($0.42 \text{ ft}^3/\text{min}$) after glass formers are added. The combined volumetric flow is calculated by adding the flow rates of $1.52 \text{ ft}^3/\text{min}$ and $0.42 \text{ ft}^3/\text{min}$ then converting the rate to gallons per day for a total value of 20,898 gal/day rounded to 21,000 gal/day. The EMF will not have any treatment units.

(X99)

A total of one hundred and eighty five (185) miscellaneous units (MUs) will be permitted to manage the dangerous / mixed waste at WTP. MUs are as follows by facility and listed in Attachment 2:

- EMF - 18
- LAW - 47 (including twenty (20) containment miscellaneous units)
- HLW - 61
- PTF - 59

XIV. Description of Dangerous Wastes														
<p>Example for completing this section: A facility will receive three non-listed wastes, then store and treat them on-site. Two wastes are corrosive only, with the facility receiving and storing the wastes in containers. There will be about 200 pounds per year of each of these two wastes, which will be neutralized in a tank. The other waste is corrosive and ignitable and will be neutralized then blended into hazardous waste fuel. There will be about 100 pounds per year of that waste, which will be received in bulk and put into tanks.</p>														
Line Number	A. Dangerous Waste No. (enter code)				B. Estimated Annual Quantity of Waste	C. Unit of Measure (enter code)	D. Processes							
	(1) Process Codes (enter)							(2) Process Description [If a code is not entered in D (1)]						
X 1	D	0	0	2	400	P	S	0	1	T	0	1		
X 2	D	0	0	1	100	P	S	0	2	T	0	1		
X 3	D	0	0	2										Included with above
	1	D	0	0	1**	16,300	T	S	0	2				
	2	D	0	0	2		T	S	0	2	T	0	1	Included with above
	3	D	0	0	3**		T	S	0	2				Included with above
	4	D	0	0	4		T	S	0	2	T	0	1	Included with above
	5	D	0	0	5		T							Included with above
	6	D	0	0	6		T							Included with above
	7	D	0	0	7		T							Included with above
	8	D	0	0	8		T							Included with above
	9	D	0	0	9		T							Included with above
	1 0	D	0	1	0		T							Included with above
	1 1	D	0	1	1		T							Included with above
	1 2	D	0	1	8		T							Included with above
	1 3	D	0	1	9		T							Included with above
	1 4	D	0	2	2		T							Included with above
	1 5	D	0	2	8		T							Included with above
	1 6	D	0	2	9		T							Included with above
	1 7	D	0	3	0		T							Included with above
	1 8	D	0	3	3		T							Included with above
	1 9	D	0	3	4		T							Included with above
	2 0	D	0	3	5		T							Included with above
	2 1	D	0	3	6		T							Included with above
	2 0	D	0	3	8		T							Included with above
	2 2	D	0	3	9		T							Included with above
	2 3	D	0	4	0		T							Included with above
	2 4	D	0	4	1		T							Included with above
	2 5	D	0	4	3		T							Included with above
	2 6	W	T	0	1		T							Included with above

1	0	1	D	0	4	3		T												Included with above
1	0	2	W	T	0	1		T												Included with above
1	0	3	W	T	0	2		T												Included with above
1	0	4	W	P	0	1		T												Included with above
1	0	5	W	P	0	2		T												Included with above
1	0	6	F	0	0	1		T												Included with above
1	0	7	F	0	0	2		T												Included with above
1	0	8	F	0	0	3		T												Included with above
1	0	9	F	0	0	4		T												Included with above
1	1	0	F	0	0	5		T												Included with above
1	1	1	F	0	3	9*		T												Included with above
1	1	2	U	0	3	7***	24,000	G												PODC used and only applicable during the Environmental Performance Demonstration Test.
1	1	3	U	1	6	5***		G												Included with above

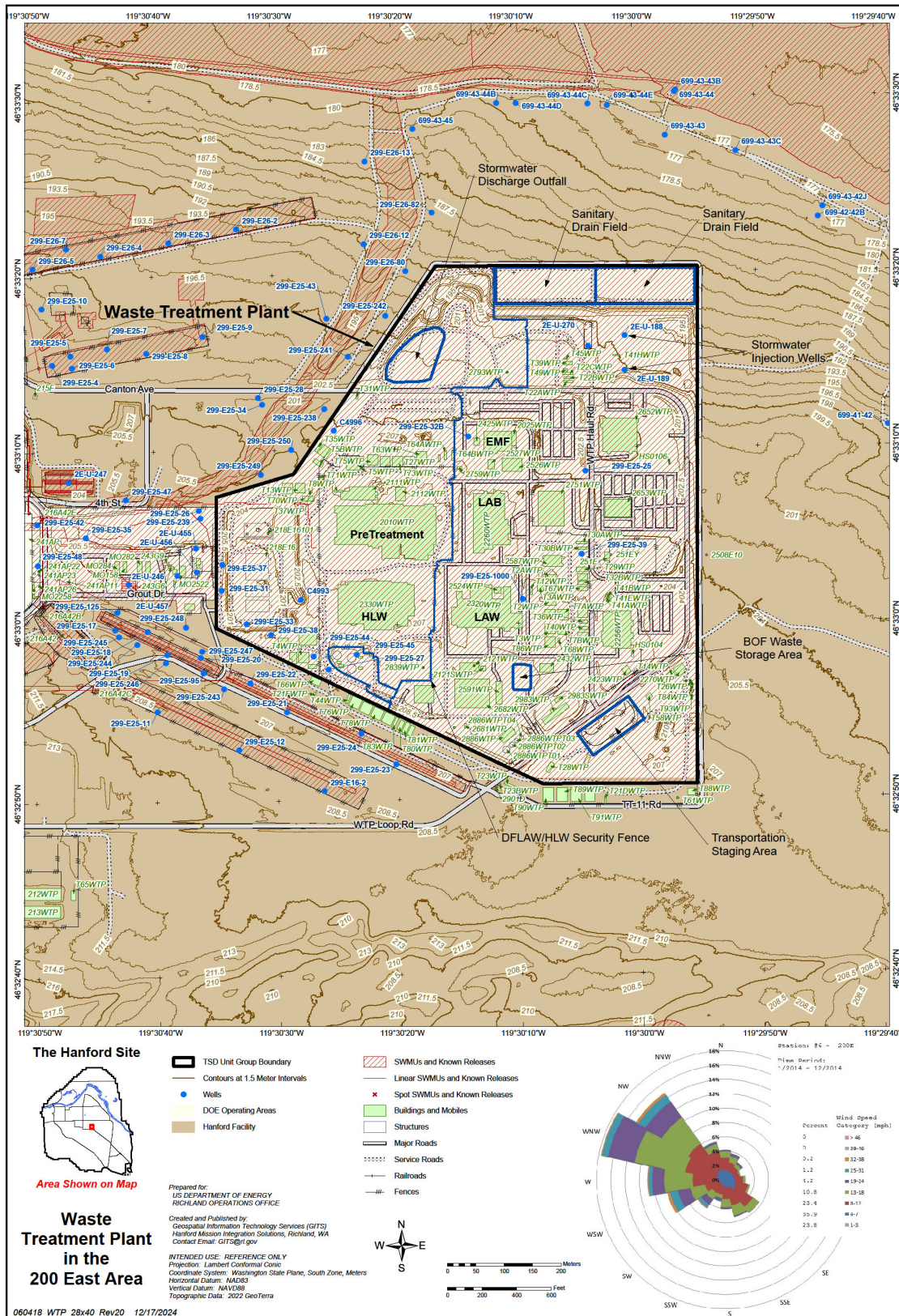
Footnote From Section XIV

*F039 is a multisource leachate included as a waste derived from non-specific source wastes F001 through F005.

**Waste codes for ignitability (D001) and reactivity (D003) apply only to the waste while it is in the pretreatment facility LAW feed receipt FRP vessels and the HLW feed receipt vessel. Downstream of these vessels, the D001 and D003 waste codes are administratively removed from the project's waste streams.

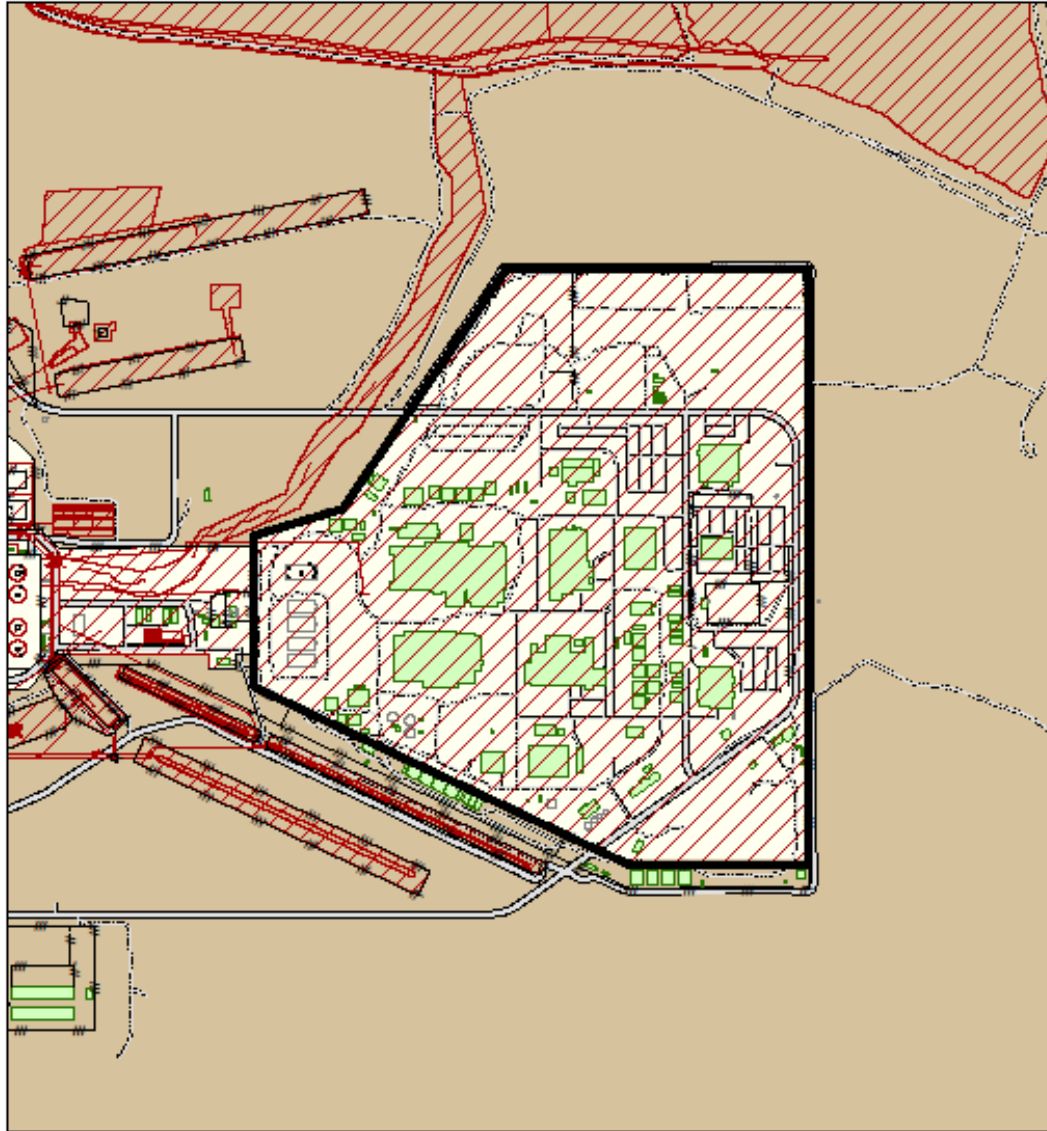
***Waste codes will only apply during the LAW Environmental Performance Demonstration Test Periods in which PODCs are spiked into the melter(s). After performing a purge of the LAW Vitrification System; in accordance with, DWP condition III.10.H.3.a.vi, these waste code(s) will no longer apply to any wastes generated in the LAW Vitrification System. No process media or equipment will be changed out (e.g. carbon media, HEPA filters, pumps, etc.) during the purge process.

XV. Map



XVI. Facility Drawing

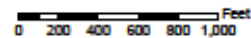
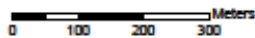
All existing facilities must include a scale drawing of the facility (refer to Instructions for more detail).



Waste Treatment Plant

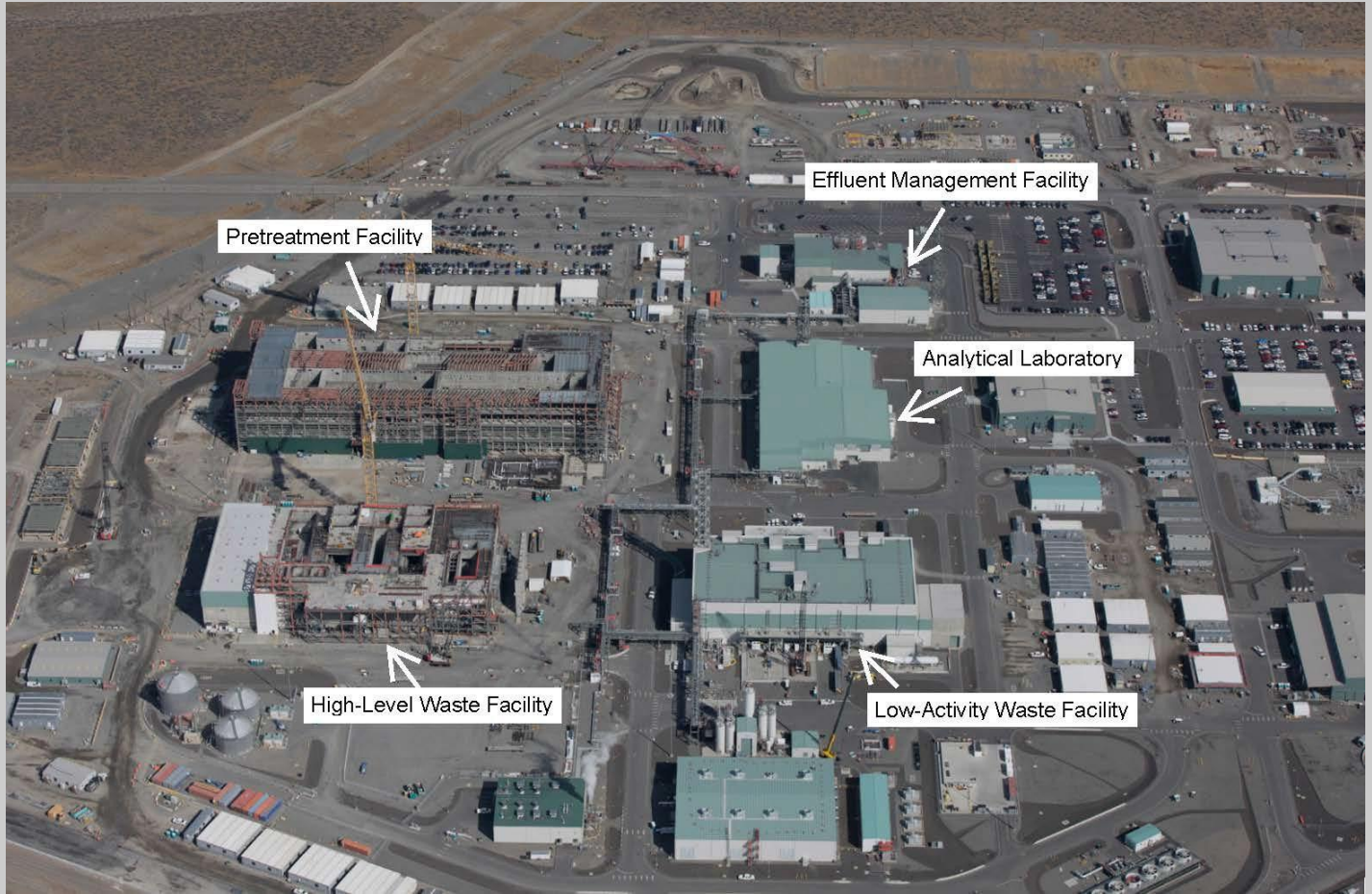
- | | |
|---------------------------------|-----------------------|
| TSD Unit Group Boundary | Buildings and Mobiles |
| DOE Operating Areas | Structures |
| Hanford Facility | Major Roads |
| SWMUs and Known Releases | Service Roads |
| Linear SWMUs and Known Releases | Railroads |
| Spot SWMUs and Known Releases | Fences |

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100412_WTP_Boundary_85x11_Rev3 8/21/2024



XVII. Photographs

All existing facilities must include photographs (aerial or ground-level) that clearly delineate all existing structures; existing storage, treatment, recycling, and disposal areas; and sites of future storage, treatment, recycling, or disposal areas (refer to Instructions for more detail).



Photograph Date: 2023

